Hexagon Transportation Consultants, Inc.

Memorandum

Date: March 1, 2023

To: City of South San Francisco

From: Eric Tse, P.E., PTOE
Trisha Dudala, P.E.

Subject: 7 South Linden Avenue Transportation Study – South San Francisco, California

Introduction

This report presents the results of the transportation study for the proposed residential development at 7 South Linden Avenue in South San Francisco, California. 7 South Linden is a 4.22-acre site located approximately 0.5 miles south of the South San Francisco Caltrain Station and six blocks from the Grand Avenue restaurant row (see Figure 1). The site is currently designated as "High Density Mixed-Use Neighborhood" in the city's 2040 General Plan. Consistent with the General Plan land use, the proposed project consists of 543 dwelling units, including 62 studios, 252 one-bedroom units, and 229 two-bedroom units that would be built in a seven-story podium building. A total of 563 vehicular parking spaces would be provided at a rate of 1.04 stalls per dwelling unit including 110 parking spaces that would be provided via a mechanical parking system. The mechanical parking system would increase the capacity of onsite parking by stacking the parked vehicles vertically and would allow independent access to vehicles on the lift so that they could be shared by different residential users. Parking will be assigned to residents.

It is noted that the traffic operations analysis that is summarized in this report is based on a previous project description that included 587 dwelling units. Thus, the proposed project would generate less traffic than what is presented in this report.

Access to the project would be provided via two driveways on South Linden Avenue. The north driveway to the project site would be located approximately 70 feet south of the South Linden Avenue/Railroad Avenue intersection, and the south driveway would form the east leg of the South Linden Avenue/North Canal Street intersection.

Vehicle Miles Travelled (VMT) Analysis

Pursuant to SB 743, the CEQA 2019 Update Guidelines Section 15064.3, subdivision (b) states that vehicle miles travelled (VMT) will be the metric in analyzing transportation impacts for land use projects for California Environmental Quality Act (CEQA) purposes. The City of South San Francisco has adopted thresholds of significance to guide in determining when a project will have a significant transportation impact.

The City of South San Francisco provides screening criteria for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant impacts, and a detailed CEQA VMT analysis is not required. The City's policy states that projects within half mile of an existing or planned high-quality transit corridor or major transit station should be presumed to have a less-than-significant impact on VMT. The project site is located within one-half mile of the South

Figure 1
Site Location and Study Intersections

San Francisco Caltrain Station and the high-quality transit service provided by SamTrans routes 130 and 141. Therefore, the project is expected to result in a less-than-significant VMT impact.

Local Transportation Analysis (LTA) Scope of Study

A local transportation analysis was conducted to evaluate whether the project would create any adverse effects and to identify improvements that would be triggered by the project at key intersections located in the immediate vicinity of the project site.

The adverse effects of the project were evaluated following the standards and methodologies set forth by the City of South San Francisco. Traffic operations for the following five intersections were analyzed.

Study Intersections

1. South Linden Avenue and North Canal Street
2. South Linden Avenue and Railroad Avenue
3. Linden Avenue and Baden Avenue
4. Airport Boulevard and Baden Avenue
5. Airport Boulevard and Grand Avenue

Traffic conditions at the intersections were analyzed for the weekday AM and PM peak hours of traffic. The AM peak hour of traffic is generally between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday.

Traffic conditions were evaluated for the following scenarios:

1. ***Existing Conditions.*** Since traffic conditions have not returned to pre-pandemic levels, the existing conditions analysis was based on traffic volumes that occurred prior to the COVID-19 pandemic. AM and PM peak hour volumes at intersections 3, 4 and 5 were based on historical counts from January 2020. No historical counts were available at intersections 1 and 2. New AM and PM peak hour counts were conducted in December 2021 at intersections 1, 2, and 3. The 2021 counts at intersections 1 and 2 were then adjusted to reflect pre-pandemic traffic levels by applying a growth factor of 1.302 during the AM peak hour and 1.142 during the PM peak hour. The growth factor was based on comparing January 2020 and December 2021 AM and PM peak hour volumes at intersection 3.

2. ***Existing Plus Project Conditions.*** Project generated traffic was estimated using the vehicular trip generation rates recommended by the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, 11th Edition*. Traffic volumes with the project (hereafter called *project traffic volumes*) were estimated by adding trips generated by the proposed project to existing volumes. Intersection deficiencies associated with the development of the proposed project were evaluated relative to existing conditions.

3. ***Cumulative Conditions.*** Cumulative traffic volumes represent future traffic volumes and roadway conditions projected for the year 2040. The cumulative no project traffic volumes used for this study were taken from the the recently completed Traffic Impact Analysis (TIA) report for the 580 Dubuque Avenue residential development, which were based on the City/County Association of Governments of San Mateo County (C/CAG) Regional

Travel Demand Model. For intersections not included in the C/CAG model, volumes were estimated based on the closest intersections.

4. ***Cumulative Plus Project Conditions.*** Cumulative plus project traffic volumes were estimated by adding to cumulative traffic volumes the trips associated with the project. Cumulative plus project conditions were evaluated relative to cumulative conditions in order to determine potential adverse effects at study intersections.

Methodology

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

This study utilizes Synchro software to determine intersection level of service. The Synchro software implements the *Highway Capacity Manual* (HCM) methodology for signalized and unsignalized intersections. The HCM method evaluates intersection operations on the basis of average control delay time (measured in seconds per vehicle) for all vehicles at the intersection. This average delay can then be correlated to a level of service as shown in Table 1 for signalized intersections.

LOS for the study intersections were analyzed using the Highway Capacity Manual (HCM) 6th edition methodology to maintain consistency with previous studies. For intersections where the existing lane configuration/signal phasing is not supported by the HCM 6th edition, HCM 2000 was used.

Table 1 – Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though some vehicles may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *Highway Capacity Manual*

The City's General Plan *Shape SSF 2040* does not have LOS standards as LOS is no longer used to evaluate project impacts on transportation.

Existing Roadway Network

Regional access to the project study area is provided by US 101.

US 101 is a north-south major freeway through eastern San Mateo County between San Francisco and San Jose. It is the primary north/south route connection to I-280 and I-80 north of South San Francisco. US-101 consists of eight lanes in the study area and is typically congested in both directions during both peak periods as people commute to and from San Francisco and the Silicon Valley. Access to the freeway from the project site is provided via interchanges at Airport Boulevard/Produce Avenue, Grand Avenue, and Miller Avenue.

The following roadways provide local access to the site:

Airport Boulevard is a major north/south four- to six-lane arterial through South San Francisco parallel to US-101 that transitions into Bayshore Boulevard in the north and to Produce Avenue in the south. The posted speed limit on Airport Boulevard is 35 MPH near the project site. Airport Boulevard provides access to the site via Baden Avenue and Linden Avenue. On-street metered parking is provided on the westside of Airport Boulevard to the north of Grand Avenue. Sidewalks are generally present on both sides of the street, south of Grand Avenue. North of Grand Avenue, a sidewalk is provided only on the west side of the street. Dedicated bicycle lanes are provided in both directions, north of Miller Avenue.

Grand Avenue is a two- to six-lane street that extends from Mission Road in the west to its termination point at Point San Bruno Park in the Genentech campus. West of Airport Boulevard, Grand Avenue has one travel lane in each direction with sidewalks and on-street angled parking on both sides of the street. The posted speed limit on Grand Avenue is 25 MPH in the project vicinity. Grand Avenue provides access to the site via Linden Avenue.

Baden Avenue is a collector street that extends west from Airport Boulevard and terminates at Chestnut Avenue. Baden Avenue has one travel lane in each direction, except between Linden Avenue and Airport Boulevard where it has two travel lanes in each direction. Sidewalk is provided on both sides of the street. On-street parking is provided on both sides of the street, except between Linden Avenue and Airport Boulevard. The posted speed limit on Baden Avenue is 25 MPH in the project vicinity. Baden Avenue provides access to the site via Linden Avenue.

Linden Avenue is a two-lane local street that extends north from San Mateo Avenue at the city limits and terminates at Airport Boulevard. There are traffic signals at most major intersections with the remainder of its intersections controlled by stop signs. Linden Avenue is a designated bike route with sharrow lane markings for bicycles and has sidewalks on both sides of the street in the project vicinity. Along the project frontage, on-street parking is permitted on the west side of the street. The posted speed limit on Linden Avenue is 25 MPH in the project vicinity. Linden Avenue would provide direct access to the project site via two full access driveways.

Railroad Avenue is a two-lane local street that extends from Linden Avenue to Orange Avenue to the west. Railroad Avenue is a designated bike route with sharrow lane markings for bicycles and has sidewalks and on-street parking on the north side of the street. The speed limit on Railroad Avenue is 30 MPH. Railroad Avenue provides access to the site via Linden Avenue.

North Canal Street is a two-lane local street that extends from Linden Avenue to Orange Avenue to the west. North Canal Street has sidewalks on the north side of the street. On-street parking is allowed on the north side of the street between Linden Avenue and Spruce Avenue. The speed limit

on North Canal Street is 30 MPH. North Canal Street provides access to the site via Linden Avenue.

Existing Bicycle Facilities

Bicycle facilities include bike paths, bike lanes, and bike routes. Bike paths (Class I facilities) are pathways, separate from roadways, which are designated for use by bicycles. Often, these pathways also allow pedestrian access. Bike lanes (Class II facilities) are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike routes (Class III) are existing rights-of-way that accommodate bicycles but are not separate from the existing travel lanes. Bike routes are typically designated only with signs. Separated bikeways (Class IV) are on-street bicycle facilities that are physically separated from motor vehicle traffic by a vertical element or barrier such as a curb, bollard, or parking aisle.

Class II Bike Lane on Airport Boulevard

Existing bikeways cover 31% of the city's roadways (154 total roadway miles). Transit stations, schools, parks and retail centers are all accessible by these bikeways. The following bicycle facilities exist in the project study area (see Figure 2).

Class II Bikeway (Bike Lane)

- **Airport Boulevard** has Class II bike lanes in both directions that begin north of Miller Avenue and connect to Class III bicycle routes on Miller Avenue and Linden Avenue.
- **Gateway Boulevard** has Class II bike lanes in both directions that begin south of Grand Avenue and extend to South Airport Boulevard.
- **Grand Avenue** has Class II bike lanes in both directions that begin west of Spruce Avenue and connect to the Class III bicycle route on Spruce Avenue.
- **Railroad Avenue** has a Class II bike lane in the eastbound direction that extends east from Spruce Avenue to Maple Avenue, after which it becomes a Class III bicycle route with sharrows. This lane connects to the Class III bicycle route on Spruce Avenue.

Class III Bikeway (Bike Route)

- **San Mateo Avenue** is a Class III bicycle route without sharrow markings. The route extends from Airport Boulevard past South Linden Avenue, connecting to the Class III bicycle route on Linden Avenue.
- **Linden Avenue** is a Class III bicycle route with sharrow markings between Baden Avenue and Dollar Avenue.
- **Spruce Avenue** is a Class III bicycle route with sharrow markings between Grand Avenue and Victory Way. The route connects to Class II bicycle lanes on Grand Avenue.

The City of South San Francisco adopted the *Active South City Bicycle and Pedestrian Master Plan* in 2022, the goal of which is to expand the bicycle network to make it easier and safer for people to bicycle through the city. In the project vicinity, the following bicycle facilities are planned.

- Separated bikeways (Class IV) on Airport Boulevard between San Mateo Avenue/South Airport Boulevard and Sister Cities Boulevard.
- Class IV bikeways on South Airport Boulevard between Belle Aire Drive and Airport Boulevard.
- Class IV bikeways on Railroad Avenue between Linden Avenue and Orange Avenue
- Class IV bikeways on South Spruce Avenue between Centennial Way and North Canal Street.
- Class II bike lanes on Linden Avenue between Grand Avenue and Tanforan Avenue.

As part of the Caltrain Station reconstruction, a new ped/bike rail crossing tunnel has been constructed at the Grand Avenue/Airport Boulevard intersection that directly connects to the South San Francisco Caltrain station. The new ped/bike tunnel also provides a good bicycle connection between the downtown and the employment zone to the east of US 101.

Existing Pedestrian Facilities

Sidewalks are provided on most streets in the immediate vicinity of the project. On South Linden Avenue, sidewalks exist on both sides of the street in the project vicinity except between South Canal Street and Victory Avenue, where there is existing perpendicular parking along the street frontages and no sidewalk. Sidewalks exist in both directions on Baden Avenue, the north side of Railroad Avenue and North Canal Street, Grand Avenue, and the west side of Airport Boulevard. In the immediate vicinity of the project, crosswalks exist at the north and west legs of the Linden Avenue/Railroad Avenue and Linden Avenue/North Canal Street intersections. Crosswalks exist across the west and south legs of the Airport Boulevard/Grand Avenue and Airport Boulevard/Baden Avenue intersections for pedestrians to access the Caltrain Station.

The new South San Francisco Station, located directly south of its previous location, is now accessible from Downtown and Poletti Way in South San Francisco. The station now features a 700-foot center-boarding platform and pedestrian underpass. Passengers no longer have to cross the tracks to board the train. The improvements also make the station fully compliant with the Americans with Disabilities Act (ADA).

Overall, the existing network of sidewalks and crosswalks provides pedestrians with safe routes to transit services and other points of interest in the downtown area.

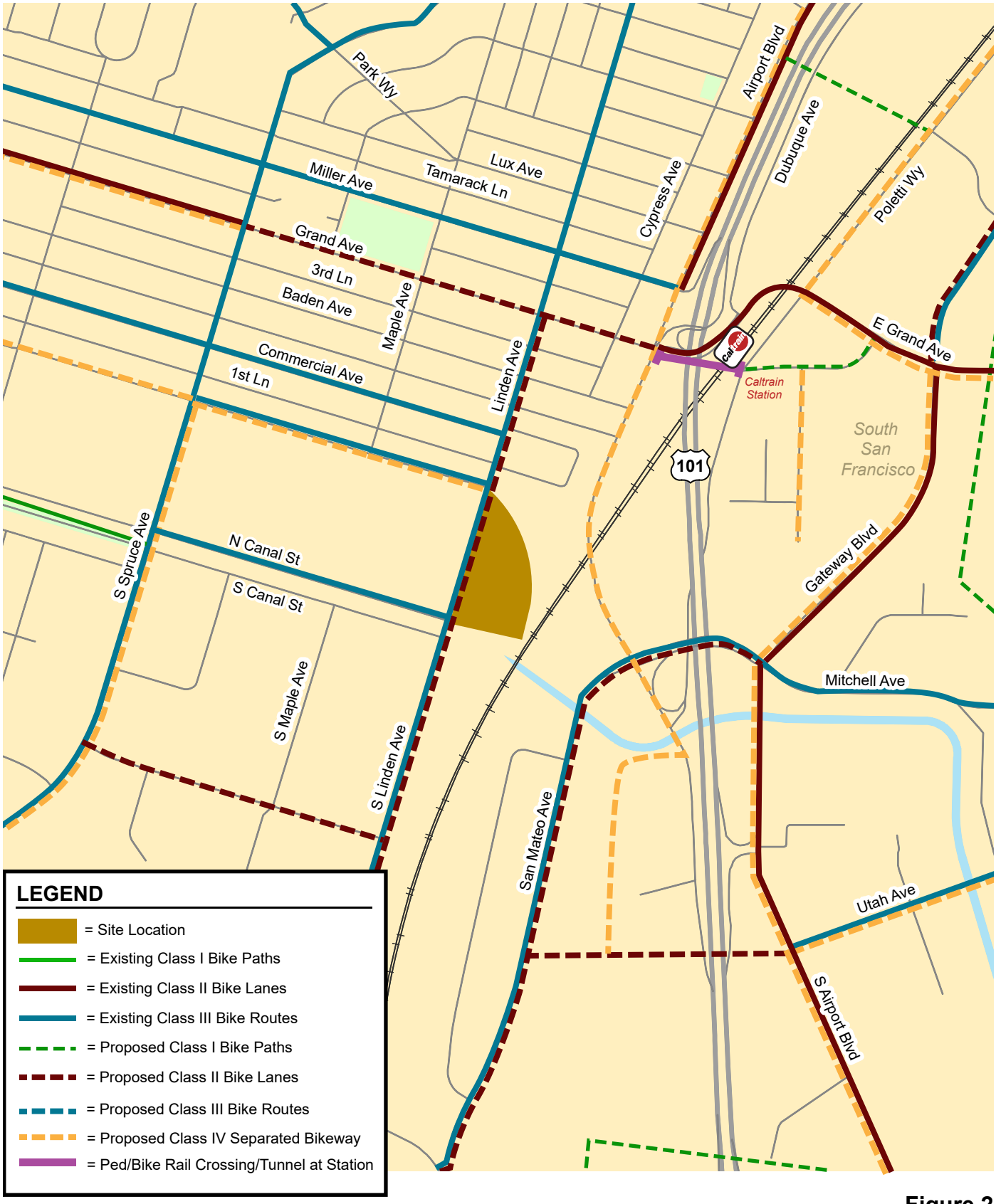


Figure 2
Existing and Proposed Pedestrian and Bicycle Facilities

Transit Services

Existing transit services in the study area include local buses, express buses, shuttles, BART, and Caltrain,. A majority of the public transit trips through the area are commuters who use the Caltrain station or connect from BART to Downtown and East of US-101 employers via employer shuttles. Employer sponsored shuttles connect to employment destinations east of the Caltrain station and other commuter connections in the area.

Caltrain

Caltrain provides commuter rail service between San Francisco and Gilroy. The project is located within 0.5 miles of the new South San Francisco Caltrain station. The South San Francisco Caltrain Station serves local trains, with 23 northbound and 23 southbound weekday trains. The South San Francisco Caltrain Station provides weekday service from 5:10 AM to 12:35 AM, with 60-minute headways.

Rendering of the New Widened Central Platform at the South San Francisco

Previously, the only access to the South San Francisco Downtown used to be from the west side of the train tracks, via the Grand Avenue overpass. This overpass requires a long and circuitous detour for people walking and bicycling, who have to cross Grand Avenue and descend either a tall metal staircase or use Dubuque Avenue. The city in partnership with Caltrain recently completed the South San Francisco Caltrain Station Reconstruction project to improve safety and connectivity to nearby businesses. Caltrain passengers are now able to get to the east of Caltrain Station from the station's center platform via ramps that connect to a tunnel underneath the tracks. The tunnel connects to a pedestrian plaza at Grand Avenue and Airport Boulevard on the west side of the tracks and a transit plaza at the intersection of Grand Avenue and Poletti Way on the east side of the tracks. Buses and shuttles pick up and drop off Caltrain passengers from the new east-side plaza instead of the parking lot on the west side of the station, which makes it easier for residents commuting to the City's biotech job center on the east side of the tracks.

SamTrans

Existing bus service to the study area is provided by San Mateo County Transit District (SamTrans). Bus services to the study area are described in Table 2.

Table 2
SamTrans Services

Route[1]	Route Description	Weekday Hours of Operation[2]	Headways[2] (minutes)
Express, SFO and Multi-City Route 397	San Francisco – Palo Alto Transit Center (Limited Overnight Service) - Serves SF Airport	12:45 AM - 6:30 AM	60
Express, SFO and Multi-City Route 292	San Francisco – Hillsdale Mall - Serves SF Airport	3:55 AM - 2:45 AM	10 to 30
North County Route 37	Alta Loma School - Hillside/Grove (School-day only)	8:10 AM - 8:30 AM 2:30 PM - 4:00 PM	
North County Route 130	Daly City BART - Airport/Linden	5:00 AM - 12:00 AM	15
North County Route 141	Airport/Linden – Shelter Creek	6:10 AM - 8:00 PM	30
South City Shuttle	Provides access to SSF schools, parks, Municipal Services Building, downton SSF, Kaiser Hospital, senior centers, and provide connecting transportation to Santrans stops and the SSF BART station	7:15 AM - 7:00 PM	40 to 50

Notes:
Source: SamTrans Service Schedule and Map, September 2021
1. Closest bus stop to bus routes 397 and 292 is located at Airport Boulevard and Baden Avenue (350 feet from the project location) and bus stop for routes 37, 130, and 141 are at Grand Avenue and Linden Avenue (800 feet from the project location).

2. Approximate weekday operation hours and headways during peak periods in the project area, as of September 2021.

SamTrans provides bus service on the west side of US 101. The closest bus stop to the project site is approximately 1,200 feet to the north at the intersection of Linden Avenue and Grand Avenue and is served by Routes 37, 130 and 141. The closest bus stop for Routes 292 and 397 is located at the intersection of Airport Boulevard and Baden Avenue, which is approximately 1,400 ft northeast of the project site.

BART

Bay Area Rapid Transit (BART) operates regional rail service in the Bay Area, connecting between San Francisco International Airport and the Millbrae Intermodal Station to the south, San Francisco to the north, and cities in the East Bay. The BART stations closest to the project area are the San Bruno Station, located near Huntington Avenue east of El Camino Real, and the South San Francisco Station, located on Mission Road and McLellan Drive. Both stations are located about 2.6 miles from the project site. BART trains operate on 15-minute headways during peak hours. SamTrans Route 130 provides a connection between the project site and the South San Francisco BART station, and SamTrans Route 141 provides a connection between the project site and the San Bruno BART station.

Commuter Shuttles

Commuter shuttle service is provided in the East of 101 area by the Peninsula Traffic Congestion Relief Alliance (Commute.org). The shuttles provide weekday commute period first/last mile connections between BART and the Caltrain stations, and local employers in the East of 101 Area.

These shuttles are free for all passengers and are open to the general public. All shuttles are wheelchair-accessible and equipped with a bicycle rack on the front of the vehicle. Service is provided from Monday through Friday during morning and afternoon commute hours. The following shuttle services can be accessed near the South San Francisco Caltrain station, approximately 0.5 mile from the project site. As part of the South San Francisco Caltrain Station Reconstruction project, shuttle stops have been relocated to a new pedestrian plaza located near the intersection of East Grand Avenue and Poletti Way on the east side of the tracks. Residents of the project would access the new shuttle stops via the new bicycle/pedestrian underpass at the Airport Boulevard/Grand Avenue intersection.

- **The Genesis One Tower Place (OTP) Shuttle** connects the South San Francisco Caltrain and South San Francisco BART stations and provides service to the Genesis Towers (a bio tech hub located on the west side of Airport Boulevard approximately 1,000 feet north of Sister Cities Boulevard) and the Dubuque Innovation Center in South San Francisco. This line provides service during peak commute hours, between 6:50 AM and 10:10 AM, and between 4:00 PM and 6:35 PM with 60-minute headways during the AM peak hour and 30-to-60-minute headways during the PM peak hour.

- **The Oyster Point Caltrain shuttle (OPC)** operates from the South San Francisco Caltrain Station and provides service to offices and businesses along Oyster Point Boulevard. This line provides service during peak commute hours, between 6:30 AM and 9:45 AM, and between 2:50 PM and 6:15 PM with 20 to 40-minute headways during the AM peak and the PM peak hour.

- **The Utah-Grand Caltrain shuttle (UGC)** operates from the South San Francisco Caltrain Station and provides service to businesses along E. Grand Avenue on the east side of Highway 101 in South San Francisco. This line provides service during peak commute hours, between 6:30 AM and 9:45 AM, and between 2:45 PM and 6:10 PM with 20-to-40-minute headways.

- **The Oyster Point Ferry shuttle (OPF)** connects riders from the South San Francisco Ferry Terminal to the South San Francisco Caltrain station and provides service to Oyster Point Boulevard, Genesis Towers, and the Dubuque Innovation Center. This line provides service during peak commute hours, between 6:50 AM and 9:30 AM, and between 2:45 PM and 5:20 PM with 60-minute headways.

Figure 3
Existing Transit Services

NORTH
Not to Scale

Existing Intersection Operations

This section describes existing traffic operations based on existing lane configurations at study intersections and existing weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak hour traffic volumes. Since traffic conditions have not returned to pre-pandemic levels, the existing conditions analysis was based on traffic volumes prior to the COVID-19 pandemic. AM and PM peak hour volumes at intersections 3, 4 and 5 were based on historical counts from January 2020. No historical counts were available at intersections 1 and 2. New AM and PM peak hour counts were conducted in December 2021 at intersections 1 and 2. The 2021 counts at intersections 1 and 2 were adjusted to reflect pre-pandemic traffic levels by applying a growth factor of 1.302 during the AM peak hour and 1.142 during the PM peak hour. The growth factor was based on comparing January 2020 and December 2021 AM and PM peak hour volumes at intersection 3. The existing lane configurations at the study intersections are shown on Figure 4 and the existing traffic volumes are shown on Figure 5. Intersection turning movement counts are included in Appendix A.

The results of the intersection level of service analysis under existing conditions are summarized in Table 3. The results of the analysis show that all five study intersections currently operate at an acceptable LOS D or better during both the AM and PM peak hours.

Table 3
Existing Conditions Intersection LOS Analysis

Study Number	Intersection	Control	Peak Hour	Count Date	Existing Conditions Avg. Delay (sec)	LOS
1	South Linden Avenue & North Canal Street [2]	Signal[1]	AM	12/14/21	4.7	A
			PM	12/14/21	4.4	A
2	South Linden Avenue & Railroad Avenue [2]	Signal[1]	AM	12/14/21	14.9	B
			PM	12/14/21	14.3	B
3	Linden Avenue & Baden Avenue	Signal[1]	AM	01/30/20	17.2	B
			PM	01/30/20	16.8	B
4	Airport Boulevard & Baden Avenue	Signal[1]	AM	01/30/20	45.6	D
			PM	01/30/20	36.4	D
5	Airport Boulevard & Grand Avenue	Signal[1]	AM	01/30/20	38.1	D
			PM	01/30/20	37.8	D

Note:

[1] Delay reported as seconds per vehicle. The delay shown is the weighted average delay for all movements. LOS based on the methodology in Highway Capacity Manual (HCM). Intersections 1 and 2 are based on HCM 6th Edition methodology. The remaining intersections are based on HCM 2000 methodology.

[2] Existing traffic counts were adjusted to reflect pre-COVID conditions.

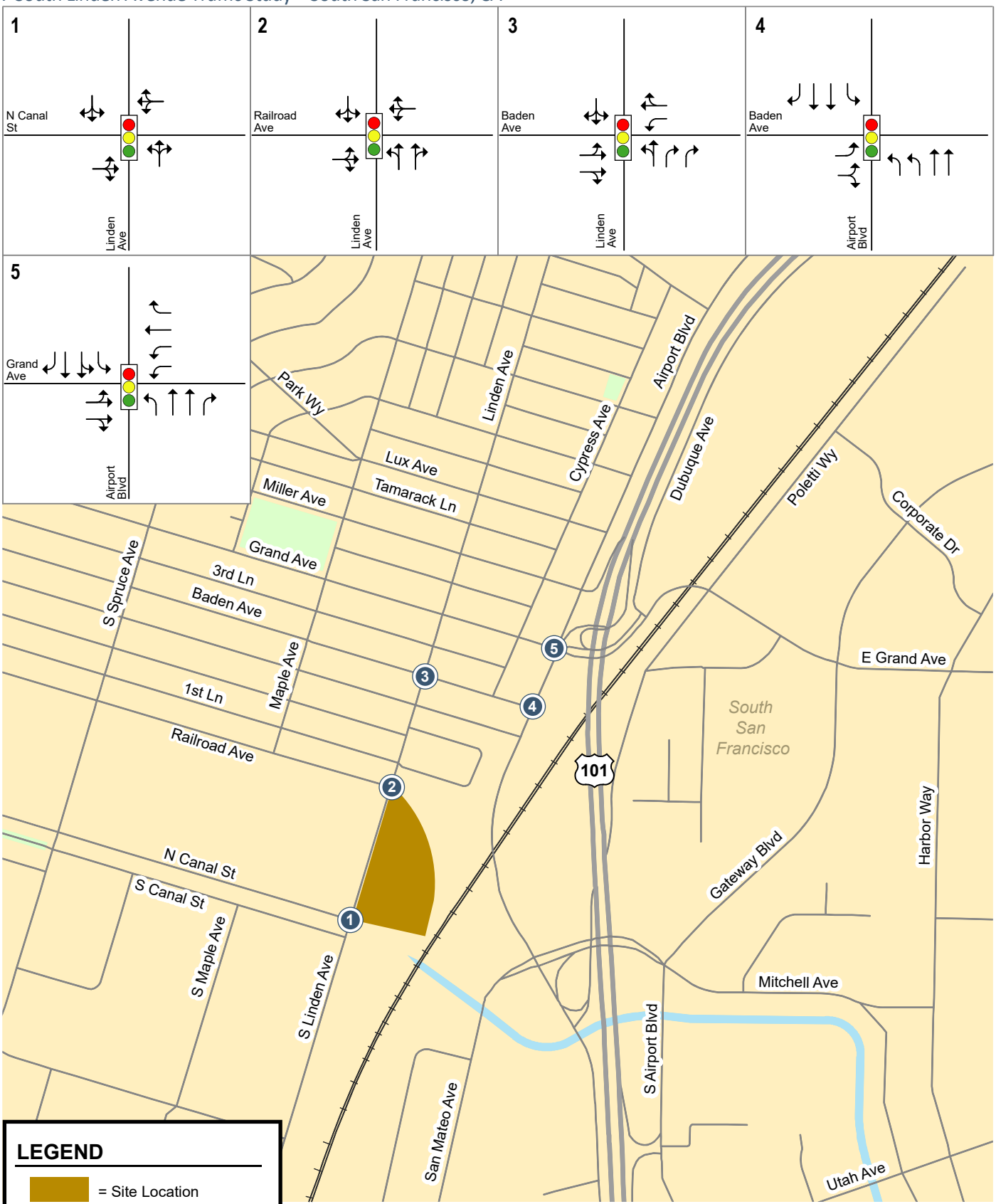


Figure 4
Existing Lane Configurations

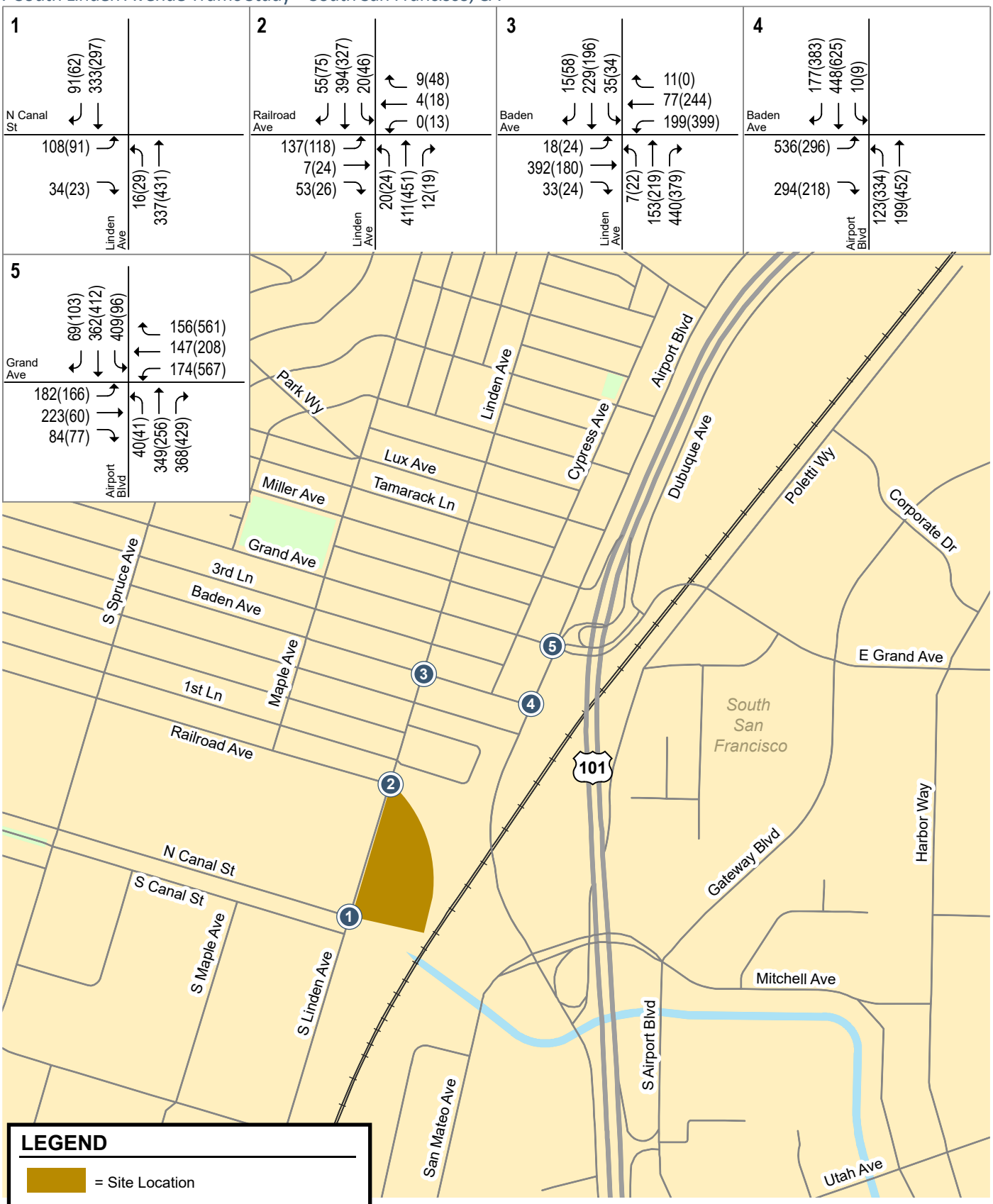


Figure 5
Existing Trafffic Volumes

NORTH
Not to Scale

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets. These procedures are described further in the following sections.

Project Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. The research is compiled in the manual entitled *Trip Generation, 11th Edition*, published by the Institute of Transportation Engineers' (ITE). The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. The proposed project would replace the existing warehouse with a seven-story residential building. To reflect a conservative analysis, no trip credit was taken for existing uses on the site as traffic generated from existing uses is very minimal based on recent driveway counts. The ITE trip generation rates for Multifamily Housing (Mid-Rise) (Land Use 221) located close to Rail Transit was used for this study. Based on the ITE trip generation manual, mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is a half mile or less.

As shown in Table 4, the project is estimated to generate 2,788 daily vehicle trips, with 188 trips occurring during the AM peak hour and 170 trips during the PM peak hour.

It is noted that the proposed project consists of 543 dwelling units, including 62 studios, 252 one-bedroom units, and 229 two-bedroom units. However, the traffic operations analysis that is summarized in this report is based on a previous project description that included 587 dwelling units. Thus, the proposed project would generate less traffic than what is presented in Table 4.

Table 4
Project Trip Generation

	ITE		Daily		AM Peak Hour				PM Peak Hour			
Land Use	Code	Size	Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Land Use												
Multifamily Housing (Mid-Rise)	221	587 d.u.	4.75	2,788	0.32	105	83	188	0.29	73	97	170

Notes:
d.u. = Dwelling Unit
All rates are from Institute of Transportation Engineers, *Trip Generation Manual, 11th Edition, 2021*. Average rates are used General Urban/Suburban Multifamily Housing (Mid-Rise) located close to Rail Transit.

Trip Distribution Pattern and Trip Assignment

The trip distribution pattern for the project was estimated consistent with the trip distribution assumptions presented in the DSASP EIR for the West area (west of US 101). These distribution

estimates were developed based on the location of complementary land uses, existing travel patterns in the area, and the Metropolitan Transportation Commission (MTC) regional travel demand model. The project trip distribution and trips assigned to the study intersections are shown on Figure 6.

Existing Plus Project Conditions Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 7.

Conceptual Intersection Improvements under Existing Plus Project Conditions

The following conceptual intersection operational improvements were assumed under the Existing plus Project conditions.

Intersection at South Linden Avenue and Railroad Avenue

Currently, the traffic signal at the intersection of South Linden Avenue and Railroad Avenue is operating with split signal phasing on the northbound and southbound South Linden Avenue approaches due to the lack of left turn storage lanes on South Linden Avenue. Split signal phasing is less efficient operationally compared to concurrent opposing left turn signal phasing. Exhibit 2 in Appendix C illustrates a conceptual layout of traffic signal modifications at the South Linden Avenue/Railroad Avenue that includes added left turn lanes and implementation of concurrent left turn signal phasing on the northbound and southbound Linden Avenue approaches.

In addition, under existing conditions, the stop bar for the northbound approach is located 50 feet south of the intersection due to the previous UPRR at-grade crossing, which was removed several years ago. Relocating the stop bar closer to the intersection would improve safety and intersection operations. See Exhibit 2 in Appendix C for details.

With the relocation of the stop bar for the northbound approach on South Linden Avenue 50 feet to the north, the project's north driveway would be located 70 feet south of the intersection. The northbound vehicle queue from the signal at Railroad Avenue could extend past the driveway. The vehicle queue would block inbound left turns from southbound Linden Avenue, which in turn could impact the traffic operations at the intersection of South Linden Avenue and Railroad Avenue. Sight distance for the outbound left turn movement from the north site driveway could also be blocked by the northbound vehicle queue. Therefore, the project's north driveway was assumed to be restricted to right-turn movements only. Channelizers will be installed along the centerline double-yellow pavement stripes in front of the driveway in order to prohibit left turns at the north driveway. Left-turn movements into and out of the project site would be facilitated at the project's south driveway at the signalized intersection of South Linden Avenue and North Canal Street.

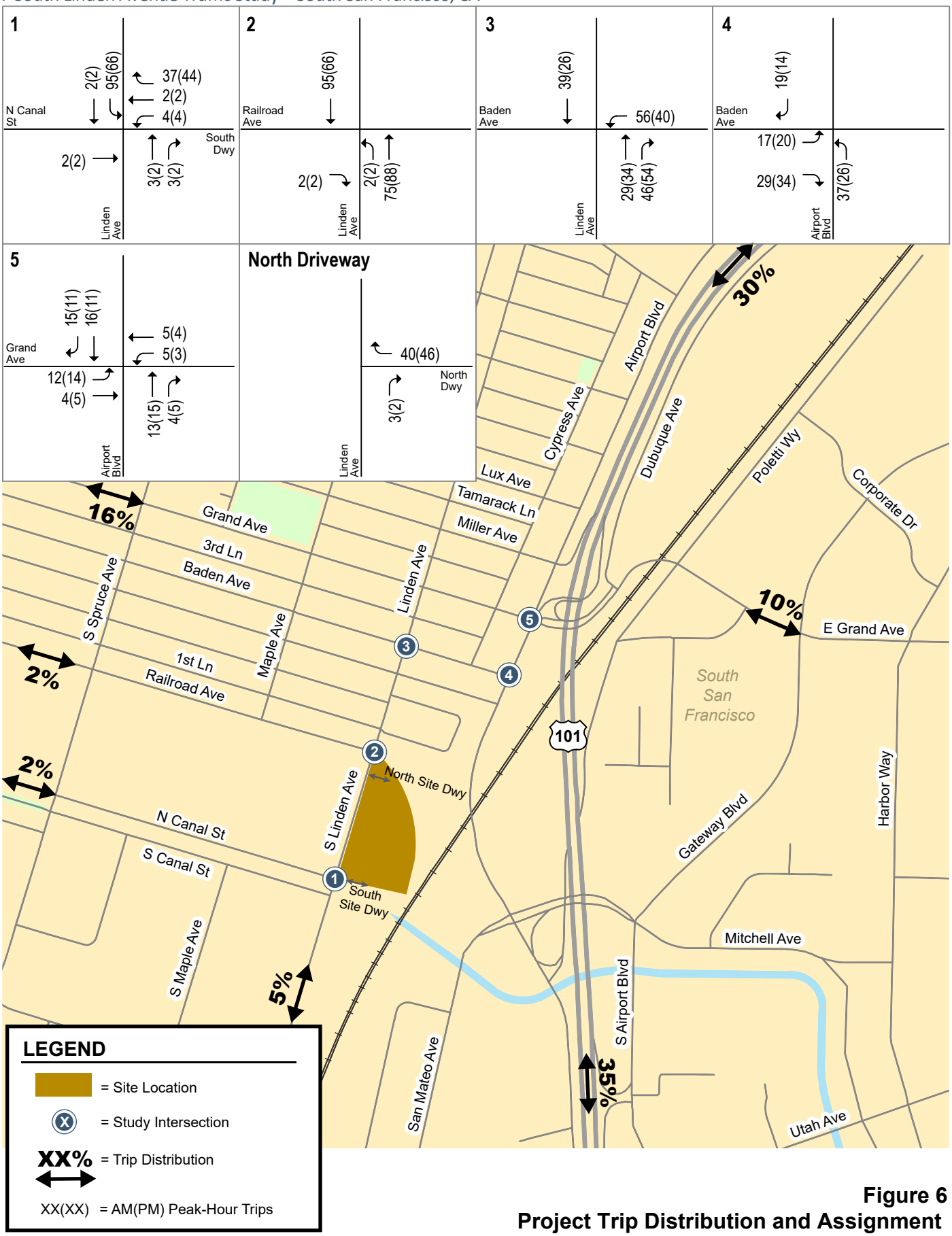


Figure 6
Project Trip Distribution and Assignment

NORTH
Not to Scale

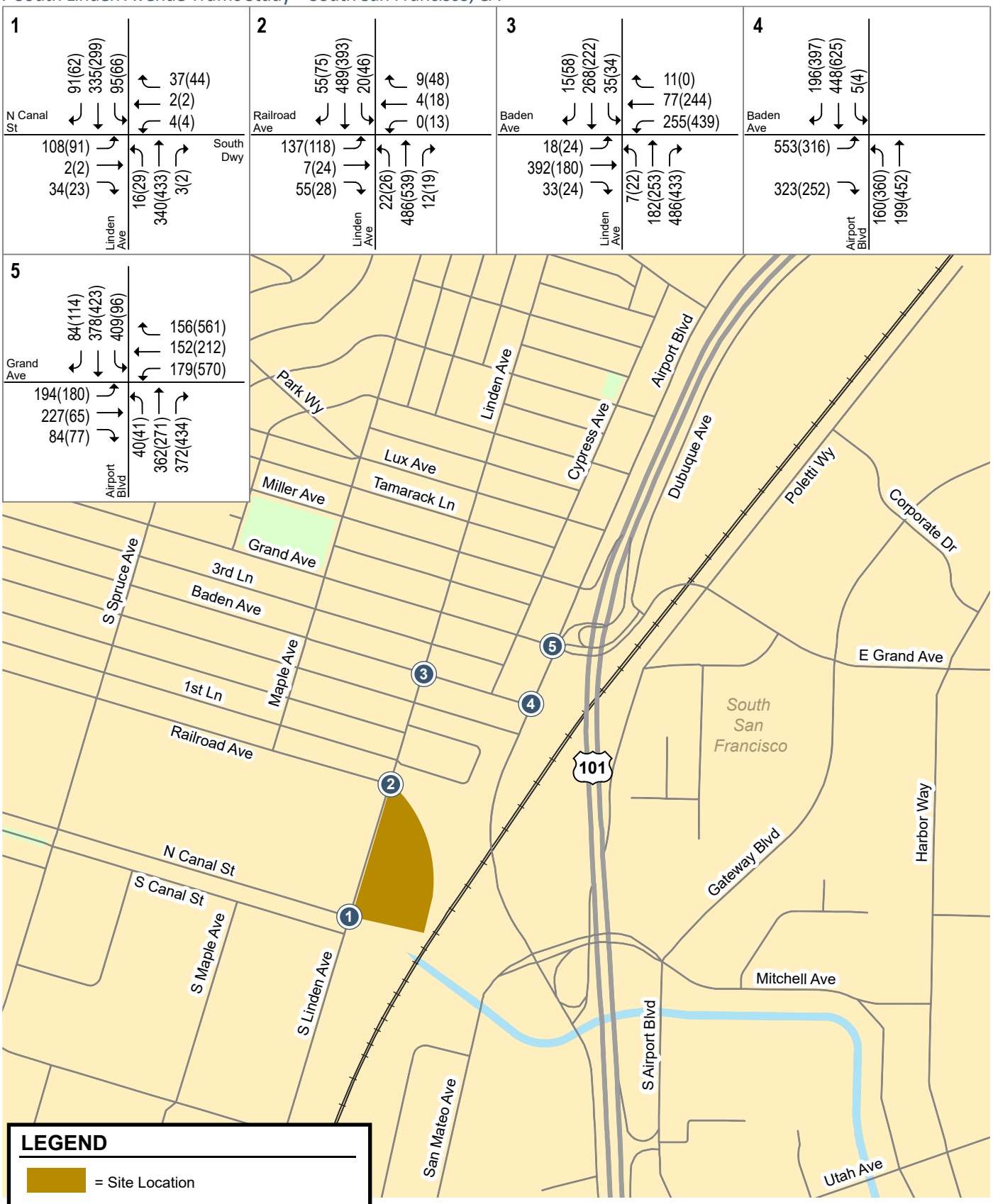


Figure 7
Existing Plus Project Trafffic Volumes

NORTH
Not to Scale

Intersection at South Linden Avenue and Canal Street

The south driveway would form the east leg of the South Linden Avenue/North Canal Street intersection but would be offset by approximately 50 feet to the north as access to the Lindenville Storm Water Pump Station 6 is located directly on the opposite side of North Canal Street and adjacent to the project driveway. Currently, the southbound left turn movement is prohibited at the intersection of South Linden Avenue and North Canal Street due to the lack of a left turn pocket for the southbound approach and the restricted sight distance for the turning movement. In order to provide safe southbound left turn access for the south site driveway, left turn lanes can be added on the northbound and southbound approaches on South Linden Avenue to allow implementation of concurrent left turn signal phasing. The project will install separate signal heads and phasing for the project's southern driveway and the City's water pump station. Due to the proximity of the two driveways, directional traffic signal heads would be required to limit signal visibility to specific target areas to avoid motorist confusion. The project's property line fence would be extended to the back of the sidewalk on South Linden Avenue to separate the two driveways. See Exhibit 1 in Appendix C for a conceptual layout of this signal modification at the South Linde Avenue/North Canal Street intersection.

Existing Plus Project Level of Service

The results of the signalized intersection level of service analysis under existing plus project conditions are summarized in Table 5. The results show that, measured against the City of South San Francisco level of service standards, all signalized study intersections are projected to operate at an acceptable LOS D or better during the AM and PM peak hours of traffic. At the intersection of South Linden Avenue and Railroad Avenue, the addition of project traffic would cause the overall average intersection delays to improve slightly. This is due to the improved traffic signal operations under project conditions, which consists of protected left turn phasing on northbound and southbound South Linden Avenue that would allow the northbound and southbound through phases to operate concurrently. The intersection levels of service calculation sheets are included in Appendix B.

Table 5
Existing Plus Project Intersection Level of Service

Study Number	Intersection	Control	Peak Hour	Existing Conditions: No Project Avg. Delay (sec)	No Project LOS	With Project Avg. Delay (sec)	With Project LOS
1	South Linden Avenue & North Canal Street	Signal[1]	AM	4.7	A	13.0	B
			PM	4.4	A	12.0	B
2	South Linden Avenue & Railroad Avenue	Signal[1]	AM	14.9	B	8.9	A
			PM	14.3	B	9.1	A
3	Linden Avenue & Baden Avenue	Signal[1]	AM	17.2	B	20.1	C
			PM	16.8	B	20.5	C
4	Airport Boulevard & Baden Avenue	Signal[1]	AM	45.6	D	55.0	D
			PM	36.4	D	39.2	D
5	Airport Boulevard & Grand Avenue	Signal[1]	AM	38.1	D	39.4	D
			PM	37.8	D	39.6	D

Note:
[1] Delay reported as seconds per vehicle. The delay shown is the weighted average delay for all movements. LOS based on the methodology in Highway Capacity Manual (HCM). Intersections 1 and 2 are based on HCM 6th Edition methodology. The remaining intersections are based on HCM 2000 methodology.

Cumulative Conditions Road Network and Traffic Volumes

Cumulative conditions represent future traffic conditions with expected growth in the area through Year 2040. It is assumed in this analysis that the transportation network under cumulative conditions, including all study roadways and intersection lane configurations, would be the same as that described under existing conditions, with the following exception.

- Intersection at South Linden Avenue & Baden Avenue – An intersection improvement to add a southbound left turn pocket by removing existing parking and to optimize the signal timing at the intersection was identified in the South San Francisco Downtown Station Area Specific Plan EIR.
- Intersection at Airport Boulevard and Baden Avenue – This intersection would operate as a four-legged intersection. The east leg would provide access to the residential development (150 & 200 Airport Boulevard) on the east side of Airport Boulevard that is currently under construction.

The cumulative traffic volumes used in this report were derived from the C/CAG model and the cumulative volumes presented in the 580 Dubuque Avenue TIA, which was the most recently completed traffic study at the time the traffic operations analysis was being conducted for the 7 South Linden Avenue project. For intersections not included in the C/CAG model, volumes were estimated based on the closest intersections. Cumulative plus project traffic volumes were estimated by adding to cumulative traffic volumes the trips associated with the project. Cumulative plus project conditions were evaluated relative to cumulative no project conditions.

The cumulative no project traffic volumes are shown on Figure 8. Figure 9 shows the traffic volumes under cumulative plus project conditions. The conceptual intersection operational improvements for intersections at South Linden Avenue/Railroad Avenue and South Linden Avenue/Canal Street assumed under the Existing plus Project conditions also apply to the Cumulative plus Project conditions.

Cumulative Plus Project Level of Service

The results of the level of service analysis under cumulative conditions show that three of the study intersections would operate at level of service D or better without the project (see Table 6). The Airport Boulevard/Baden Avenue and Airport Boulevard/Grand Avenue intersections would operate at LOS E and F without the project and would continue to operate at LOS E or F with the project. The intersection levels of service calculation sheets are included in Appendix B.

Because the intersection at Airport Boulevard/Baden Avenue has been built to capacity, no physical improvements are feasible at this intersection. In the future, the city will adjust signal timings at these intersections to better serve the increased traffic levels. The city will primarily rely on investments in infrastructure that will support and encourage alternative modes of transportation to address traffic congestion.

As in the Existing plus Project conditions, the addition of project traffic would cause the overall average intersection delays to improve slightly at the intersection of South Linden Avenue and Railroad Avenue due to the proposed protected left turn phasing on South Linden Avenue that would allow the northbound and southbound through phases on South Linden Avenue to operate concurrently.

Table 6
Cumulative and Cumulative Plus Project Intersection Level of Service

Study Number	Intersection	Control	Peak Hour	Cumulative Conditions					
				No Project		With Project			
				Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Delay Increase (Sec)	% Increase in Volume
1	South Linden Avenue & North Canal Street	Signal[1]	AM	4.9	A	12.7	B	7.8	6.0%
			PM	4.4	A	11.8	B	7.4	5.5%
2	South Linden Avenue & Railroad Avenue	Signal[1]	AM	18.1	B	10.4	B	-7.7	8.7%
			PM	17.2	B	9.9	A	-7.3	7.8%
3	Linden Avenue & Baden Avenue	Signal[1]	AM	19.9	B	23.4	C	3.5	5.9%
			PM	20.0	B	23.6	C	3.6	4.9%
4	Airport Boulevard & Baden Avenue	Signal[1]	AM	**71.2**	**E**	**79.1**	**E**	7.9	3.2%
			PM	52.3	D	**60.7**	**E**	8.4	2.3%
5	Airport Boulevard & Grand Avenue	Signal[1]	AM	**142.5**	**F**	**148.2**	**F**	5.7	1.6%
			PM	**159.5**	**F**	**176.7**	**F**	17.2	1.3%

Note:
[1] Delay reported as seconds per vehicle. The delay shown is the weighted average delay for all movements. LOS based on the methodology in Highway Capacity Manual (HCM). Intersections 1 and 2 are based on HCM 6th Edition methodology. The remaining intersections are based on HCM 2000 methodology.
Bold indicates LOS E or LOS F.

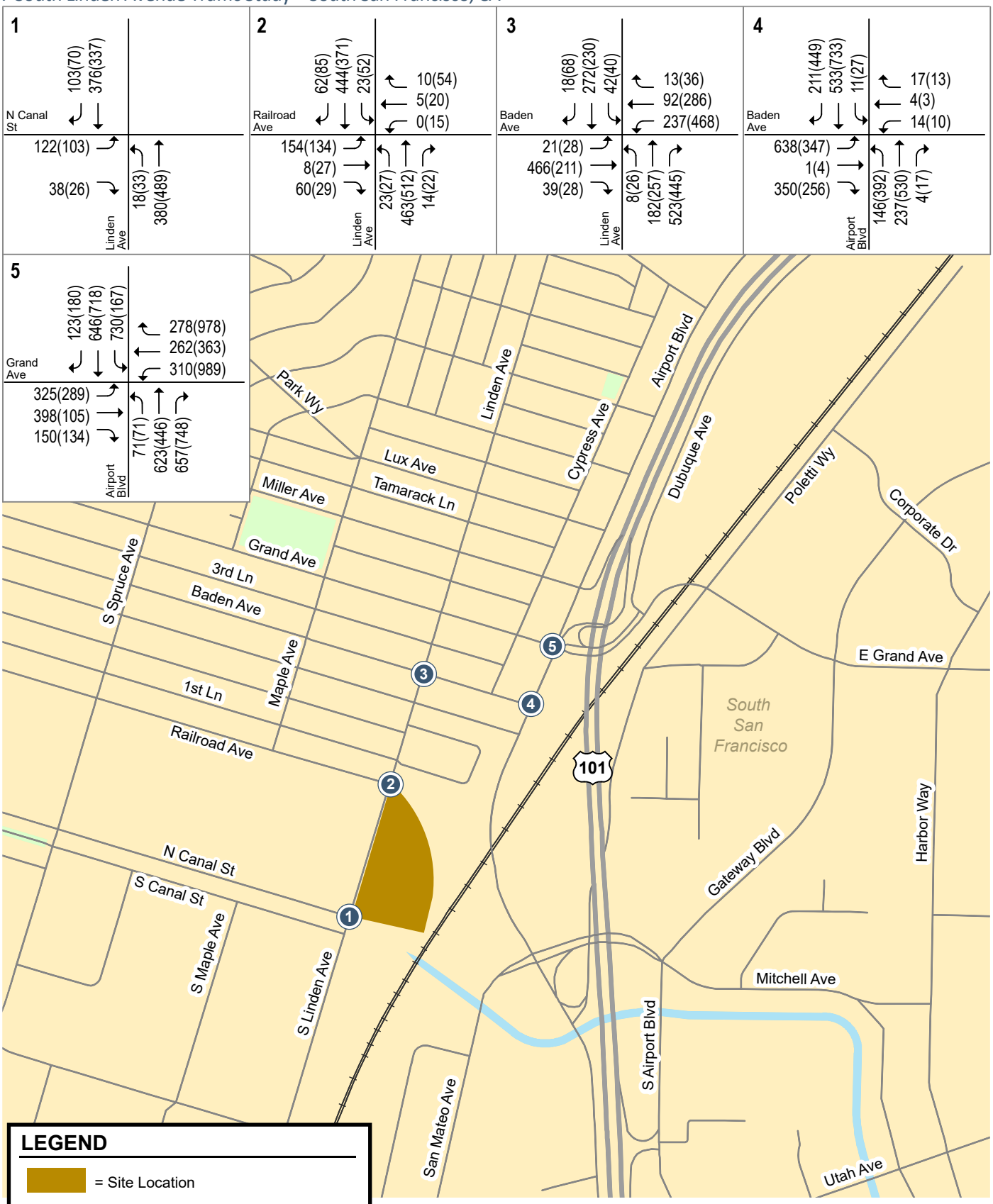


Figure 8
Cumulative Traffic Volumes

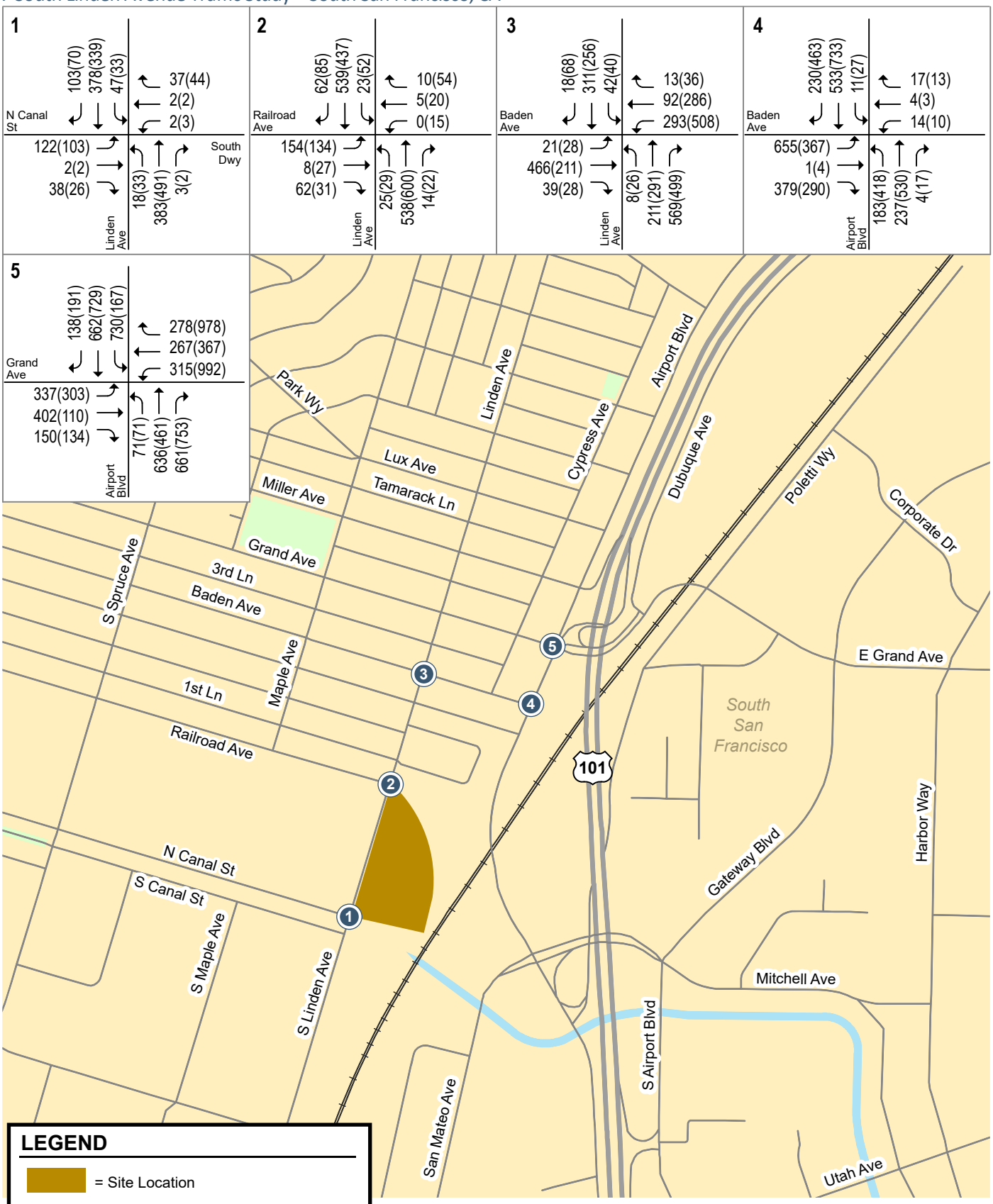


Figure 9
Cumulative Plus Project Traffic Volumes

NORTH
Not to Scale

Site Access and On-Site Circulation

The site access and on-site circulation evaluation is based on the site plans (dated April 25, 2022) prepared by BDE Architecture (see Figures 10 and 11).

Site Access

Access to the project site would be provided via two driveways on South Linden Avenue, which are located at the north and south ends of the site property at approximately 600 feet apart. The north driveway would be located approximately 70 feet south of the South Linden Avenue/Railroad Avenue intersection and would need to be restricted to right turn only movements due its proximity to the traffic signal at South Linden Avenue and Railroad Avenue. The northern and the southern project driveways would be interconnected via an internal perimeter access road that runs along the east and south property lines at the back of project building. The driveways are connected for EVA access and recreational purposes only (no private vehicle traffic).

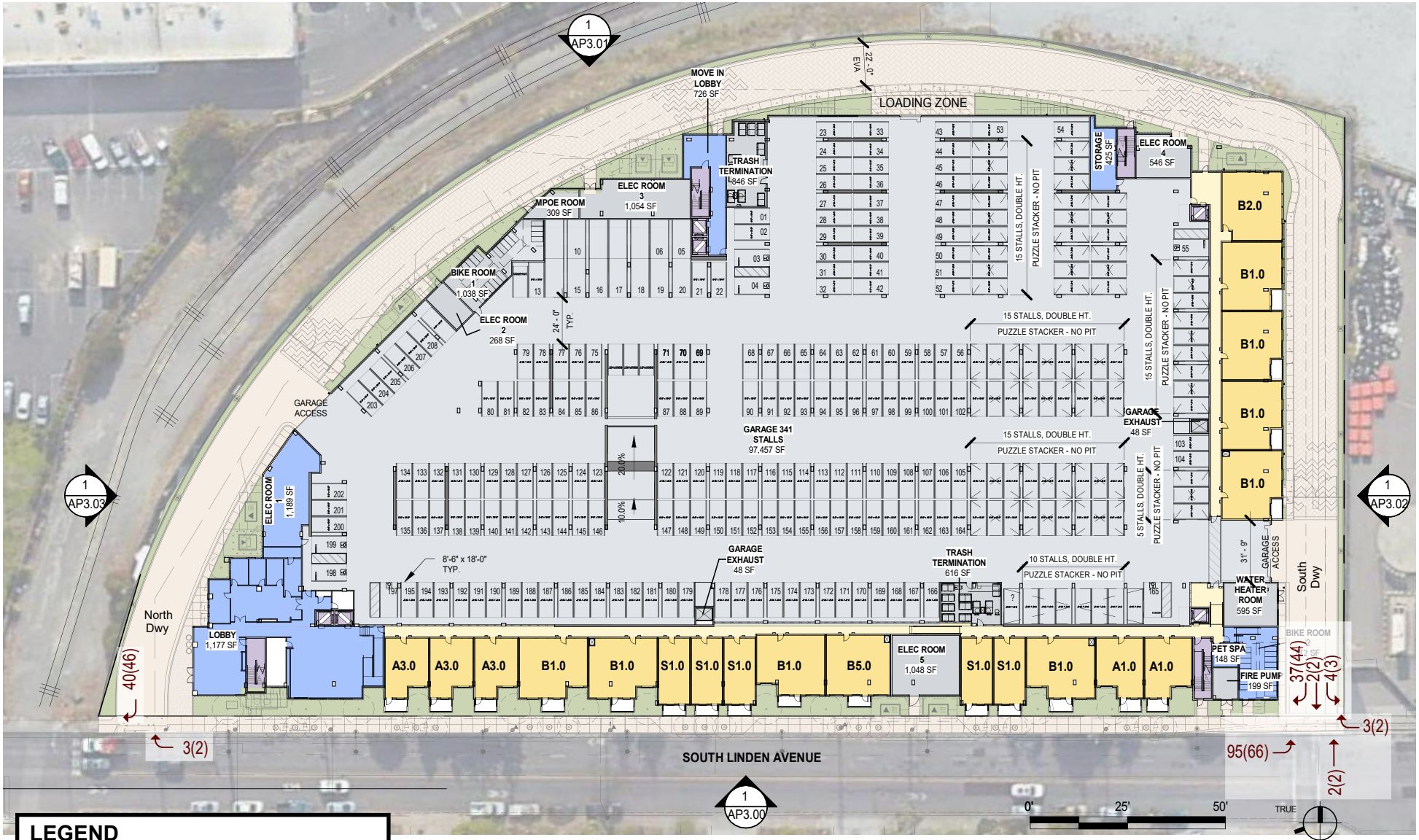
The number of AM and PM peak hour vehicular trips entering and exiting the project through the site driveways are shown in Figure 10.

With the implementation of left turn restrictions at the north site driveway, all left turn movements to and from South Linden Avenue would use the south driveway to access the project site. Based on the LOS and queuing calculations, the outbound movements from the north site driveway would operate at LOS A with a maximum 95th percentile queue of one vehicle during the AM and PM peak hours. At the intersection of South Linden Avenue and North Canal Street where the south driveway would form the east leg of the intersection, the driveway outbound movement would operate at LOS B with a maximum 95th percentile queue of two vehicles during the AM and PM peak hours. The inbound left turn movement from southbound Linden Avenue would operate at LOS C with a maximum 95th percentile queue of four vehicles during the AM and PM peak hours.

Access to the parking garage would be provided via north and south gated entrances located along the perimeter road at approximately 125 feet and 50 feet from the north and south driveways, respectively. The gates would typically be open during the day and closed at night. Residents would need to use a remote or keypad to enter the garage during the hours when the gate is closed.

The site plan shows the site driveways and perimeter access road would measure approximately 28 feet in width which would be adequate for two-way traffic flow. The width of the garage entrances would measure approximately 24 feet which would be adequate for vehicles to enter and exit the parking garage. Both garage entrances would be connected internally via the parking drive aisles.

The project would widen the sidewalk along its frontage on South Linden Avenue and add two new pedestrian access points. Pedestrian access to the project site would be provided at locations along the frontage on South Linden Avenue. Primary pedestrian access would be provided via a main entry connected to the widened sidewalk on South Linden Avenue. There would be an access door connected to the ground level parking on the west side of the project site adjacent to the north driveway. There also would be access door connected to the ground level bike room adjacent to the sidewalk on South Linden Avenue.



LEGEND

XX(XX) = AM(PM) Peak-Hour Trips

Figure 10
Project Site Plan (Floor 1)

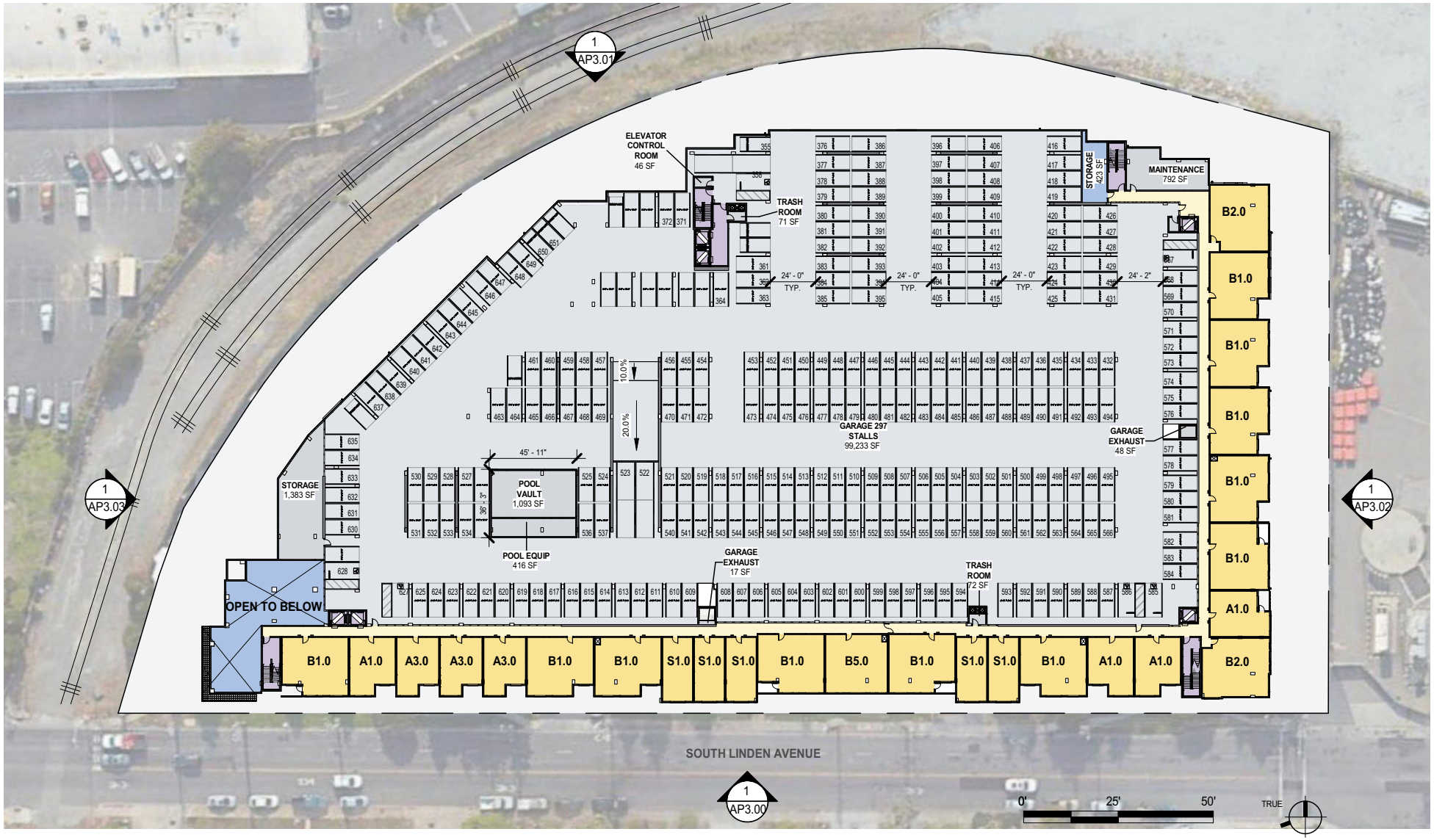


Figure 11
Project Site Plan (Floor 2)

NORTH
Not to Scale

On-Site Circulation

On-site vehicular circulation was reviewed in accordance with the City of South San Francisco Zoning Ordinance and generally accepted traffic engineering standards.

The project site plan includes a two-level parking garage, which would be accessed by the two interconnected garage entrances. The parking garage follows a standard 90-degree parking layout. The parking aisles are shown to be 24 feet wide, which does not meet the City's standard for 90-degree parking. The City's municipal code requires the parking aisles to be 25 feet wide for 90-degree parking layout. Based on generally accepted traffic engineering standards, a two-way drive aisle that is 24 feet wide would be adequate for vehicles to maneuver in and out of the 90-degree parking stalls. Other neighboring cities have allowed two-way drive aisles less than 25 feet. Since the City of South San Francisco evaluates each project design on a case-by-case basis, the project applicant should coordinate with City staff to determine whether the proposed drive aisle widths are acceptable to serve the project.

The dimensions of the regular parking spaces are shown to be 8.5 feet by 18 feet, which meets the minimum City standards for enclosed parking spaces.

Mechanical stacker vehicular parking would be provided on the first level on the south side of the parking garage. The mechanical stacker would increase the capacity of onsite parking by stacking the parked vehicles vertically and would allow independent access to vehicles on the lift so that they could be shared by different residential users. A total of 133 parking spaces would be provided within the mechanical parking system. The spec sheets for the parking stackers are included in Appendix D. Besides the stacker parking units, 18 tandem parking spaces are shown located on the east side of the 1st level parking garage.

The site plan shows a slope of 20% for the ramp that connects the two parking levels with a transition slope of 10% for the first and last 10 feet of the ramp so that vehicles do not "bottom out".

Both parking levels would have drive aisles on the east side of the garage that terminate at a dead end with no turnarounds. In general, dead-end aisles can be problematic if they contain unassigned parking spaces, since drivers can enter the aisle and upon discovering that there is no available parking must either back out or conduct three-point maneuvers. Dead-end aisles typically are less problematic and would not create any on-site circulation issues as long as the parking spaces are assigned to residents. All on-site parking will be assigned to residents.

Pedestrian circulation within the site appears to provide adequate connectivity between the multiple residential units, vehicle parking, bicycle storage, off-site pedestrian facilities, and on-site amenities. There would be four staircases and six elevators located at various locations inside the building, with access to the front lobby and parking garage. The first level would also accommodate a leasing/lobby area, two trash rooms, a mail package room, and two bike storage rooms.

Truck Access

The site plan shows a designated loading area for delivery and moving trucks along the perimeter access road near the move-in lobby. A move-in lobby would be located on the east side of the parking garage with a door that provides access to the perimeter access road. A trash collection room is shown located at the ground level. Because garbage trucks would not be able to enter the parking garage, trash bins would need to be wheeled out to the perimeter access road where garbage trucks would perform their operations outside of the building.

Parking

Calculation of Vehicular Parking Requirement

Parking requirements for the project were evaluated based on the parking requirements presented in Table 20.330.004 of the new zoning code as described below.

Multi-family Residential

- Studio and one-bedroom (up to 1,100 sq ft) – 1 space minimum and 1 space maximum per unit.
- Two-bedroom (up to 1,100 sq ft) - 1 space minimum and 1.5 space maximum per unit.
- Three or more bedrooms and 1,101 sq ft or larger – 1.5 space minimum and 2 spaces maximum

The proposed project has a total of 543 dwelling units including 314 studios and one-bedroom units, 202 two-bed room units less than 1,100 sq ft and 27 two-bedroom units larger than 1,101 sq ft. Based on these requirements, the project would be required to provide a minimum of 557 parking spaces and a maximum of 671 parking spaces. The project would provide a total of 563 parking spaces and would satisfy the requirements of the new parking ordinance.

Calculation of Bicycle Parking Spaces

According to the City's bicycle parking standards, for multi-unit residential developments with eight or more units, short-term bicycle parking should be provided at a rate of 5% of the number of required automobile parking spaces. The code also requires that long-term bicycle parking be provided at a minimum of one bicycle parking space for every four units for multi-unit residential projects. This calculates to a minimum of 28 short-term bicycle parking spaces and 136 long-term bicycle parking spaces.

The site plan shows that the project will provide long-term bicycle parking for 147 bicycles within two bike rooms on the first floor of the building and at least 28 short-term bicycle parking spaces along the project frontage on Linden Avenue and would satisfy the bicycle parking requirement of the City's zoning code.

Transit, Pedestrian and Bicycle Impacts

The project is well situated to take advantage of the existing and planned pedestrian, bicycle, and transit services in the immediate vicinity. These services would allow project residents to access employment and many services without a car. The new Caltrain station connections will allow easy access to transit services and will also provide a good bicycle connection to the employment zone to the east. Pedestrians can access the project site to/from other parts of the downtown via existing sidewalks and crosswalks at signalized intersections.

The proposed project would generate pedestrian trips to and from transit stops and commercial areas in the project vicinity. Most of the streets in the project vicinity have sidewalks and crosswalks at intersections. The existing pedestrian and bicycle facilities provide adequate access to the project site.

The project would install new sidewalks along the project frontage on South Linden Avenue, new crosswalks, and ADA-compliant wheelchair ramps at the adjacent intersections that would improve pedestrian access and enhance pedestrian connectivity in the area. The development of the project would not remove any existing bicycle/pedestrian facilities, nor would it preclude any future planned improvements. Therefore, the proposed project would not create an adverse impact to bicycle/pedestrian circulation in the area.

Existing transit service in the project vicinity is provided by Caltrain, SamTrans, and the commute.org shuttles. According to the U.S. Census data for South San Francisco, approximately 15 percent of the mode share for residential uses could be expected to use transit to and from the project site. For the proposed project, this would equate to a maximum of 28 new transit trips during the AM and PM peak hours, respectively. This volume of riders that could be generated by the project would not exceed the carrying capacity of the existing transit services near the project site.

Conclusions

The project site is located within half mile of the South San Francisco Caltrain Station and the high-quality transit service provided by SamTrans route 130. Therefore, the project is expected to result in a less-than-significant VMT impact.

Site access and on-site circulation were also evaluated based on the site plans (dated April 25, 2022) prepared by BDE Architecture. In order to provide adequate access to the project site, intersection operational improvements would be required at the signalized intersections of South Linden Avenue/Railroad Avenue and South Linden Avenue/North Canal Street. The conceptual improvements at these locations are shown in Appendix C.

Due to the proximity of the project's north driveway to the signalized intersecion of South Linden Avenue and Railroad Avenue, the project's north driveway would need to be restricted to right-turn movements only. Left-turns into and out of the project site would occur at the project's south driveway.

In order to provide safe southbound left turn access for the south site driveway, left turn lanes can be added on the northbound and southbound approaches on South Linden Avenue to allow implementation of concurrent left turn signal phasing. The project will install separate signal heads and phasing for the project's southern driveway and the City's water pump station. Due to the proximity of the two driveways, directional traffic signal heads would be required to limit signal visibility to specific target areas in order to avoid motorist confusion. The project's property line fence would be extended to the back of the sidewalk on South Linden Avenue in order to separate the two driveways.

The potential adverse effects of the proposed project were evaluated in accordance with the procedures and guidelines specified by the City of South San Francisco. The analysis resulted in the following key findings:

- All study intersections operate at LOS D or better under existing and existing plus project conditions.
- According to the City of South San Francisco intersection LOS adverse effect criteria, the proposed project would cause an adverse effect at the Airport Boulevard/Baden Avenue intersection under cumulative plus project conditions. Because the Airport Boulevard and Baden Avenue intersection has been built to capacity, no physical improvements are feasible at this intersection. In the future, the city will adjust signal timings at this intersections to better serve the increased traffic levels. The city will primarily rely on investments in infrastructure that will support and encourage alternative modes of transportation to address traffic congestion in the study area.
- The project would not create any significant adverse impacts to pedestrian, bike, or transit facilities.

7 South Linden Avenue

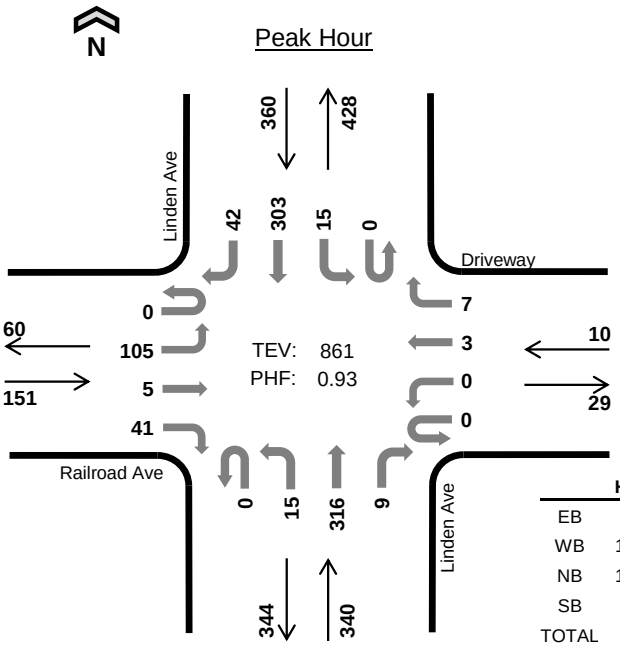
Transportation Analysis Appendices

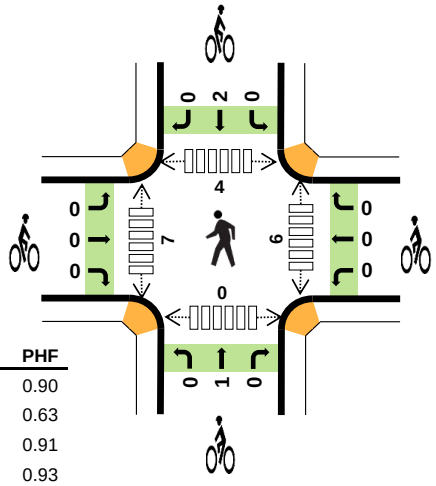
Appendix A

Intersection Traffic Counts

Linden Ave
Railroad Ave

Date: 12-14-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	2.0%	0.90
WB	10.0%	0.63
NB	11.8%	0.91
SB	8.3%	0.93
TOTAL	8.6%	0.93

Two-Hour Count Summaries

Interval Start	Railroad Ave Eastbound				Driveway Westbound				Linden Ave Northbound				Linden Ave 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	18	1	7	0	0	1	1	0	2	50	0	0	2	69	8	159	0
7:15 AM	0	22	0	9	0	0	1	1	0	0	66	1	0	1	55	5	161	0
7:30 AM	0	25	0	10	0	0	0	2	0	2	63	2	0	3	75	3	185	0
7:45 AM	0	36	4	12	0	0	0	2	0	5	75	3	0	4	71	5	217	722
8:00 AM	**0**	**24**	**2**	**10**	**0**	**0**	**0**	**0**	**0**	**3**	**71**	**3**	**0**	**2**	**82**	**13**	**210**	773
8:15 AM	**0**	**27**	**2**	**13**	**0**	**0**	**1**	**1**	**0**	**6**	**85**	**1**	**0**	**5**	**70**	**10**	**221**	833
8:30 AM	**0**	**27**	**0**	**8**	**0**	**0**	**2**	**2**	**0**	**2**	**73**	**3**	**0**	**3**	**68**	**10**	**198**	846
8:45 AM	**0**	**27**	**1**	**10**	**0**	**0**	**0**	**4**	**0**	**4**	**87**	**2**	**0**	**5**	**83**	**9**	**232**	**861**
Count Total	0	206	10	79	0	0	5	13	0	24	570	15	0	25	573	63	1,583	0
Peak Hour All	**0**	**105**	**5**	**41**	**0**	**0**	**3**	**7**	**0**	**15**	**316**	**9**	**0**	**15**	**303**	**42**	**861**	**0**
Peak Hour HV	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**40**	**0**	**0**	**0**	**29**	**1**	**74**	**0**
Peak Hour HV%	**-**	**3%**	**0%**	**0%**	**-**	**-**	**0%**	**14%**	**-**	**0%**	**13%**	**0%**	**-**	**0%**	**10%**	**2%**	**9%**	**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	1	13	1	*16*	0	0	0	0	*0*	0	2	0	0	*2*
7:15 AM	1	0	13	3	*17*	0	0	0	2	*2*	0	2	0	0	*2*
7:30 AM	0	0	9	3	*12*	0	0	0	3	*3*	5	3	1	0	*9*
7:45 AM	0	0	11	10	*21*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**1**	**0**	**11**	**3**	***15***	**0**	**0**	**1**	**2**	***3***	**1**	**1**	**0**	**0**	*2*
8:15 AM	**0**	**1**	**11**	**9**	***21***	**0**	**0**	**0**	**0**	***0***	**2**	**4**	**1**	**0**	*7*
8:30 AM	**0**	**0**	**3**	**6**	***9***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**2**	**0**	*4*
8:45 AM	**2**	**0**	**15**	**12**	***29***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**1**	**0**	***4***
Count Total	5	2	86	47	*140*	0	0	1	7	*8*	11	14	5	0	*30*
Peak Hour	**3**	**1**	**40**	**30**	***74***	**0**	**0**	**1**	**2**	***3***	**6**	**7**	**4**	**0**	***17***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Railroad Ave				Driveway				Linden Ave				Linden 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	1	0	0	0	0	1	0	0	0	13	0	0	1	0	0	16	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	13	0	0	0	3	0	17	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	3	0	12	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	9	1	21	66
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**2**	**1**	**15**	65
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**11**	**0**	**0**	**0**	**9**	**0**	**21**	69
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**6**	**0**	**9**	66
8:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**12**	**0**	**29**	**74**
Count Total	0	5	0	0	0	0	1	1	0	0	86	0	0	1	44	2	140	0
Peak Hour	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**40**	**0**	**0**	**0**	**29**	**1**	**74**	**0**

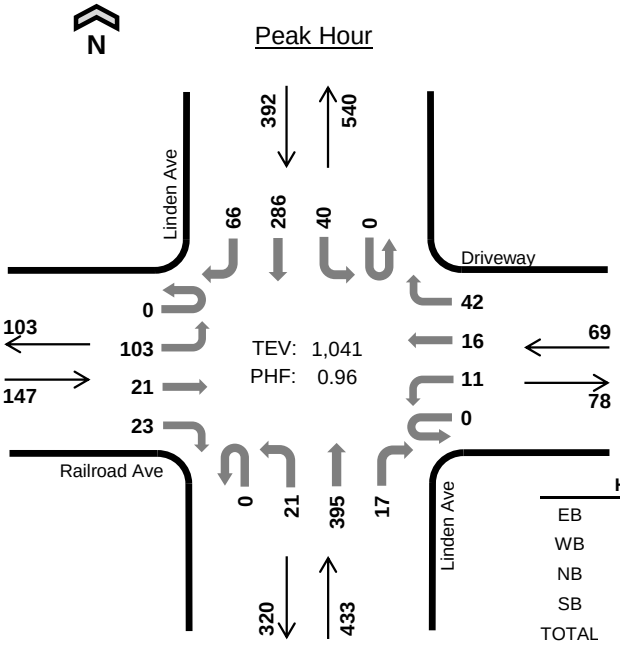
Two-Hour Count Summaries - Bikes

Interval Start	Railroad Ave			Driveway			Linden Ave			Linden 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	2	0	2	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**3**	8
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**	**0**	**0**	**0**	**0**	**0**	3
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
Count Total	0	0	0	0	0	0	0	1	0	0	7	0	8	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**3**	**0**

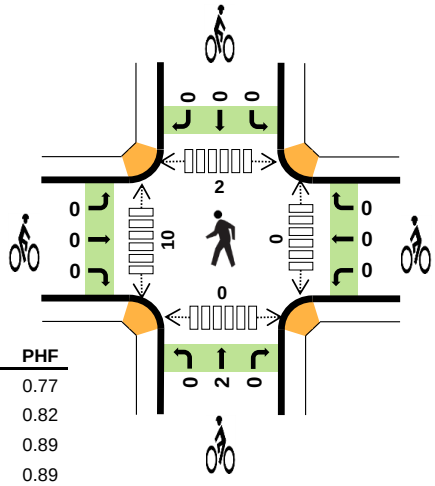
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Linden Ave
Railroad Ave

Date: 12-14-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	2.0%	0.77
WB	2.9%	0.82
NB	2.3%	0.89
SB	3.8%	0.89
TOTAL	2.9%	0.96



Two-Hour Count Summaries

Interval Start	Railroad Ave Eastbound				Driveway Westbound				Linden Ave Northbound				Linden Ave 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	30	3	6	0	3	2	7	0	6	111	2	0	6	79	13	268	0
4:15 PM	0	21	1	9	0	2	1	4	0	4	108	5	0	6	67	11	239	0
4:30 PM	0	17	2	8	0	0	2	5	0	7	124	3	0	7	53	13	241	0
4:45 PM	**0**	**34**	**5**	**9**	**0**	**1**	**5**	**12**	**0**	**2**	**97**	**2**	**0**	**5**	**79**	**11**	**262**	1,010
5:00 PM	**0**	**22**	**2**	**8**	**0**	**3**	**2**	**10**	**0**	**7**	**114**	**1**	**0**	**8**	**66**	**24**	**267**	1,009
5:15 PM	**0**	**20**	**12**	**4**	**0**	**3**	**6**	**12**	**0**	**3**	**89**	**11**	**0**	**18**	**69**	**23**	**270**	1,040
5:30 PM	**0**	**27**	**2**	**2**	**0**	**4**	**3**	**8**	**0**	**9**	**95**	**3**	**0**	**9**	**72**	**8**	**242**	**1,041**
5:45 PM	0	18	3	6	0	2	5	7	0	2	83	2	0	4	73	13	218	997
Count Total	0	189	30	52	0	18	26	65	0	40	821	29	0	63	558	116	2,007	0
Peak Hour All	**0**	**103**	**21**	**23**	**0**	**11**	**16**	**42**	**0**	**21**	**395**	**17**	**0**	**40**	**286**	**66**	**1,041**	**0**
Peak Hour HV	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**1**	**9**	**0**	**0**	**0**	**12**	**3**	**30**	**0**
Peak Hour HV%	**-**	**1%**	**5%**	**4%**	**-**	**0%**	**0%**	**5%**	**-**	**5%**	**2%**	**0%**	**-**	**0%**	**4%**	**5%**	**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	2	2	4	8	*16*	0	0	1	0	*1*	1	2	0	0	*3*
4:15 PM	0	0	4	8	*12*	0	0	0	1	*1*	1	2	0	0	*3*
4:30 PM	2	0	8	10	*20*	0	0	1	1	*2*	2	4	0	0	*6*
4:45 PM	**1**	**1**	**2**	**5**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	*3*
5:00 PM	**1**	**0**	**2**	**5**	***8***	**0**	**0**	**1**	**0**	***1***	**0**	**3**	**0**	**0**	*3*
5:15 PM	**0**	**1**	**2**	**4**	***7***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**1**	**0**	*1*
5:30 PM	**1**	**0**	**4**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**1**	**0**	***5***
5:45 PM	1	0	2	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	8	4	28	46	*86*	0	0	4	2	*6*	4	18	2	0	*24*
Peak Hour	**3**	**2**	**10**	**15**	***30***	**0**	**0**	**2**	**0**	***2***	**0**	**10**	**2**	**0**	***12***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Railroad Ave				Driveway				Linden Ave				Linden 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	2	0	0	0	1	0	1	0	0	4	0	0	0	7	1	16	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	3	0	0	0	7	1	12	0
4:30 PM	0	0	0	2	0	0	0	0	0	1	6	1	0	0	10	0	20	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**1**	**9**	57
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**1**	**8**	49
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**1**	**7**	44
5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**6**	**30**
5:45 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	5	0	8	29
Count Total	0	4	1	3	0	1	0	3	0	3	24	1	0	0	41	5	86	0
Peak Hour	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**1**	**9**	**0**	**0**	**0**	**12**	**3**	**30**	**0**

Two-Hour Count Summaries - Bikes

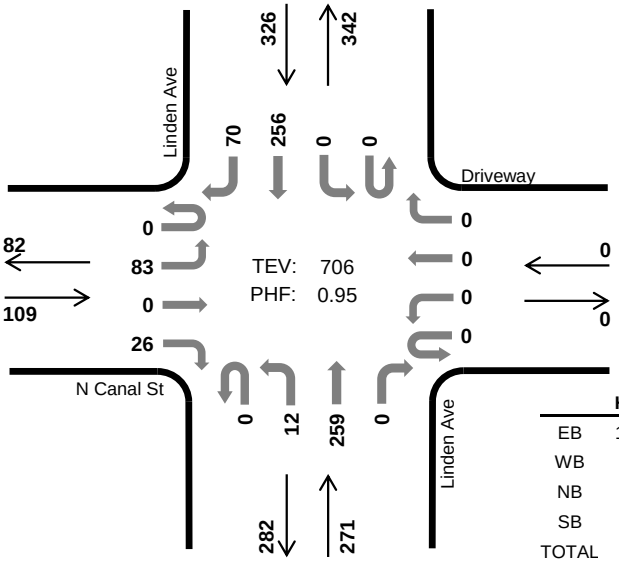
Interval Start	Railroad Ave			Driveway			Linden Ave			Linden Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	4
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	4
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	4	0	0	2	0	6	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**

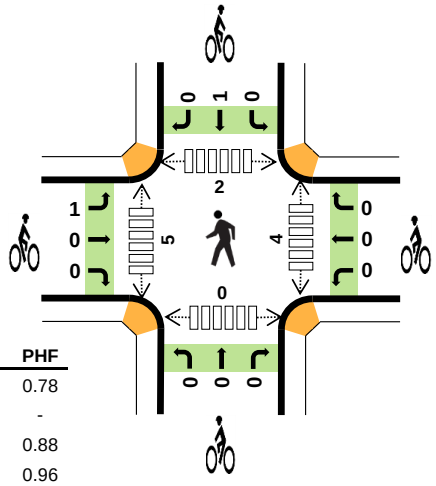
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Linden Ave
N Canal St

Date: 12-14-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	11.0%	0.78
WB	-	-
NB	9.6%	0.88
SB	7.7%	0.96
TOTAL	8.9%	0.95

Two-Hour Count Summaries

Interval Start		N Canal St Eastbound				Driveway Westbound				Linden Ave Northbound				Linden Ave 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	10	0	2	0	0	0	0	0	1	37	0	0	0	56	9	115	0
7:15 AM		0	16	0	3	0	0	0	0	0	3	54	0	0	0	52	16	144	0
7:30 AM		0	16	0	4	0	0	0	0	0	3	50	0	0	0	57	15	145	0
7:45 AM		**0**	**18**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**73**	**0**	**0**	**0**	**62**	**23**	**186**	590
8:00 AM		**0**	**14**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**3**	**57**	**0**	**0**	**0**	**66**	**15**	**162**	637
8:15 AM		**0**	**23**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**69**	**0**	**0**	**0**	**66**	**17**	**185**	678
8:30 AM		**0**	**28**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**60**	**0**	**0**	**0**	**62**	**15**	**173**	**706**
8:45 AM		1	15	0	8	0	0	0	0	0	5	75	0	0	0	64	16	184	704
Count Total		1	140	0	43	0	0	0	0	0	24	475	0	0	0	485	126	1,294	0
Peak Hour	**All**	**0**	**83**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**12**	**259**	**0**	**0**	**0**	**256**	**70**	**706**	**0**
	HV	**0**	**8**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**22**	**3**	**63**	**0**
	HV%	**-**	**10%**	**-**	**15%**	**-**	**-**	**-**	**-**	**-**	**0%**	**10%**	**-**	**-**	**-**	**9%**	**4%**	**9%**	**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	13	0	*13*	0	0	0	0	*0*	2	0	0	0	*2*
7:15 AM	2	0	13	2	*17*	0	0	0	1	*1*	0	1	0	0	*1*
7:30 AM	1	0	8	3	*12*	0	0	0	4	*4*	2	4	2	0	*8*
7:45 AM	**2**	**0**	**10**	**6**	***18***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**0**	**0**	*4*
8:00 AM	**3**	**0**	**7**	**4**	***14***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**1**	**0**	*2*
8:15 AM	**5**	**0**	**4**	**10**	***19***	**0**	**0**	**0**	**1**	***1***	**1**	**1**	**1**	**0**	*3*
8:30 AM	**2**	**0**	**5**	**5**	***12***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	***2***
8:45 AM	2	0	13	10	*25*	0	0	0	0	*0*	1	1	0	0	*2*
Count Total	17	0	73	40	*130*	1	0	0	6	*7*	9	11	4	0	*24*
Peak Hour	**12**	**0**	**26**	**25**	***63***	**1**	**0**	**0**	**1**	***2***	**4**	**5**	**2**	**0**	***11***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	N Canal St Eastbound				Driveway Westbound				Linden Ave Northbound				Linden Ave 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	0	0	0	0	0	0	0	0	13	0	0	0	0	0	13	0
7:15 AM	0	1	0	1	0	0	0	0	0	2	11	0	0	0	1	1	17	0
7:30 AM	0	1	0	0	0	0	0	0	0	1	7	0	0	0	3	0	12	0
7:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**6**	**0**	**18**	60
8:00 AM	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**3**	**1**	**14**	61
8:15 AM	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**9**	**1**	**19**	63
8:30 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**4**	**1**	**12**	**63**
8:45 AM	0	1	0	1	0	0	0	0	0	0	13	0	0	0	7	3	25	70
Count Total	0	11	0	6	0	0	0	0	0	3	70	0	0	0	33	7	130	0
Peak Hour	**0**	**8**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**22**	**3**	**63**	**0**

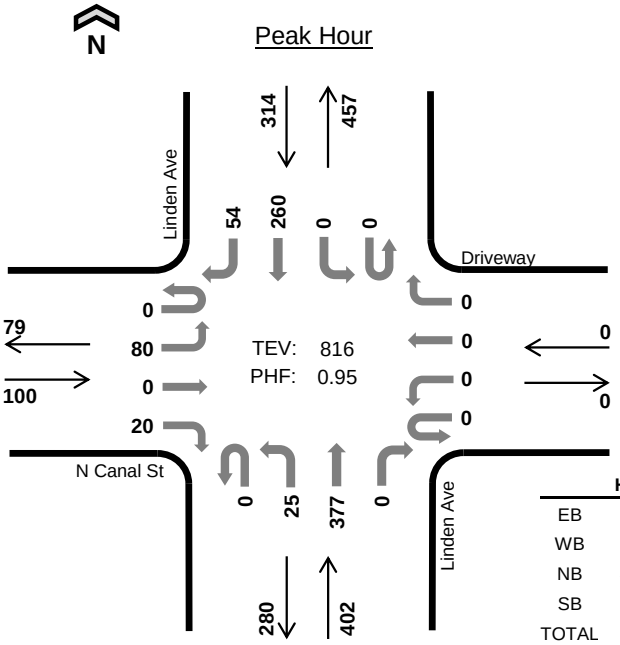
Two-Hour Count Summaries - Bikes

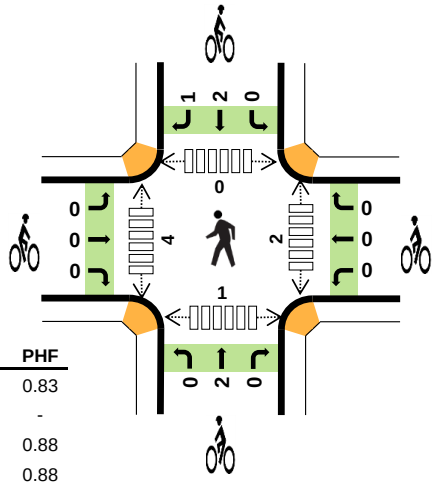
Interval Start	N Canal St Eastbound			Driveway Westbound			Linden Ave Northbound			Linden Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	2	4	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
8:00 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	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**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	1	0	0	0	0	0	0	0	0	0	4	2	7	0
Peak Hour	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**

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

Linden Ave
N Canal St

Date: 12-14-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	7.0%	0.83
WB	-	-
NB	4.2%	0.88
SB	8.9%	0.88
TOTAL	6.4%	0.95

Two-Hour Count Summaries

Interval Start	N Canal St Eastbound				Driveway Westbound				Linden Ave Northbound				Linden Ave 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**	**23**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**8**	**84**	**0**	**0**	**0**	**71**	**18**	**210**	0
4:15 PM	**0**	**16**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**108**	**0**	**0**	**0**	**66**	**13**	**214**	0
4:30 PM	**0**	**25**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**106**	**0**	**0**	**0**	**48**	**14**	**202**	0
4:45 PM	**0**	**16**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**7**	**79**	**0**	**0**	**0**	**75**	**9**	**190**	**816**
5:00 PM	0	18	0	6	0	0	0	0	0	4	91	0	0	0	63	17	199	805
5:15 PM	0	16	0	6	0	0	0	0	0	5	95	0	0	0	59	20	201	792
5:30 PM	0	18	0	5	0	0	0	0	0	2	82	0	0	0	57	17	181	771
5:45 PM	0	12	0	1	0	0	0	0	0	4	86	0	0	0	60	17	180	761
Count Total	0	144	0	38	0	0	0	0	0	40	731	0	0	0	499	125	1,577	0
Peak Hour All	**0**	**80**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**25**	**377**	**0**	**0**	**0**	**260**	**54**	**816**	**0**
Peak Hour HV	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**3**	**14**	**0**	**0**	**0**	**26**	**2**	**52**	**0**
Peak Hour HV%	**-**	**3%**	**-**	**25%**	**-**	**-**	**-**	**-**	**-**	**12%**	**4%**	**-**	**-**	**-**	**10%**	**4%**	**6%**	**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**	**3**	**5**	***9***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**0**	**0**	*1*
4:15 PM	**2**	**0**	**7**	**7**	***16***	**0**	**0**	**1**	**0**	***1***	**0**	**1**	**0**	**0**	*1*
4:30 PM	**3**	**0**	**5**	**8**	***16***	**0**	**0**	**1**	**1**	***2***	**1**	**1**	**0**	**0**	*2*
4:45 PM	**1**	**0**	**2**	**8**	***11***	**0**	**0**	**0**	**1**	***1***	**0**	**2**	**0**	**1**	***3***
5:00 PM	0	0	2	3	*5*	0	0	1	0	*1*	0	1	0	0	*1*
5:15 PM	0	0	1	6	*7*	0	0	1	0	*1*	0	1	0	0	*1*
5:30 PM	0	0	3	1	*4*	0	0	0	0	*0*	0	2	0	0	*2*
5:45 PM	0	0	0	3	*3*	0	0	0	0	*0*	1	1	1	0	*3*
Count Total	7	0	23	41	*71*	0	0	4	3	*7*	3	9	1	1	*14*
Peak Hour	**7**	**0**	**17**	**28**	***52***	**0**	**0**	**2**	**3**	***5***	**2**	**4**	**0**	**1**	***7***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	N Canal St				Driveway				Linden Ave				Linden 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**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**5**	**0**	**9**	0
4:15 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**0**	**0**	**0**	**7**	**0**	**16**	0
4:30 PM	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**7**	**1**	**16**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**7**	**1**	**11**	**52**
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	48
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	2	7	39
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	27
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	19
Count Total	0	2	0	5	0	0	0	0	0	3	20	0	0	0	37	4	71	0
Peak Hour	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**3**	**14**	**0**	**0**	**0**	**26**	**2**	**52**	**0**

Two-Hour Count Summaries - Bikes

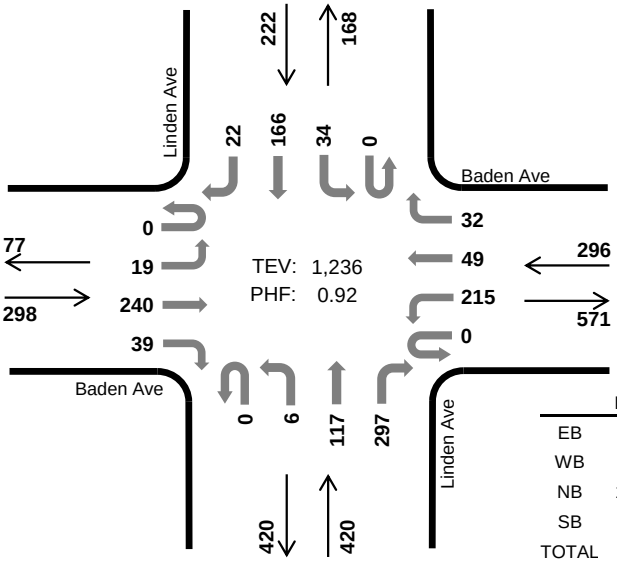
Interval Start	N Canal St			Driveway			Linden Ave			Linden Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**5**
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	5
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	5
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	0	0	0	0	0	0	4	0	0	2	1	7	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**1**	**5**	**0**

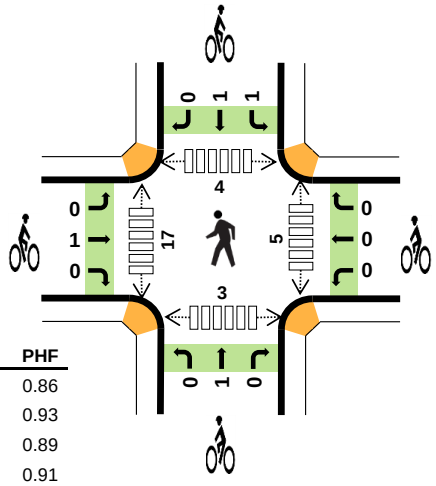
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Linden Ave
Baden Ave

Date: 12-14-2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	2.3%	0.86
WB	9.5%	0.93
NB	10.7%	0.89
SB	5.4%	0.91
TOTAL	7.4%	0.92

Two-Hour Count Summaries

Interval Start	Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	51	1	0	43	13	6	0	1	7	70	0	7	38	2	243	0
7:15 AM	0	6	59	5	0	39	7	2	0	2	19	73	0	5	26	0	243	0
7:30 AM	0	3	58	6	0	44	14	0	0	1	21	72	0	10	30	1	260	0
7:45 AM	0	2	63	5	0	45	15	6	0	1	30	86	0	8	37	3	301	1,047
8:00 AM	**0**	**6**	**48**	**11**	**0**	**59**	**13**	**6**	**0**	**2**	**26**	**70**	**0**	**13**	**43**	**5**	**302**	1,106
8:15 AM	**0**	**5**	**60**	**14**	**0**	**40**	**7**	**12**	**0**	**1**	**28**	**74**	**0**	**7**	**43**	**6**	**297**	1,160
8:30 AM	**0**	**3**	**58**	**6**	**0**	**54**	**16**	**10**	**0**	**2**	**29**	**70**	**0**	**6**	**41**	**6**	**301**	1,201
8:45 AM	**0**	**5**	**74**	**8**	**0**	**62**	**13**	**4**	**0**	**1**	**34**	**83**	**0**	**8**	**39**	**5**	**336**	**1,236**
Count Total	0	34	471	56	0	386	98	46	0	11	194	598	0	64	297	28	2,283	0
Peak Hour All	**0**	**19**	**240**	**39**	**0**	**215**	**49**	**32**	**0**	**6**	**117**	**297**	**0**	**34**	**166**	**22**	**1,236**	**0**
Peak Hour HV	**0**	**1**	**4**	**2**	**0**	**21**	**1**	**6**	**0**	**0**	**6**	**39**	**0**	**2**	**10**	**0**	**92**	**0**
Peak Hour HV%	**-**	**5%**	**2%**	**5%**	**-**	**10%**	**2%**	**19%**	**-**	**0%**	**5%**	**13%**	**-**	**6%**	**6%**	**0%**	**7%**	**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	1	13	1	*16*	0	0	0	0	*0*	1	1	0	0	*2*
7:15 AM	0	4	15	2	*21*	0	0	0	2	*2*	2	3	1	1	*7*
7:30 AM	0	3	9	0	*12*	0	1	0	1	*2*	2	6	0	2	*10*
7:45 AM	2	7	11	4	*24*	0	0	0	0	*0*	0	3	0	1	*4*
8:00 AM	**1**	**6**	**10**	**2**	***19***	**0**	**0**	**1**	**2**	***3***	**1**	**4**	**1**	**1**	*7*
8:15 AM	**3**	**5**	**12**	**5**	***25***	**1**	**0**	**0**	**0**	***1***	**1**	**5**	**1**	**0**	*7*
8:30 AM	**1**	**7**	**5**	**1**	***14***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**2**	**1**	*6*
8:45 AM	**2**	**10**	**18**	**4**	***34***	**0**	**0**	**0**	**0**	***0***	**2**	**6**	**0**	**1**	***9***
Count Total	10	43	93	19	*165*	1	1	1	5	*8*	10	30	5	7	*52*
Peak Hour	**7**	**28**	**45**	**12**	***92***	**1**	**0**	**1**	**2**	***4***	**5**	**17**	**4**	**3**	***29***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave 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	1	0	0	0	1	0	0	0	0	13	0	0	1	0	16	0
7:15 AM	0	0	0	0	0	3	1	0	0	1	1	13	0	0	2	0	21	0
7:30 AM	0	0	0	0	0	3	0	0	0	0	0	9	0	0	0	0	12	0
7:45 AM	0	0	1	1	0	6	0	1	0	1	1	9	0	1	2	1	24	73
8:00 AM	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**1**	**9**	**0**	**1**	**1**	**0**	**19**	76
8:15 AM	**0**	**1**	**1**	**1**	**0**	**4**	**1**	**0**	**0**	**0**	**1**	**11**	**0**	**0**	**5**	**0**	**25**	80
8:30 AM	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**2**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**14**	82
8:45 AM	**0**	**0**	**2**	**0**	**0**	**9**	**0**	**1**	**0**	**0**	**3**	**15**	**0**	**1**	**3**	**0**	**34**	**92**
Count Total	0	1	6	3	0	33	3	7	0	2	8	83	0	3	15	1	165	0
Peak Hour	**0**	**1**	**4**	**2**	**0**	**21**	**1**	**6**	**0**	**0**	**6**	**39**	**0**	**2**	**10**	**0**	**92**	**0**

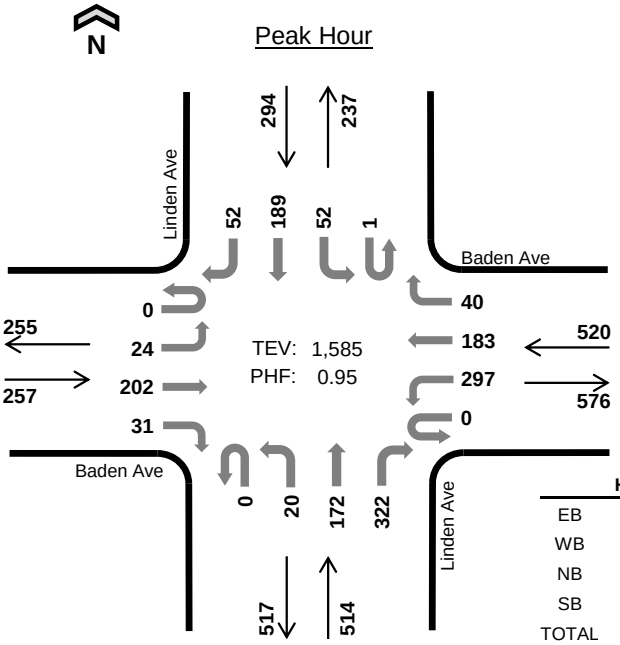
Two-Hour Count Summaries - Bikes

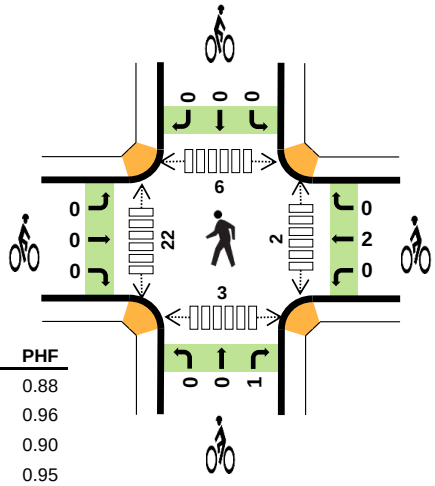
Interval Start	Baden Ave Eastbound			Baden Ave Westbound			Linden Ave Northbound			Linden Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	1	0	2	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**3**	7
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
Count Total	0	1	0	1	0	0	0	1	0	1	4	0	8	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**4**	**0**

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

Linden Ave
Baden Ave

Date: 12-14-2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	1.2%	0.88
WB	1.7%	0.96
NB	2.1%	0.90
SB	2.0%	0.95
TOTAL	1.8%	0.95

Two-Hour Count Summaries

Interval Start	Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave 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	6	49	4	0	79	44	5	0	2	39	103	0	9	49	13	402	0
4:15 PM	0	5	53	7	0	61	54	7	0	6	52	92	0	6	40	9	392	0
4:30 PM	0	6	52	4	0	63	43	10	0	6	36	91	0	9	38	12	370	0
4:45 PM	**0**	**13**	**52**	**8**	**0**	**72**	**43**	**10**	**0**	**6**	**34**	**79**	**0**	**14**	**54**	**6**	**391**	1,555
5:00 PM	**0**	**3**	**45**	**3**	**0**	**76**	**47**	**10**	**0**	**3**	**49**	**82**	**1**	**9**	**44**	**15**	**387**	1,540
5:15 PM	**0**	**3**	**52**	**9**	**0**	**79**	**46**	**11**	**0**	**7**	**45**	**91**	**0**	**13**	**43**	**18**	**417**	1,565
5:30 PM	**0**	**5**	**53**	**11**	**0**	**70**	**47**	**9**	**0**	**4**	**44**	**70**	**0**	**16**	**48**	**13**	**390**	**1,585**
5:45 PM	0	1	52	4	0	71	49	13	0	4	36	78	0	10	34	18	370	1,564
Count Total	0	42	408	50	0	571	373	75	0	38	335	686	1	86	350	104	3,119	0
Peak Hour All	**0**	**24**	**202**	**31**	**0**	**297**	**183**	**40**	**0**	**20**	**172**	**322**	**1**	**52**	**189**	**52**	**1,585**	**0**
Peak Hour HV	**0**	**1**	**2**	**0**	**0**	**8**	**0**	**1**	**0**	**0**	**1**	**10**	**0**	**0**	**6**	**0**	**29**	**0**
Peak Hour HV%	**-**	**4%**	**1%**	**0%**	**-**	**3%**	**0%**	**3%**	**-**	**0%**	**1%**	**3%**	**0%**	**0%**	**3%**	**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	8	6	2	*17*	0	1	0	0	*1*	2	3	4	4	*13*
4:15 PM	0	7	6	2	*15*	0	0	1	1	*2*	2	1	1	3	*7*
4:30 PM	0	8	6	3	*17*	0	0	1	1	*2*	0	8	0	3	*11*
4:45 PM	**1**	**3**	**3**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**2**	**7**	**3**	**1**	*13*
5:00 PM	**2**	**2**	**2**	**3**	***9***	**0**	**1**	**0**	**0**	***1***	**0**	**2**	**1**	**0**	*3*
5:15 PM	**0**	**4**	**2**	**0**	***6***	**0**	**0**	**1**	**0**	***1***	**0**	**4**	**1**	**1**	*6*
5:30 PM	**0**	**0**	**4**	**1**	***5***	**0**	**1**	**0**	**0**	***1***	**0**	**9**	**1**	**1**	***11***
5:45 PM	0	4	6	2	*12*	0	0	0	0	*0*	4	9	3	0	*16*
Count Total	4	36	35	15	*90*	0	3	3	2	*8*	10	43	14	13	*80*
Peak Hour	**3**	**9**	**11**	**6**	***29***	**0**	**2**	**1**	**0**	***3***	**2**	**22**	**6**	**3**	***33***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave 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	1	0	0	7	1	0	0	0	0	6	0	0	2	0	17	0
4:15 PM	0	0	0	0	0	7	0	0	0	0	0	6	0	0	2	0	15	0
4:30 PM	0	0	0	0	0	8	0	0	0	0	1	5	0	0	2	1	17	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**2**	**0**	**9**	58
5:00 PM	**0**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**0**	**9**	50
5:15 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**6**	41
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**5**	**29**
5:45 PM	0	0	0	0	0	4	0	0	0	0	1	5	0	1	1	0	12	32
Count Total	0	1	3	0	0	34	1	1	0	0	3	32	0	1	13	1	90	0
Peak Hour	**0**	**1**	**2**	**0**	**0**	**8**	**0**	**1**	**0**	**0**	**1**	**10**	**0**	**0**	**6**	**0**	**29**	**0**

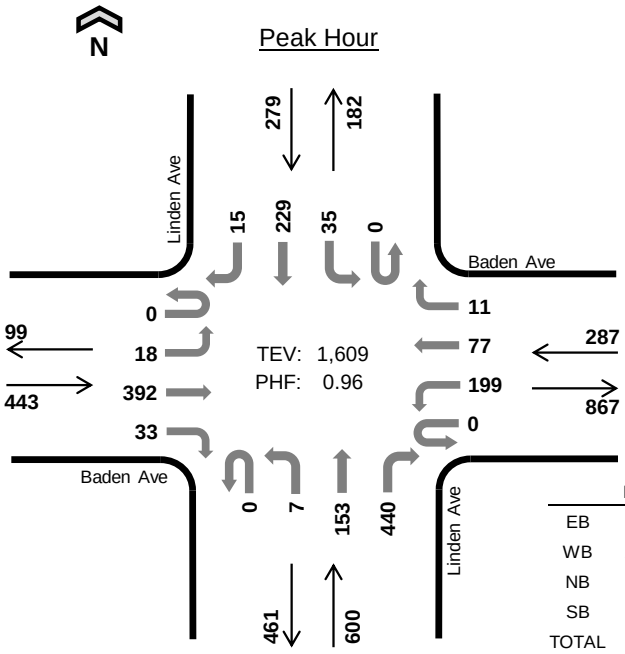
Two-Hour Count Summaries - Bikes

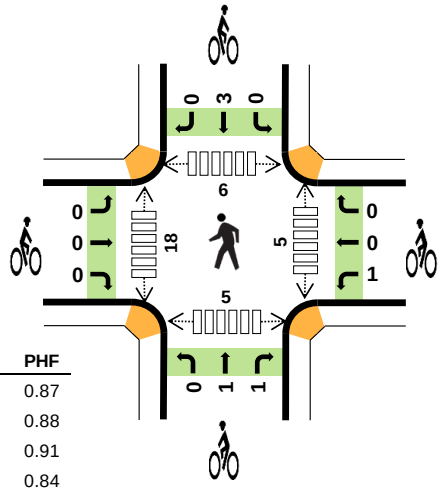
Interval Start	Baden Ave Eastbound			Baden Ave Westbound			Linden Ave Northbound			Linden Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	5
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	4
5:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	0	0	3	0	0	2	1	0	2	0	8	0
Peak Hour	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**

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

Linden Ave
Baden Ave

Date: 01-30-2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	1.6%	0.87
WB	10.5%	0.88
NB	8.0%	0.91
SB	3.2%	0.84
TOTAL	5.8%	0.96

Two-Hour Count Summaries

Interval Start		Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	62	8	0	41	11	2	0	1	12	85	0	15	35	4	278	0
7:15 AM		0	4	63	12	0	37	13	1	0	1	27	94	0	11	36	1	300	0
7:30 AM		0	8	73	9	0	41	12	4	0	0	24	101	0	12	45	6	335	0
7:45 AM		**0**	**3**	**89**	**10**	**0**	**54**	**20**	**3**	**0**	**0**	**36**	**109**	**0**	**8**	**72**	**3**	**407**	1,320
8:00 AM		**0**	**8**	**83**	**10**	**0**	**50**	**19**	**3**	**0**	**3**	**49**	**113**	**0**	**8**	**52**	**3**	**401**	1,443
8:15 AM		**0**	**4**	**118**	**6**	**0**	**58**	**20**	**4**	**0**	**3**	**35**	**99**	**0**	**10**	**56**	**5**	**418**	1,561
8:30 AM		**0**	**3**	**102**	**7**	**0**	**37**	**18**	**1**	**0**	**1**	**33**	**119**	**0**	**9**	**49**	**4**	**383**	**1,609**
8:45 AM		0	7	94	10	0	53	17	8	0	0	34	115	0	4	47	8	397	1,599
Count Total		0	39	684	72	0	371	130	26	0	9	250	835	0	77	392	34	2,919	0
Peak Hour	**All**	**0**	**18**	**392**	**33**	**0**	**199**	**77**	**11**	**0**	**7**	**153**	**440**	**0**	**35**	**229**	**15**	**1,609**	**0**
	HV	**0**	**2**	**5**	**0**	**0**	**27**	**3**	**0**	**0**	**0**	**5**	**43**	**0**	**0**	**9**	**0**	**94**	**0**
	HV%	**-**	**11%**	**1%**	**0%**	**-**	**14%**	**4%**	**0%**	**-**	**0%**	**3%**	**10%**	**-**	**0%**	**4%**	**0%**	**6%**	**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	1	13	3	*18*	0	0	1	1	*2*	0	4	0	0	*4*
7:15 AM	2	5	19	0	*26*	1	0	2	2	*5*	1	5	0	4	*10*
7:30 AM	0	5	18	3	*26*	0	0	0	1	*1*	1	6	0	4	*11*
7:45 AM	**3**	**10**	**7**	**2**	***22***	**0**	**1**	**0**	**2**	***3***	**0**	**8**	**0**	**2**	*10*
8:00 AM	**3**	**9**	**9**	**4**	***25***	**0**	**0**	**0**	**1**	***1***	**1**	**1**	**1**	**0**	*3*
8:15 AM	**0**	**7**	**16**	**2**	***25***	**0**	**0**	**1**	**0**	***1***	**3**	**3**	**3**	**3**	*12*
8:30 AM	**1**	**4**	**16**	**1**	***22***	**0**	**0**	**1**	**0**	***1***	**1**	**6**	**2**	**0**	***9***
8:45 AM	1	5	13	2	*21*	0	0	0	0	*0*	0	4	0	0	*4*
Count Total	11	46	111	17	*185*	1	1	5	7	*14*	7	37	6	13	*63*
Peak Hour	**7**	**30**	**48**	**9**	***94***	**0**	**1**	**2**	**3**	***6***	**5**	**18**	**6**	**5**	***34***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave 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	0	1	0	1	0	0	0	0	0	13	0	1	2	0	18	0
7:15 AM	0	0	2	0	0	4	1	0	0	0	1	18	0	0	0	0	26	0
7:30 AM	0	0	0	0	0	4	1	0	0	0	2	16	0	2	1	0	26	0
7:45 AM	**0**	**1**	**2**	**0**	**0**	**8**	**2**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**2**	**0**	**22**	92
8:00 AM	**0**	**0**	**3**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**2**	**7**	**0**	**0**	**4**	**0**	**25**	99
8:15 AM	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**0**	**2**	**14**	**0**	**0**	**2**	**0**	**25**	98
8:30 AM	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**15**	**0**	**0**	**1**	**0**	**22**	**94**
8:45 AM	0	0	0	1	0	4	1	0	0	0	2	11	0	1	0	1	21	93
Count Total	0	2	7	2	0	40	6	0	0	0	10	101	0	4	12	1	185	0
Peak Hour	**0**	**2**	**5**	**0**	**0**	**27**	**3**	**0**	**0**	**0**	**5**	**43**	**0**	**0**	**9**	**0**	**94**	**0**

Two-Hour Count Summaries - Bikes

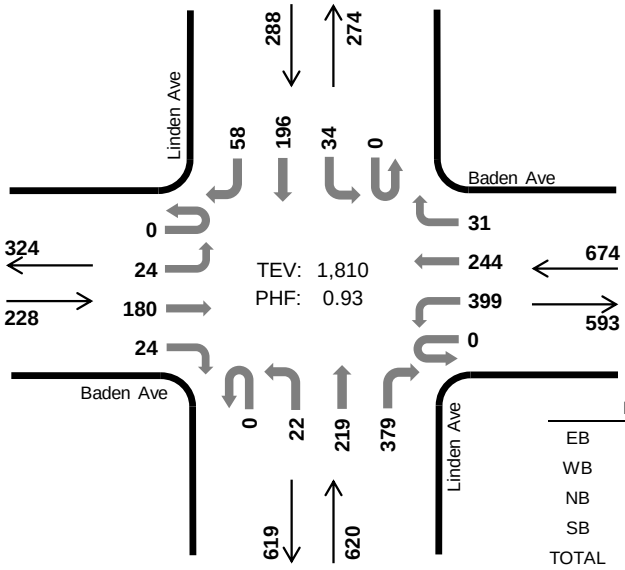
Interval Start	Baden Ave Eastbound			Baden Ave Westbound			Linden Ave Northbound			Linden Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0
7:15 AM	0	1	0	0	0	0	0	1	1	0	2	0	5	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:45 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	11
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	10
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	6
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**6**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	1	0	1	0	0	0	3	2	0	6	1	14	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**3**	**0**	**6**	**0**

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

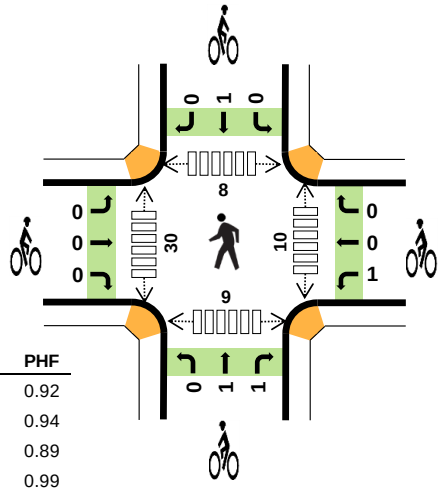
Linden Ave
Baden Ave

Date: 01-30-2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	0.0%	0.92
WB	3.3%	0.94
NB	3.1%	0.89
SB	1.4%	0.99
TOTAL	2.5%	0.93



Two-Hour Count Summaries

Interval Start		Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave 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	2	38	9	0	91	62	4	0	6	48	97	0	7	49	6	419	0
4:15 PM		0	7	31	5	0	91	51	9	0	10	48	77	0	8	42	9	388	0
4:30 PM		0	5	49	4	0	80	46	11	0	2	42	89	0	10	29	9	376	0
4:45 PM		**0**	**5**	**44**	**6**	**0**	**96**	**54**	**9**	**0**	**3**	**54**	**91**	**0**	**7**	**47**	**19**	**435**	1,618
5:00 PM		**0**	**7**	**49**	**6**	**0**	**108**	**64**	**7**	**0**	**6**	**55**	**113**	**0**	**12**	**43**	**14**	**484**	1,683
5:15 PM		**0**	**8**	**45**	**5**	**0**	**101**	**68**	**8**	**0**	**5**	**53**	**80**	**0**	**8**	**55**	**10**	**446**	1,741
5:30 PM		**0**	**4**	**42**	**7**	**0**	**94**	**58**	**7**	**0**	**8**	**57**	**95**	**0**	**7**	**51**	**15**	**445**	**1,810**
5:45 PM		0	9	43	6	0	91	70	5	0	5	48	64	0	4	46	19	410	1,785
Count Total		0	47	341	48	0	752	473	60	0	45	405	706	0	63	362	101	3,403	0
Peak Hour	**All**	**0**	**24**	**180**	**24**	**0**	**399**	**244**	**31**	**0**	**22**	**219**	**379**	**0**	**34**	**196**	**58**	**1,810**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**5**	**14**	**0**	**1**	**2**	**1**	**45**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**-**	**6%**	**0%**	**0%**	**-**	**0%**	**2%**	**4%**	**-**	**3%**	**1%**	**2%**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	9	10	0	*19*	0	0	0	1	*1*	2	1	2	4	*9*
4:15 PM	0	6	5	1	*12*	0	0	0	1	*1*	1	4	1	4	*10*
4:30 PM	2	6	5	1	*14*	0	0	3	1	*4*	5	6	5	3	*19*
4:45 PM	**0**	**5**	**9**	**3**	***17***	**0**	**0**	**0**	**0**	***0***	**5**	**2**	**5**	**2**	*14*
5:00 PM	**0**	**6**	**5**	**0**	***11***	**0**	**0**	**1**	**0**	***1***	**0**	**13**	**0**	**1**	*14*
5:15 PM	**0**	**7**	**3**	**0**	***10***	**0**	**0**	**1**	**1**	***2***	**1**	**10**	**0**	**2**	*13*
5:30 PM	**0**	**4**	**2**	**1**	***7***	**0**	**1**	**0**	**0**	***1***	**4**	**5**	**3**	**4**	***16***
5:45 PM	0	2	2	0	*4*	0	1	1	1	*3*	2	6	3	1	*12*
Count Total	2	45	41	6	*94*	0	2	6	5	*13*	20	47	19	21	*107*
Peak Hour	**0**	**22**	**19**	**4**	***45***	**0**	**1**	**2**	**1**	***4***	**10**	**30**	**8**	**9**	***57***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Baden Ave Eastbound				Baden Ave Westbound				Linden Ave Northbound				Linden Ave 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	0	0	0	9	0	0	0	0	4	6	0	0	0	0	19	0
4:15 PM	0	0	0	0	0	6	0	0	0	0	1	4	0	0	1	0	12	0
4:30 PM	0	0	2	0	0	5	1	0	0	0	1	4	0	0	1	0	14	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**4**	**5**	**0**	**1**	**1**	**1**	**17**	62
5:00 PM	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**11**	54
5:15 PM	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**10**	52
5:30 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**7**	**45**
5:45 PM	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	4	32
Count Total	0	0	2	0	0	44	1	0	0	0	11	30	0	1	4	1	94	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**5**	**14**	**0**	**1**	**2**	**1**	**45**	**0**

Two-Hour Count Summaries - Bikes

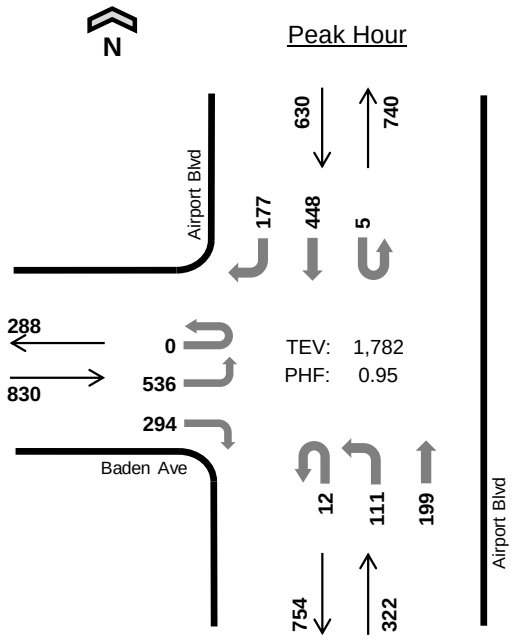
Interval Start	Baden Ave Eastbound			Baden Ave Westbound			Linden Ave Northbound			Linden Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:30 PM	0	0	0	0	0	0	0	3	0	0	1	0	4	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**2**	7
5:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:45 PM	0	0	0	1	0	0	0	1	0	0	1	0	3	7
Count Total	0	0	0	2	0	0	0	5	1	0	5	0	13	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**4**	**0**

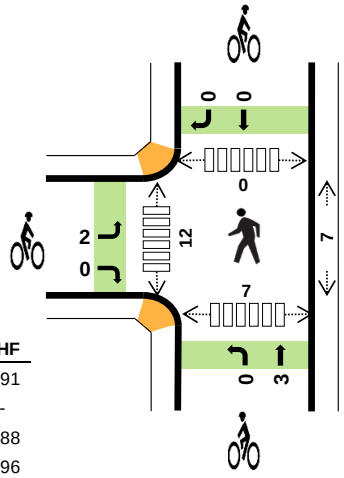
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Airport Blvd
Baden Ave

Date: 01-30-2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	5.1%	0.91
WB	-	-
NB	14.0%	0.88
SB	7.3%	0.96
TOTAL	7.5%	0.95

Two-Hour Count Summaries

Interval Start		Baden Ave Eastbound				n/a Westbound				Airport Blvd Northbound				Airport Blvd 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	72	0	72	0	0	0	0	3	27	46	0	1	0	82	26	329	0
7:15 AM		0	101	0	52	0	0	0	0	5	18	37	0	1	0	92	45	351	0
7:30 AM		0	98	0	57	0	0	0	0	8	29	52	0	0	0	108	39	391	0
7:45 AM		**0**	**137**	**0**	**74**	**0**	**0**	**0**	**0**	**3**	**26**	**38**	**0**	**2**	**0**	**118**	**40**	**438**	1,509
8:00 AM		**0**	**114**	**0**	**66**	**0**	**0**	**0**	**0**	**4**	**25**	**52**	**0**	**0**	**0**	**110**	**49**	**420**	1,600
8:15 AM		**0**	**143**	**0**	**69**	**0**	**0**	**0**	**0**	**2**	**35**	**54**	**0**	**2**	**0**	**113**	**49**	**467**	1,716
8:30 AM		**0**	**142**	**0**	**85**	**0**	**0**	**0**	**0**	**3**	**25**	**55**	**0**	**1**	**0**	**107**	**39**	**457**	**1,782**
8:45 AM		0	135	0	62	0	0	0	0	6	33	52	0	0	0	106	40	434	1,778
Count Total		0	942	0	537	0	0	0	0	34	218	386	0	7	0	836	327	3,287	0
Peak Hour	**All**	**0**	**536**	**0**	**294**	**0**	**0**	**0**	**0**	**12**	**111**	**199**	**0**	**5**	**0**	**448**	**177**	**1,782**	**0**
	HV	**0**	**26**	**0**	**16**	**0**	**0**	**0**	**0**	**1**	**5**	**39**	**0**	**0**	**0**	**21**	**25**	**133**	**0**
	HV%	**-**	**5%**	**-**	**5%**	**-**	**-**	**-**	**-**	**8%**	**5%**	**20%**	**-**	**0%**	**-**	**5%**	**14%**	**7%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	14	0	12	6	*32*	0	0	2	0	*2*	4	6	0	6	*16*
7:15 AM	18	0	8	13	*39*	1	0	0	0	*1*	7	11	0	12	*30*
7:30 AM	16	0	9	7	*32*	0	0	0	0	*0*	1	5	0	1	*7*
7:45 AM	**9**	**0**	**6**	**11**	***26***	**0**	**0**	**1**	**0**	***1***	**2**	**5**	**0**	**0**	*7*
8:00 AM	**9**	**0**	**14**	**16**	***39***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**1**	*4*
8:15 AM	**10**	**0**	**15**	**11**	***36***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**0**	**2**	*6*
8:30 AM	**14**	**0**	**10**	**8**	***32***	**2**	**0**	**2**	**0**	***4***	**3**	**2**	**0**	**4**	***9***
8:45 AM	12	0	11	9	*32*	0	0	1	1	*2*	0	10	0	0	*10*
Count Total	102	0	85	81	*268*	3	0	6	1	*10*	19	44	0	26	*89*
Peak Hr	**42**	**0**	**45**	**46**	***133***	**2**	**0**	**3**	**0**	***5***	**7**	**12**	**0**	**7**	***26***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Baden Ave				n/a				Airport Blvd				Airport Blvd				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	0	4	0	0	0	0	0	0	12	0	0	0	5	1	32	0
7:15 AM	0	16	0	2	0	0	0	0	0	0	8	0	0	0	7	6	39	0
7:30 AM	0	12	0	4	0	0	0	0	0	3	6	0	0	0	5	2	32	0
7:45 AM	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**0**	**4**	**7**	**26**	129
8:00 AM	**0**	**2**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**6**	**10**	**39**	136
8:15 AM	**0**	**7**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**13**	**0**	**0**	**0**	**7**	**4**	**36**	133
8:30 AM	**0**	**8**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**9**	**0**	**0**	**0**	**4**	**4**	**32**	**133**
8:45 AM	0	8	0	4	0	0	0	0	0	0	11	0	0	0	4	5	32	139
Count Total	0	72	0	30	0	0	0	0	1	8	76	0	0	0	42	39	268	0
Peak Hour	**0**	**26**	**0**	**16**	**0**	**0**	**0**	**0**	**1**	**5**	**39**	**0**	**0**	**0**	**21**	**25**	**133**	**0**

Two-Hour Count Summaries - Bikes

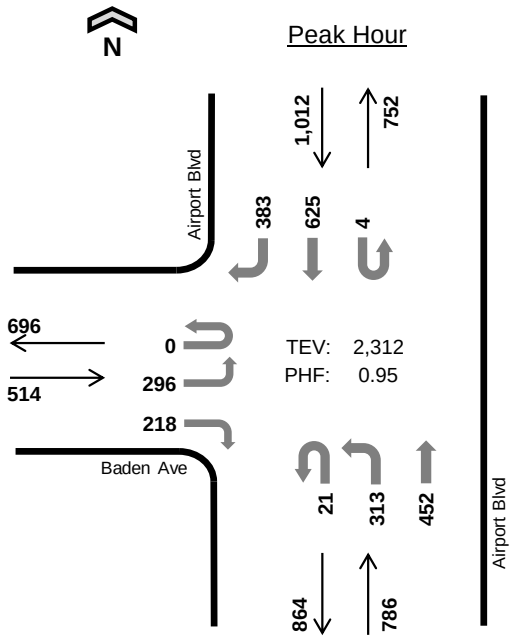
Interval Start	Baden Ave			n/a			Airport Blvd			Airport Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	0
7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	4
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:30 AM	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**4**	**5**
8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	6
Count Total	3	0	0	0	0	0	0	6	0	0	1	0	10	0
Peak Hour	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**5**	**0**

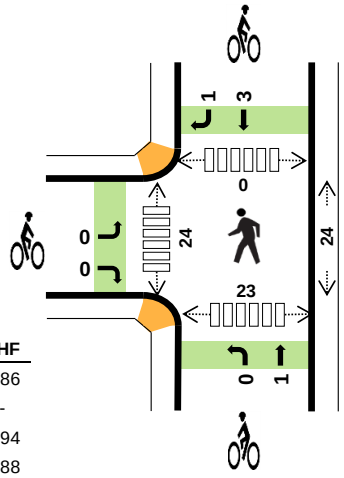
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Airport Blvd
Baden Ave

Date: 01-30-2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	2.1%	0.86
WB	-	-
NB	1.4%	0.94
SB	3.4%	0.88
TOTAL	2.4%	0.95

Two-Hour Count Summaries

Interval Start		Baden Ave Eastbound				n/a Westbound				Airport Blvd Northbound				Airport Blvd 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	73	0	57	0	0	0	0	5	82	57	0	3	0	151	75	503	0
4:15 PM		0	55	0	46	0	0	0	0	5	64	35	0	2	0	193	83	483	0
4:30 PM		0	84	0	53	0	0	0	0	2	74	72	0	0	0	158	71	514	0
4:45 PM		0	80	0	51	0	0	0	0	6	67	70	0	1	0	194	89	558	2,058
5:00 PM		**0**	**84**	**0**	**66**	**0**	**0**	**0**	**0**	**8**	**78**	**96**	**0**	**0**	**0**	**171**	**101**	**604**	2,159
5:15 PM		**0**	**76**	**0**	**55**	**0**	**0**	**0**	**0**	**4**	**81**	**107**	**0**	**1**	**0**	**183**	**103**	**610**	2,286
5:30 PM		**0**	**80**	**0**	**51**	**0**	**0**	**0**	**0**	**5**	**78**	**126**	**0**	**1**	**0**	**111**	**81**	**533**	2,305
5:45 PM		**0**	**56**	**0**	**46**	**0**	**0**	**0**	**0**	**4**	**76**	**123**	**0**	**2**	**0**	**160**	**98**	**565**	**2,312**
Count Total		0	588	0	425	0	0	0	0	39	600	686	0	10	0	1,321	701	4,370	0
Peak Hour	**All**	**0**	**296**	**0**	**218**	**0**	**0**	**0**	**0**	**21**	**313**	**452**	**0**	**4**	**0**	**625**	**383**	**2,312**	**0**
	HV	**0**	**8**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**1**	**9**	**0**	**0**	**0**	**14**	**20**	**56**	**0**
	HV%	**-**	**3%**	**-**	**1%**	**-**	**-**	**-**	**-**	**5%**	**0%**	**2%**	**-**	**0%**	**-**	**2%**	**5%**	**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	5	0	12	10	*27*	0	0	0	0	*0*	4	3	0	0	*7*
4:15 PM	2	0	1	12	*15*	0	0	0	1	*1*	2	1	0	5	*8*
4:30 PM	6	0	7	8	*21*	0	0	0	0	*0*	4	5	0	4	*13*
4:45 PM	6	0	5	12	*23*	1	0	1	0	*2*	3	7	0	2	*12*
5:00 PM	**4**	**0**	**2**	**10**	***16***	**0**	**0**	**1**	**1**	***2***	**6**	**3**	**0**	**4**	*13*
5:15 PM	**3**	**0**	**3**	**10**	***16***	**0**	**0**	**0**	**0**	***0***	**4**	**12**	**0**	**6**	*22*
5:30 PM	**2**	**0**	**2**	**6**	***10***	**0**	**0**	**0**	**1**	***1***	**6**	**4**	**0**	**11**	*21*
5:45 PM	**2**	**0**	**4**	**8**	***14***	**0**	**0**	**0**	**2**	***2***	**8**	**5**	**0**	**2**	***15***
Count Total	30	0	36	76	*142*	1	0	2	5	*8*	37	40	0	34	*111*
Peak Hr	**11**	**0**	**11**	**34**	***56***	**0**	**0**	**1**	**4**	***5***	**24**	**24**	**0**	**23**	***71***

Two-Hour Count Summaries - Heavy Vehicles

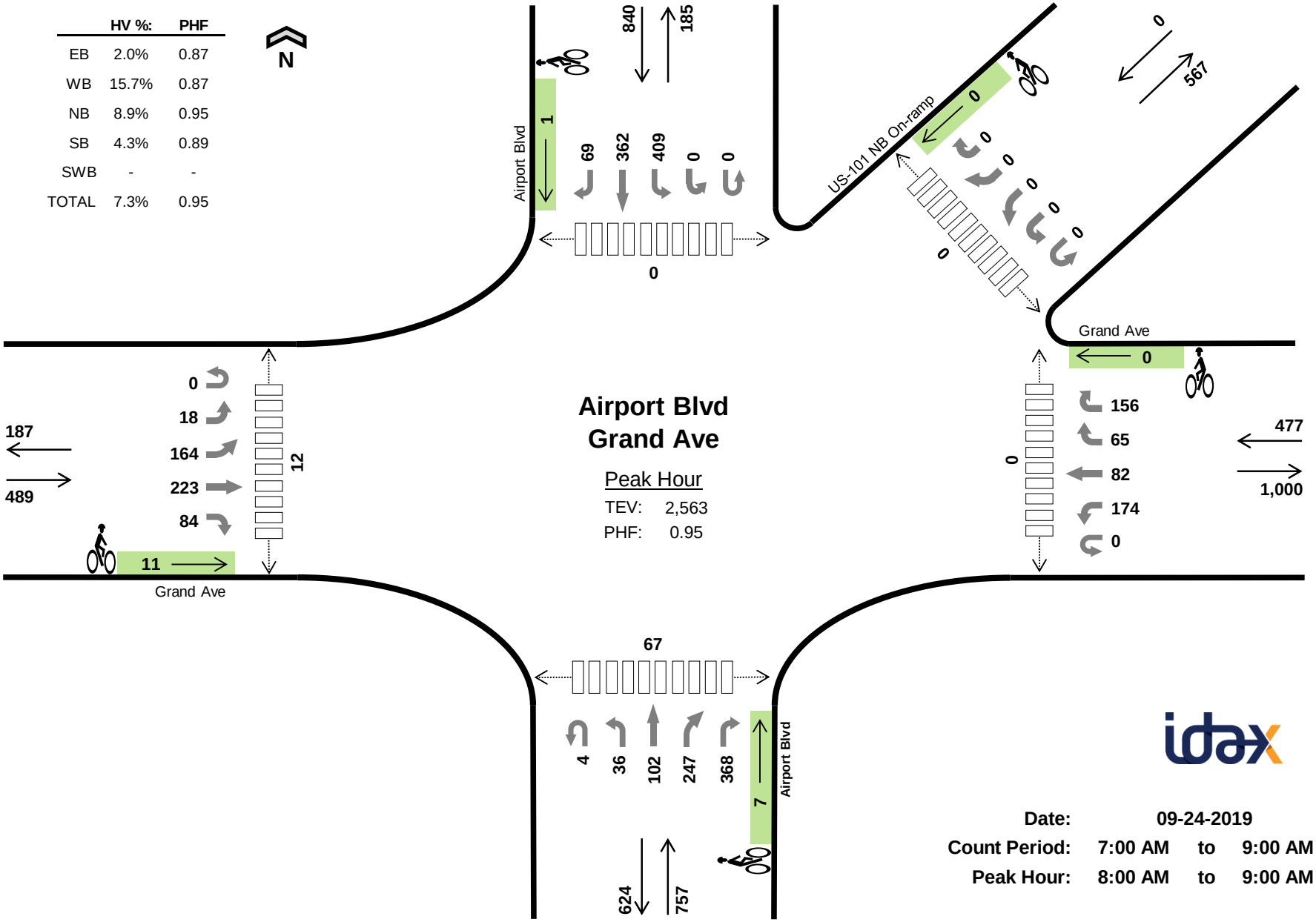
Interval Start	Baden Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	4	0	0	0	0	0	7	5	0	0	0	5	5	27	0
4:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	0	0	9	3	15	0
4:30 PM	0	4	0	2	0	0	0	0	0	2	5	0	0	0	4	4	21	0
4:45 PM	0	4	0	2	0	0	0	0	0	1	4	0	0	0	8	4	23	86
5:00 PM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**7**	**16**	75
5:15 PM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**7**	**16**	76
5:30 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**3**	**3**	**10**	65
5:45 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**5**	**3**	**14**	**56**
Count Total	0	18	0	12	0	0	0	0	1	11	24	0	0	0	40	36	142	0
Peak Hour	**0**	**8**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**1**	**9**	**0**	**0**	**0**	**14**	**20**	**56**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Baden Ave			n/a			Airport Blvd			Airport Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	1	0	0	0	0	2	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	5
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	5
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**5**
Count Total	1	0	0	0	0	0	0	2	0	0	4	1	8	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**1**	**5**	**0**

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

	HV %:	PHF
EB	2.0%	0.87
WB	15.7%	0.87
NB	8.9%	0.95
SB	4.3%	0.89
SWB	-	-
TOTAL	7.3%	0.95



Date: 09-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Two-Hour Count Summaries

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	2	55	35	17	0	29	18	13	36	0	7	18	58	41	0	0	56	69	12	0	0	0	0	0	466	0
7:15 AM	0	4	50	31	15	0	25	13	13	33	1	7	17	76	40	0	0	63	86	19	0	0	0	0	0	493	0
7:30 AM	0	4	52	43	17	0	28	18	22	44	2	8	16	64	52	0	0	83	103	16	0	0	0	0	0	572	0
7:45 AM	0	3	44	64	22	0	50	23	17	33	2	7	28	81	73	0	1	77	102	14	0	0	0	0	0	641	2,172
8:00 AM	**0**	**6**	**41**	**42**	**28**	**0**	**41**	**26**	**18**	**35**	**1**	**8**	**27**	**64**	**79**	**0**	**0**	**96**	**93**	**9**	**0**	**0**	**0**	**0**	**0**	**614**	2,320
8:15 AM	**0**	**6**	**49**	**66**	**20**	**0**	**55**	**25**	**16**	**41**	**0**	**6**	**28**	**68**	**98**	**0**	**0**	**84**	**97**	**13**	**0**	**0**	**0**	**0**	**0**	**672**	2,499
8:30 AM	**0**	**5**	**35**	**53**	**20**	**0**	**33**	**13**	**18**	**40**	**1**	**13**	**30**	**58**	**97**	**0**	**0**	**107**	**83**	**21**	**0**	**0**	**0**	**0**	**0**	**627**	2,554
8:45 AM	**0**	**1**	**39**	**62**	**16**	**0**	**45**	**18**	**13**	**40**	**2**	**9**	**17**	**57**	**94**	**0**	**0**	**122**	**89**	**26**	**0**	**0**	**0**	**0**	**0**	**650**	**2,563**
Count Total	0	31	365	396	155	0	306	154	130	302	9	65	181	526	574	0	1	688	722	130	0	0	0	0	0	4,735	0
Peak Hour All	**0**	**18**	**164**	**223**	**84**	**0**	**174**	**82**	**65**	**156**	**4**	**36**	**102**	**247**	**368**	**0**	**0**	**409**	**362**	**69**	**0**	**0**	**0**	**0**	**0**	**2,563**	**0**
Peak Hour HV	**0**	**0**	**3**	**4**	**3**	**0**	**32**	**4**	**3**	**36**	**1**	**0**	**10**	**43**	**13**	**0**	**0**	**10**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	**188**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**2%**	**4%**	**-**	**18%**	**5%**	**5%**	**23%**	**25%**	**0%**	**10%**	**17%**	**4%**	**-**	**-**	**2%**	**7%**	**1%**	**-**	**-**	**-**	**-**	**-**	**7%**	**0**

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

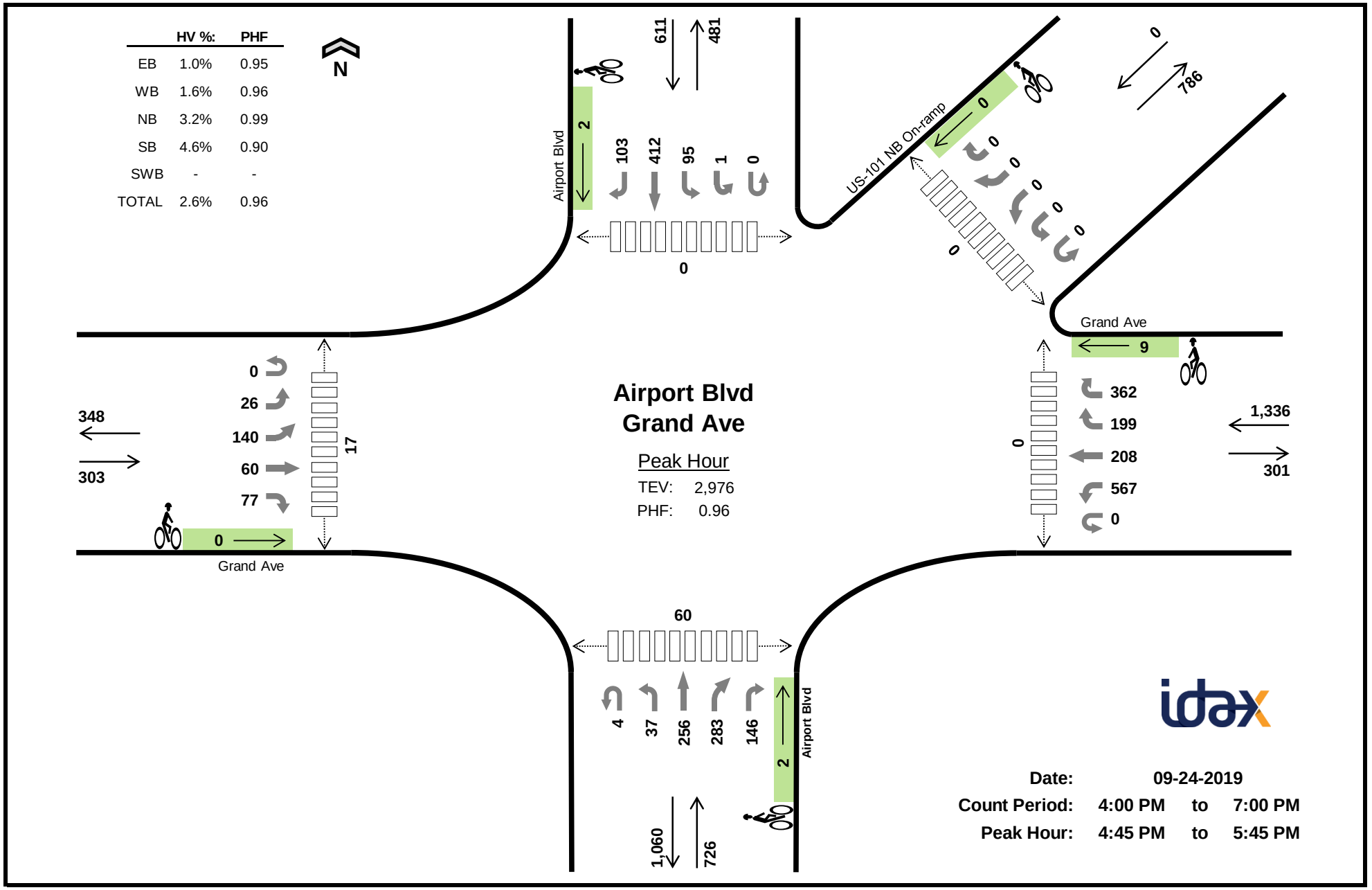
Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
7:00 AM	2	19	14	8	0	*43*	1	0	0	0	0	*1*	0	3	0	10	0	*13*
7:15 AM	3	12	15	4	0	*34*	2	0	0	0	0	*2*	1	5	0	28	0	*34*
7:30 AM	6	12	17	10	0	*45*	2	1	1	3	0	*7*	0	5	0	8	0	*13*
7:45 AM	5	15	22	10	0	*52*	2	0	1	0	0	*3*	0	7	0	14	0	*21*
8:00 AM	**1**	**22**	**19**	**14**	**0**	***56***	**5**	**0**	**2**	**0**	**0**	***7***	**0**	**4**	**0**	**23**	**0**	***27***
8:15 AM	**2**	**21**	**18**	**6**	**0**	***47***	**1**	**0**	**2**	**0**	**0**	***3***	**0**	**1**	**0**	**15**	**0**	***16***
8:30 AM	**4**	**14**	**12**	**7**	**0**	***37***	**2**	**0**	**0**	**1**	**0**	***3***	**0**	**2**	**0**	**16**	**0**	***18***
8:45 AM	**3**	**18**	**18**	**9**	**0**	***48***	**3**	**0**	**3**	**0**	**0**	***6***	**0**	**5**	**0**	**13**	**0**	***18***
Count Total	26	133	135	68	0	*362*	18	1	9	4	0	*32*	1	32	0	127	0	*160*
Peak Hr	**10**	**75**	**67**	**36**	**0**	***188***	**11**	**0**	**7**	**1**	**0**	***19***	**0**	**12**	**0**	**67**	**0**	*79*

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	1	1	0	5	0	2	12	0	0	2	9	3	0	0	2	6	0	0	0	0	0	0	43	0
7:15 AM	0	0	0	1	2	0	6	0	1	5	0	0	3	10	2	0	0	1	3	0	0	0	0	0	0	34	0
7:30 AM	0	0	2	2	2	0	5	1	0	6	0	1	2	10	4	0	0	4	6	0	0	0	0	0	0	45	0
7:45 AM	0	0	4	0	1	0	5	3	1	6	0	1	0	19	2	0	0	4	6	0	0	0	0	0	0	52	174
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**9**	**1**	**1**	**11**	**0**	**0**	**3**	**10**	**6**	**0**	**0**	**4**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	187
8:15 AM	**0**	**0**	**1**	**1**	**0**	**0**	**11**	**0**	**1**	**9**	**0**	**0**	**2**	**13**	**3**	**0**	**0**	**3**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**47**	200
8:30 AM	**0**	**0**	**1**	**1**	**2**	**0**	**2**	**2**	**1**	**9**	**0**	**0**	**3**	**7**	**2**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**37**	192
8:45 AM	**0**	**0**	**1**	**1**	**1**	**0**	**10**	**1**	**0**	**7**	**1**	**0**	**2**	**13**	**2**	**0**	**0**	**3**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**48**	**188**
Count Total	0	0	9	8	9	0	53	8	7	65	1	2	17	91	24	0	0	21	46	1	0	0	0	0	0	362	0
Peak Hour	**0**	**0**	**3**	**4**	**3**	**0**	**32**	**4**	**3**	**36**	**1**	**0**	**10**	**43**	**13**	**0**	**0**	**10**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	188	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	7	0
7:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	13
8:00 AM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	19
8:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	20
8:30 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	16
8:45 AM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**19**
Count Total	0	2	0	15	1	0	0	1	0	0	0	0	7	0	2	0	0	1	3	0	0	0	0	0	0	32	0
Peak Hour	**0**	**1**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	19	**0**


HV %: PHF
EB 1.0% 0.95
WB 1.6% 0.96
NB 3.2% 0.99
SB 4.6% 0.90
SWB - -
TOTAL 2.6% 0.96
N
Airport Blvd
Grand Ave
US-101 NB On-ramp
Airport Blvd
Grand Ave
Peak Hour
TEV: 2,976
PHF: 0.96
611
481
103
412
95
1
0
0
0
786
0
0
0
0
0
0
0
9
362
199
208
567
0
1,336
301
348
303
0
26
140
60
77
17
0
0
60
4
37
256
283
146
2
1,060
726
Date: 09-24-2019
Count Period: 4:00 PM to 7:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Three-Hour Count Summaries

Interval Start		Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
		UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM		0	4	25	14	24	0	148	39	49	103	0	8	23	75	30	0	0	19	102	24	0	0	0	0	0	687	0
4:15 PM		0	8	29	11	16	0	127	49	54	112	0	11	30	68	28	0	0	28	84	20	0	0	0	0	0	675	0
4:30 PM		0	6	21	7	19	0	154	52	62	95	1	15	52	46	20	0	0	30	101	17	0	0	0	0	0	698	0
4:45 PM		**0**	**8**	**27**	**16**	**22**	**0**	**137**	**47**	**53**	**101**	**3**	**13**	**60**	**68**	**34**	**0**	**0**	**20**	**91**	**21**	**0**	**0**	**0**	**0**	**0**	**721**	2,781
5:00 PM		**0**	**5**	**35**	**19**	**21**	**0**	**151**	**55**	**43**	**68**	**0**	**10**	**60**	**69**	**42**	**0**	**1**	**30**	**102**	**26**	**0**	**0**	**0**	**0**	**0**	**737**	2,831
5:15 PM		**0**	**6**	**40**	**10**	**20**	**0**	**133**	**51**	**53**	**96**	**0**	**9**	**71**	**78**	**26**	**0**	**0**	**21**	**104**	**26**	**0**	**0**	**0**	**0**	**0**	**744**	2,900
5:30 PM		**0**	**7**	**38**	**15**	**14**	**0**	**146**	**55**	**50**	**97**	**1**	**5**	**65**	**68**	**44**	**0**	**0**	**24**	**115**	**30**	**0**	**0**	**0**	**0**	**0**	**774**	**2,976**
5:45 PM		0	10	26	15	23	0	119	38	53	79	0	11	57	89	42	0	0	19	111	21	0	0	0	0	0	713	2,968
6:00 PM		0	6	27	9	20	0	109	41	34	58	0	3	74	65	38	0	1	24	97	16	0	0	0	0	0	622	2,853
6:15 PM		0	10	20	7	22	0	90	45	31	72	0	18	78	66	17	0	1	18	102	25	0	0	0	0	0	622	2,731
6:30 PM		0	4	27	12	21	0	87	39	37	50	0	13	61	56	16	0	0	25	98	28	0	0	0	0	0	574	2,531
6:45 PM		0	6	21	15	18	0	57	32	37	44	0	12	51	52	9	1	0	18	100	21	0	0	0	0	0	494	2,312
Count Total		0	80	336	150	240	0	1,458	543	556	975	5	128	682	800	346	1	3	276	1,207	275	0	0	0	0	0	8,061	0
Peak Hour	**All**	**0**	**26**	**140**	**60**	**77**	**0**	**567**	**208**	**199**	**362**	**4**	**37**	**256**	**283**	**146**	**0**	**1**	**95**	**412**	**103**	**0**	**0**	**0**	**0**	**0**	**2,976**	**0**
	HV	**0**	**0**	**0**	**0**	**3**	**0**	**10**	**0**	**6**	**6**	**0**	**0**	**7**	**9**	**7**	**0**	**0**	**5**	**22**	**1**	**0**	**0**	**0**	**0**	**0**	**76**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**4%**	**-**	**2%**	**0%**	**3%**	**2%**	**0%**	**0%**	**3%**	**3%**	**5%**	**-**	**0%**	**5%**	**5%**	**1%**	**-**	**-**	**-**	**-**	**-**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
4:00 PM	2	8	10	8	0	*28*	0	0	0	0	0	*0*	0	3	0	12	0	*15*
4:15 PM	1	5	7	10	0	*23*	0	0	2	0	0	*2*	0	1	0	12	0	*13*
4:30 PM	0	3	6	8	0	*17*	1	2	1	0	0	*4*	0	6	0	17	0	*23*
4:45 PM	**1**	**12**	**8**	**5**	**0**	***26***	**0**	**1**	**0**	**1**	**0**	***2***	**0**	**4**	**0**	**9**	**0**	***13***
5:00 PM	**0**	**3**	**7**	**11**	**0**	***21***	**0**	**4**	**1**	**0**	**0**	***5***	**0**	**1**	**0**	**23**	**0**	***24***
5:15 PM	**1**	**4**	**7**	**7**	**0**	***19***	**0**	**4**	**1**	**0**	**0**	***5***	**0**	**6**	**0**	**19**	**0**	***25***
5:30 PM	**1**	**3**	**1**	**5**	**0**	***10***	**0**	**0**	**0**	**1**	**0**	***1***	**0**	**6**	**0**	**9**	**0**	***15***
5:45 PM	1	3	6	5	0	*15*	0	3	0	0	0	*3*	0	5	0	28	0	*33*
6:00 PM	1	5	7	7	0	*20*	1	2	0	1	0	*4*	0	6	1	11	0	*18*
6:15 PM	2	6	6	10	0	*24*	0	1	0	2	0	*3*	0	4	0	16	0	*20*
6:30 PM	0	1	4	6	0	*11*	0	1	2	2	0	*5*	0	1	0	8	0	*9*
6:45 PM	2	3	6	7	0	*18*	0	1	1	0	0	*2*	0	2	0	18	0	*20*
Count Total	12	56	75	89	0	*232*	2	19	8	7	0	*36*	0	45	1	182	0	*228*
Peak Hr	**3**	**22**	**23**	**28**	**0**	***76***	**0**	**9**	**2**	**2**	**0**	***13***	**0**	**17**	**0**	**60**	**0**	*77*

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave					Grand Ave					Airport Blvd					Airport Blvd					US-101 NB On-ramp					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	1	0	1	0	0	3	1	0	4	0	0	3	3	4	0	0	0	7	1	0	0	0	0	0	28	0
4:15 PM	0	0	1	0	0	0	2	1	0	2	0	0	2	4	1	0	0	1	6	3	0	0	0	0	0	23	0
4:30 PM	0	0	0	0	0	0	0	0	1	2	0	0	1	3	2	0	0	1	7	0	0	0	0	0	0	17	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**4**	**3**	**0**	**0**	**1**	**3**	**4**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	94
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**2**	**0**	**0**	**2**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**21**	87
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**4**	**2**	**1**	**0**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	83
5:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**76**
5:45 PM	0	0	0	0	1	0	2	0	0	1	0	1	2	2	1	0	0	0	5	0	0	0	0	0	0	15	65
6:00 PM	0	0	1	0	0	0	2	0	1	2	0	0	3	2	2	0	0	0	7	0	0	0	0	0	0	20	64
6:15 PM	0	1	0	1	0	0	4	0	0	2	0	0	3	0	3	0	0	1	9	0	0	0	0	0	0	24	69
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2	0	0	2	4	0	0	0	0	0	0	11	70
6:45 PM	0	0	1	1	0	0	3	0	0	0	0	0	2	2	2	0	0	2	5	0	0	0	0	0	0	18	73
Count Total	0	2	3	3	4	0	26	2	8	20	0	1	24	26	24	0	0	12	72	5	0	0	0	0	0	232	0
Peak Hour	**0**	**0**	**0**	**0**	**3**	**0**	**10**	**0**	**6**	**6**	**0**	**0**	**7**	**9**	**7**	**0**	**0**	**5**	**22**	**1**	**0**	**0**	**0**	**0**	**0**	76	**0**

Three-Hour Count Summaries - Bikes

Interval Start	Grand Ave					Grand Ave					Airport Blvd					Airport Blvd					US-101 NB On-ramp					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	8
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	13
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	16
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**13**
5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	14
6:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	13
6:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	11
6:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	5	15
6:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	14
Count Total	0	1	0	0	1	0	2	12	5	0	0	0	7	0	1	0	0	0	5	2	0	0	0	0	0	36	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	13	**0**

Appendix B

Level Of Service Calculations

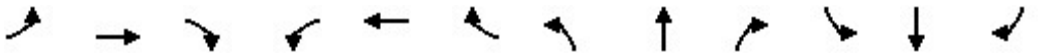
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	0	34	0	0	0	16	337	0	0	333	91
Future Volume (veh/h)	108	0	34	0	0	0	16	337	0	0	333	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	117	0	37	0	0	0	17	366	0	0	362	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	158	0	50	0	10	0	243	1452	0	0	608	166
Arrive On Green	0.12	0.00	0.12	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.43	0.43
Sat Flow, veh/h	1307	0	413	0	1870	0	57	3458	0	0	1412	386
Grp Volume(v), veh/h	154	0	0	0	0	0	206	177	0	0	0	461
Grp Sat Flow(s),veh/h/ln	1720	0	0	0	1870	0	1813	1617	0	0	0	1798
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	3.5
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.0	0.0	0.0	3.5
Prop In Lane	0.76		0.24	0.00		0.00	0.08		0.00	0.00		0.21
Lane Grp Cap(c), veh/h	207	0	0	0	10	0	999	696	0	0	0	774
V/C Ratio(X)	0.74	0.00	0.00	0.00	0.00	0.00	0.21	0.25	0.00	0.00	0.00	0.60
Avail Cap(c_a), veh/h	2027	0	0	0	1155	0	2774	2359	0	0	0	2624
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	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.6	0.0	0.0	0.0	0.0	0.0	3.2	3.2	0.0	0.0	0.0	3.9
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.5	0.0	0.0	0.0	0.0	0.0	3.3	3.3	0.0	0.0	0.0	4.2
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		154			0			383			461	
Approach Delay, s/veh		9.5			0.0			3.3			4.2	
Approach LOS		A						A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.7		6.1		11.7		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		21.0		26.0		11.0				
Max Q Clear Time (g_c+I1), s		3.3		3.5		5.5		0.0				
Green Ext Time (p_c), s		1.6		0.5		2.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			4.7									
HCM 6th LOS			A									

Notes

User approved pedestrian interval to be less than phase max green.



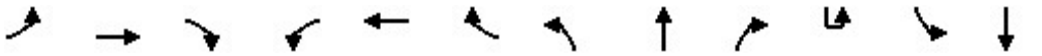
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	7	53	0	4	9	20	411	12	20	394	55
Future Volume (veh/h)	137	7	53	0	4	9	20	411	12	20	394	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	8	58	0	4	10	22	447	13	22	428	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	21	75	0	89	224	35	738	22	28	537	75
Arrive On Green	0.19	0.19	0.19	0.00	0.19	0.19	0.21	0.21	0.21	0.35	0.35	0.35
Sat Flow, veh/h	959	110	395	0	471	1178	162	3445	105	79	1532	215
Grp Volume(v), veh/h	215	0	0	0	0	14	253	0	229	510	0	0
Grp Sat Flow(s),veh/h/ln	1464	0	0	0	0	1649	1862	0	1849	1825	0	0
Q Serve(g_s), s	5.6	0.0	0.0	0.0	0.0	0.3	5.3	0.0	4.8	10.8	0.0	0.0
Cycle Q Clear(g_c), s	5.9	0.0	0.0	0.0	0.0	0.3	5.3	0.0	4.8	10.8	0.0	0.0
Prop In Lane	0.69		0.27	0.00		0.71	0.09		0.06	0.04		0.12
Lane Grp Cap(c), veh/h	420	0	0	0	0	313	399	0	396	640	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.00	0.00	0.04	0.63	0.00	0.58	0.80	0.00	0.00
Avail Cap(c_a), veh/h	1043	0	0	0	0	1022	1153	0	1145	1770	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	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.4	0.0	0.0	0.0	0.0	14.2	15.3	0.0	15.1	12.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	0.9	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	1.7	0.0	0.0	0.0	0.0	0.1	2.0	0.0	1.8	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	0.0	0.0	0.0	0.0	14.2	15.9	0.0	15.6	13.4	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	B	A	B	B	A	A
Approach Vol, veh/h		215			14			482			510	
Approach Delay, s/veh		16.8			14.2			15.8			13.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.7		11.6		18.5		11.6				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		26.5		41.5		26.5				
Max Q Clear Time (g_c+I1), s		7.3		7.9		12.8		2.3				
Green Ext Time (p_c), s		1.9		0.7		2.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	392	33	199	77	11	7	153	440	35	229	15
Future Volume (vph)	18	392	33	199	77	11	7	153	440	35	229	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5		3.5	3.5			3.0	3.5		3.0	
Lane Util. Factor		0.95		1.00	1.00			1.00	0.88		1.00	
Frpb, ped/bikes		1.00		1.00	1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			1.00	1.00		0.99	
Satd. Flow (prot)		2780		1413	1452			1484	2182		1463	
Flt Permitted		1.00		0.95	1.00			0.99	1.00		0.95	
Satd. Flow (perm)		2780		1413	1452			1465	2182		1400	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	19	422	35	214	83	12	8	165	473	38	246	16
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	114	0	2	0
Lane Group Flow (vph)	0	470	0	214	90	0	0	173	359	0	298	0
Confl. Peds. (#/hr)			13			9			9			19
Confl. Bikes (#/hr)			2			1			2			7
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)		16.9		16.9	16.9			19.2	36.1		19.2	
Effective Green, g (s)		16.9		16.9	16.9			19.2	36.1		19.2	
Actuated g/C Ratio		0.27		0.27	0.27			0.30	0.57		0.30	
Clearance Time (s)		3.5		3.5	3.5			3.0	3.5		3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		745		379	389			446	1371		426	
v/s Ratio Prot		c0.17		c0.15	0.06				0.07			
v/s Ratio Perm								0.12	0.09		c0.21	
v/c Ratio		0.63		0.56	0.23			0.39	0.26		0.70	
Uniform Delay, d1		20.3		19.9	18.0			17.3	6.8		19.3	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		1.3		1.2	0.1			0.2	0.0		4.0	
Delay (s)		21.6		21.0	18.1			17.5	6.8		23.4	
Level of Service		C		C	B			B	A		C	
Approach Delay (s)		21.6			20.1			9.7			23.4	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	536	0	294	0	0	0	123	199	0	5	5	448
Future Volume (vph)	536	0	294	0	0	0	123	199	0	5	5	448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Lane Util. Factor	0.95	0.95					0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.99					1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00					1.00	1.00			1.00	1.00
Frt	1.00	0.89					1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1221					2740	2825			1497	2825
Flt Permitted	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1221					2740	2825			1497	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	553	0	303	0	0	0	127	205	0	5	5	462
RTOR Reduction (vph)	0	99	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	448	309	0	0	0	0	127	205	0	0	10	462
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA					Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	34.5	34.5					12.6	56.5			1.4	45.3
Effective Green, g (s)	34.5	34.5					12.6	56.5			1.4	45.3
Actuated g/C Ratio	0.33	0.33					0.12	0.54			0.01	0.43
Clearance Time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Vehicle Extension (s)	2.0	2.0					2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	440	401					328	1520			19	1218
v/s Ratio Prot	c0.33	0.25					c0.05	0.07			0.01	c0.16
v/s Ratio Perm												
v/c Ratio	1.02	0.77					0.39	0.13			0.53	0.38
Uniform Delay, d1	35.2	31.7					42.6	12.1			51.5	20.3
Progression Factor	1.00	1.00					1.00	1.00			1.21	1.06
Incremental Delay, d2	47.6	7.8					0.3	0.2			9.3	0.7
Delay (s)	82.8	39.5					42.9	12.3			71.3	22.2
Level of Service	F	D					D	B			E	C
Approach Delay (s)		62.2			0.0			24.0				34.8
Approach LOS		E			A			C				C

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	177
Future Volume (vph)	177
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1227
Flt Permitted	1.00
Satd. Flow (perm)	1227
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	182
RTOR Reduction (vph)	103
Lane Group Flow (vph)	79
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	45.3
Effective Green, g (s)	45.3
Actuated g/C Ratio	0.43
Clearance Time (s)	4.6
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	529
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.15
Uniform Delay, d1	18.1
Progression Factor	3.55
Incremental Delay, d2	0.5
Delay (s)	64.9
Level of Service	E
Approach Delay (s)	
Approach LOS	

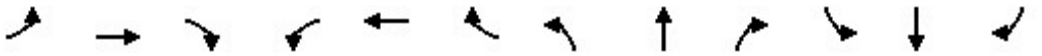
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	223	84	174	147	156	40	349	368	409	362	69
Future Volume (vph)	182	223	84	174	147	156	40	349	368	409	362	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)		3006		2717	1474	1253	1490	2981	1333	1421	2947	1317
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)		3006		2717	1474	1253	1490	2981	1333	1421	2947	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	192	235	88	183	155	164	42	367	387	431	381	73
RTOR Reduction (vph)	0	18	0	0	0	136	0	0	0	0	0	55
Lane Group Flow (vph)	0	497	0	183	155	28	42	367	387	263	549	18
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		24.4		17.7	17.7	17.7	20.7	20.7	70.8	26.2	26.2	26.2
Effective Green, g (s)		24.4		17.7	17.7	17.7	20.7	20.7	70.8	26.2	26.2	26.2
Actuated g/C Ratio		0.23		0.17	0.17	0.17	0.20	0.20	0.67	0.25	0.25	0.25
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		698		458	248	211	293	587	898	354	735	328
v/s Ratio Prot		c0.17		0.07	c0.11		0.03	c0.12	0.29	0.19	c0.19	
v/s Ratio Perm						0.02						0.01
v/c Ratio		0.71		0.40	0.62	0.13	0.14	0.63	0.43	0.74	0.75	0.06
Uniform Delay, d1		37.1		38.9	40.6	37.1	34.8	38.6	7.9	36.3	36.3	30.0
Progression Factor		1.00		1.00	1.00	1.00	1.44	1.31	0.29	0.96	0.96	2.05
Incremental Delay, d2		3.2		0.6	4.8	0.3	0.1	1.2	0.2	12.4	6.4	0.3
Delay (s)		40.3		39.5	45.4	37.4	50.3	51.9	2.5	47.2	41.3	61.7
Level of Service		D		D	D	D	D	D	A	D	D	E
Approach Delay (s)		40.3			40.6			27.8			44.8	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



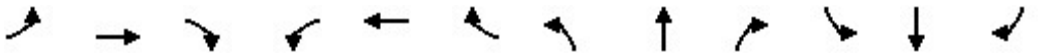
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	0	23	0	0	0	29	431	0	0	297	62
Future Volume (veh/h)	91	0	23	0	0	0	29	431	0	0	297	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	99	0	25	0	0	0	32	468	0	0	323	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	128	0	32	0	12	0	296	1323	0	0	600	125
Arrive On Green	0.09	0.00	0.09	0.00	0.00	0.00	0.40	0.40	0.00	0.00	0.40	0.40
Sat Flow, veh/h	1384	0	349	0	1870	0	103	3379	0	0	1495	310
Grp Volume(v), veh/h	124	0	0	0	0	0	268	232	0	0	0	390
Grp Sat Flow(s),veh/h/ln	1733	0	0	0	1870	0	1779	1617	0	0	0	1805
Q Serve(g_s), s	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	2.6
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.0	0.0	0.0	1.6	1.6	0.0	0.0	0.0	2.6
Prop In Lane	0.80		0.20	0.00		0.00	0.12		0.00	0.00		0.17
Lane Grp Cap(c), veh/h	160	0	0	0	12	0	970	649	0	0	0	725
V/C Ratio(X)	0.77	0.00	0.00	0.00	0.00	0.00	0.28	0.36	0.00	0.00	0.00	0.54
Avail Cap(c_a), veh/h	2302	0	0	0	1301	0	3072	2659	0	0	0	2968
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	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.0	0.0	0.0	0.0	0.0	0.0	3.3	3.3	0.0	0.0	0.0	3.6
Incr Delay (d2), s/veh	3.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4	0.0	0.0	0.0	3.8
LnGrp LOS	B	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		124			0			500			390	
Approach Delay, s/veh		10.0			0.0			3.4			3.8	
Approach LOS		B						A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.3		5.5		10.3		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		21.0		26.0		11.0				
Max Q Clear Time (g_c+I1), s		3.6		3.1		4.6		0.0				
Green Ext Time (p_c), s		2.0		0.4		1.7		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			4.4									
HCM 6th LOS			A									

Notes

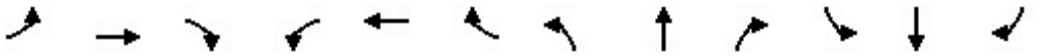
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	24	26	13	18	48	24	451	19	46	327	75
Future Volume (veh/h)	118	24	26	13	18	48	24	451	19	46	327	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	26	28	14	20	52	26	490	21	50	355	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	44	39	126	86	168	40	789	35	64	456	105
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.23	0.23	0.23	0.35	0.35	0.35
Sat Flow, veh/h	1020	270	234	146	520	1019	171	3378	152	185	1313	303
Grp Volume(v), veh/h	182	0	0	86	0	0	282	0	255	487	0	0
Grp Sat Flow(s),veh/h/ln	1524	0	0	1685	0	0	1862	0	1839	1801	0	0
Q Serve(g_s), s	2.6	0.0	0.0	0.0	0.0	0.0	5.7	0.0	5.1	10.0	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	0.0	1.9	0.0	0.0	5.7	0.0	5.1	10.0	0.0	0.0
Prop In Lane	0.70		0.15	0.16		0.60	0.09		0.08	0.10		0.17
Lane Grp Cap(c), veh/h	400	0	0	379	0	0	435	0	430	625	0	0
V/C Ratio(X)	0.46	0.00	0.00	0.23	0.00	0.00	0.65	0.00	0.59	0.78	0.00	0.00
Avail Cap(c_a), veh/h	1077	0	0	1139	0	0	1196	0	1181	1812	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	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	15.2	0.0	0.0	14.3	0.0	14.1	12.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.5	0.8	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	1.4	0.0	0.0	0.6	0.0	0.0	2.0	0.0	1.8	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.3	0.0	0.0	14.9	0.0	14.5	12.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	B	B	A	A
Approach Vol, veh/h		182			86			537			487	
Approach Delay, s/veh		16.4			15.3			14.7			12.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.1		10.3		17.8		10.3				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		26.5		41.5		26.5				
Max Q Clear Time (g_c+I1), s		7.7		6.5		12.0		3.9				
Green Ext Time (p_c), s		2.0		0.6		2.3		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			14.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	180	24	399	244	0	22	219	379	34	196	58
Future Volume (vph)	24	180	24	399	244	0	22	219	379	34	196	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.0	3.5		3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.88		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.99	
Satd. Flow (prot)	1770	1830		1770	1863			1854	2787		1801	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.94	
Satd. Flow (perm)	1770	1830		1770	1863			1797	2787		1708	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	196	26	434	265	0	24	238	412	37	213	63
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	150	0	9	0
Lane Group Flow (vph)	26	216	0	434	265	0	0	262	262	0	304	0
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	13.0	13.0		22.9	22.9			17.1	40.0		17.1	
Effective Green, g (s)	13.0	13.0		22.9	22.9			17.1	40.0		17.1	
Actuated g/C Ratio	0.21	0.21		0.36	0.36			0.27	0.63		0.27	
Clearance Time (s)	3.5	3.5		3.5	3.5			3.0	3.5		3.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	365	377		643	677			487	1924		463	
v/s Ratio Prot	0.01	c0.12		c0.25	0.14				0.05			
v/s Ratio Perm								0.15	0.04		c0.18	
v/c Ratio	0.07	0.57		0.67	0.39			0.54	0.14		0.66	
Uniform Delay, d1	20.1	22.5		16.9	14.9			19.6	4.6		20.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.3		2.2	0.1			0.6	0.0		2.5	
Delay (s)	20.2	23.8		19.1	15.0			20.2	4.6		22.9	
Level of Service	C	C		B	B			C	A		C	
Approach Delay (s)		23.4			17.6			10.7			22.9	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	296	0	218	0	0	0	334	452	0	5	4	625
Future Volume (vph)	296	0	218	0	0	0	334	452	0	5	4	625
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Lane Util. Factor	0.95	0.95					0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.98					1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00					1.00	1.00			1.00	1.00
Frt	1.00	0.87					1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1197					2740	2825			1487	2825
Flt Permitted	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1197					2740	2825			1487	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	305	0	225	0	0	0	344	466	0	5	4	644
RTOR Reduction (vph)	0	175	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	274	81	0	0	0	0	344	466	0	0	9	644
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA					Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	26.7	26.7					23.1	79.3			1.4	57.6
Effective Green, g (s)	26.7	26.7					23.1	79.3			1.4	57.6
Actuated g/C Ratio	0.22	0.22					0.19	0.66			0.01	0.48
Clearance Time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Vehicle Extension (s)	2.0	2.0					2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	298	266					527	1866			17	1356
v/s Ratio Prot	c0.20	0.07					c0.13	0.16			0.01	c0.23
v/s Ratio Perm												
v/c Ratio	0.92	0.30					0.65	0.25			0.53	0.47
Uniform Delay, d1	45.6	38.9					44.7	8.3			59.0	21.0
Progression Factor	1.00	1.00					1.32	1.47			1.19	0.64
Incremental Delay, d2	31.1	0.2					1.5	0.2			10.2	0.9
Delay (s)	76.7	39.1					60.4	12.3			80.4	14.4
Level of Service	E	D					E	B			F	B
Approach Delay (s)		58.6			0.0			32.7				28.0
Approach LOS		E			A			C				C

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	383
Future Volume (vph)	383
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1224
Flt Permitted	1.00
Satd. Flow (perm)	1224
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	395
RTOR Reduction (vph)	205
Lane Group Flow (vph)	190
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	57.6
Effective Green, g (s)	57.6
Actuated g/C Ratio	0.48
Clearance Time (s)	4.6
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	587
v/s Ratio Prot	
v/s Ratio Perm	0.15
v/c Ratio	0.32
Uniform Delay, d1	19.2
Progression Factor	2.49
Incremental Delay, d2	1.1
Delay (s)	49.0
Level of Service	D
Approach Delay (s)	
Approach LOS	

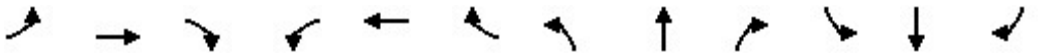
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	60	77	567	208	561	41	256	429	96	412	103
Future Volume (vph)	166	60	77	567	208	561	41	256	429	96	412	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2958		3090	1676	1425	1577	3154	1411	1408	2961	1270
Flt Permitted		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2958		3090	1676	1425	1577	3154	1411	1408	2961	1270
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	173	62	80	591	217	584	43	267	447	100	429	107
RTOR Reduction (vph)	0	32	0	0	0	277	0	0	0	0	0	89
Lane Group Flow (vph)	0	284	0	591	217	307	43	267	447	90	439	18
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		17.7		45.1	45.1	45.1	20.7	20.7	91.5	20.5	20.5	20.5
Effective Green, g (s)		17.7		45.1	45.1	45.1	20.7	20.7	91.5	20.5	20.5	20.5
Actuated g/C Ratio		0.15		0.38	0.38	0.38	0.17	0.17	0.76	0.17	0.17	0.17
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		436		1161	629	535	272	544	1075	240	505	216
v/s Ratio Prot		c0.10		0.19	0.13		0.03	c0.08	0.32	0.06	c0.15	
v/s Ratio Perm						c0.22						0.01
v/c Ratio		0.65		0.51	0.34	0.57	0.16	0.49	0.42	0.38	0.87	0.08
Uniform Delay, d1		48.2		28.9	26.9	29.8	42.2	44.9	5.0	44.1	48.4	41.9
Progression Factor		1.00		1.00	1.00	1.00	1.21	1.25	0.42	1.07	1.07	1.41
Incremental Delay, d2		3.0		0.4	0.3	1.5	0.2	0.5	0.2	4.2	17.4	0.7
Delay (s)		51.2		29.3	27.2	31.3	51.5	56.6	2.2	51.2	69.2	59.8
Level of Service		D		C	C	C	D	E	A	D	E	E
Approach Delay (s)		51.2			29.8			24.2			65.1	
Approach LOS		D			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	2	34	4	2	37	16	340	3	95	335	91
Future Volume (veh/h)	108	2	34	4	2	37	16	340	3	95	335	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	2	37	4	2	40	17	370	3	103	364	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	3	51	6	3	60	31	1040	8	132	487	132
Arrive On Green	0.13	0.13	0.13	0.04	0.04	0.04	0.02	0.29	0.29	0.07	0.34	0.34
Sat Flow, veh/h	1296	22	410	139	70	1395	1781	3612	29	1781	1413	384
Grp Volume(v), veh/h	156	0	0	46	0	0	17	182	191	103	0	463
Grp Sat Flow(s),veh/h/ln	1728	0	0	1604	0	0	1781	1777	1865	1781	0	1798
Q Serve(g_s), s	3.0	0.0	0.0	1.0	0.0	0.0	0.3	2.8	2.8	1.9	0.0	7.7
Cycle Q Clear(g_c), s	3.0	0.0	0.0	1.0	0.0	0.0	0.3	2.8	2.8	1.9	0.0	7.7
Prop In Lane	0.75		0.24	0.09		0.87	1.00		0.02	1.00		0.21
Lane Grp Cap(c), veh/h	216	0	0	69	0	0	31	511	537	132	0	619
V/C Ratio(X)	0.72	0.00	0.00	0.67	0.00	0.00	0.55	0.36	0.36	0.78	0.00	0.75
Avail Cap(c_a), veh/h	1524	0	0	283	0	0	209	836	877	524	0	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	16.0	0.0	0.0	16.6	9.6	9.6	15.5	0.0	9.8
Incr Delay (d2), s/veh	1.7	0.0	0.0	4.2	0.0	0.0	14.1	0.2	0.1	9.7	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.4	0.0	0.0	0.2	0.8	0.9	1.0	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	0.0	20.2	0.0	0.0	30.7	9.8	9.8	25.2	0.0	10.5
LnGrp LOS	B	A	A	C	A	A	C	A	A	C	A	B
Approach Vol, veh/h		156			46			390			566	
Approach Delay, s/veh		16.0			20.2			10.7			13.2	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	13.8		8.3	4.6	15.7		5.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	10.0	16.0		30.0	4.0	22.0		6.0				
Max Q Clear Time (g_c+I1), s	3.9	4.8		5.0	2.3	9.7		3.0				
Green Ext Time (p_c), s	0.1	1.1		0.6	0.0	1.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		13.0	
HCM 6th LOS		B	

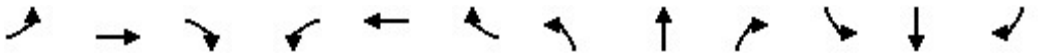
Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	7	55	0	4	9	22	486	12	20	489	55
Future Volume (veh/h)	137	7	55	0	4	9	22	486	12	20	489	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	8	60	0	4	10	24	528	13	22	532	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	21	80	0	93	232	128	1614	40	39	694	78
Arrive On Green	0.20	0.20	0.20	0.00	0.20	0.20	0.07	0.46	0.46	0.02	0.42	0.42
Sat Flow, veh/h	951	109	405	0	471	1178	1781	3544	87	1781	1649	186
Grp Volume(v), veh/h	217	0	0	0	0	14	24	265	276	22	0	592
Grp Sat Flow(s),veh/h/ln	1465	0	0	0	0	1650	1781	1777	1854	1781	0	1835
Q Serve(g_s), s	4.4	0.0	0.0	0.0	0.0	0.2	0.4	3.2	3.2	0.4	0.0	9.3
Cycle Q Clear(g_c), s	4.7	0.0	0.0	0.0	0.0	0.2	0.4	3.2	3.2	0.4	0.0	9.3
Prop In Lane	0.69		0.28	0.00		0.71	1.00		0.05	1.00		0.10
Lane Grp Cap(c), veh/h	468	0	0	0	0	325	128	809	844	39	0	772
V/C Ratio(X)	0.46	0.00	0.00	0.00	0.00	0.04	0.19	0.33	0.33	0.56	0.00	0.77
Avail Cap(c_a), veh/h	1450	0	0	0	0	1441	290	3131	3267	264	0	3233
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	0.0	0.0	11.0	14.7	5.9	5.9	16.3	0.0	8.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.1	11.8	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.0	0.0	0.1	0.2	0.8	0.8	0.3	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	0.0	0.0	0.0	0.0	11.0	15.0	6.0	6.0	28.2	0.0	9.0
LnGrp LOS	B	A	A	A	A	B	B	A	A	C	A	A
Approach Vol, veh/h		217			14			565			614	
Approach Delay, s/veh		13.0			11.0			6.4			9.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	18.9		10.1	5.9	17.7		10.1				
Change Period (Y+Rc), s	4.0	3.5		3.5	3.5	3.5		3.5				
Max Green Setting (Gmax), s	5.0	59.5		29.5	5.5	59.5		29.5				
Max Q Clear Time (g_c+I1), s	2.4	5.2		6.7	2.4	11.3		2.2				
Green Ext Time (p_c), s	0.0	2.4		0.8	0.0	2.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		8.9	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	392	33	255	77	11	7	182	486	35	268	15
Future Volume (vph)	18	392	33	255	77	11	7	182	486	35	268	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5		3.5	3.5			3.0	3.5		3.0	
Lane Util. Factor		0.95		1.00	1.00			1.00	0.88		1.00	
Frpb, ped/bikes		1.00		1.00	1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			1.00	1.00		0.99	
Satd. Flow (prot)		2780		1413	1452			1484	2180		1465	
Flt Permitted		1.00		0.95	1.00			0.99	1.00		0.95	
Satd. Flow (perm)		2780		1413	1452			1467	2180		1405	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	19	422	35	274	83	12	8	196	523	38	288	16
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	104	0	2	0
Lane Group Flow (vph)	0	470	0	274	90	0	0	204	419	0	340	0
Confl. Peds. (#/hr)			13			9			9			19
Confl. Bikes (#/hr)			2			1			2			7
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)		18.1		20.5	20.5			23.0	43.5		23.0	
Effective Green, g (s)		18.1		20.5	20.5			23.0	43.5		23.0	
Actuated g/C Ratio		0.25		0.29	0.29			0.32	0.61		0.32	
Clearance Time (s)		3.5		3.5	3.5			3.0	3.5		3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		702		404	415			471	1431		451	
v/s Ratio Prot		c0.17		c0.19	0.06				0.08			
v/s Ratio Perm								0.14	0.11		c0.24	
v/c Ratio		0.67		0.68	0.22			0.43	0.29		0.75	
Uniform Delay, d1		24.1		22.6	19.4			19.2	6.7		21.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		1.9		3.5	0.1			0.2	0.0		6.2	
Delay (s)		25.9		26.2	19.5			19.4	6.7		28.0	
Level of Service		C		C	B			B	A		C	
Approach Delay (s)		25.9			24.5			10.3			28.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

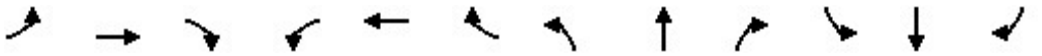
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	553	0	323	0	0	0	160	199	0	5	5	448
Future Volume (vph)	553	0	323	0	0	0	160	199	0	5	5	448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Lane Util. Factor	0.95	0.95					0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.98					1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00					1.00	1.00			1.00	1.00
Frt	1.00	0.88					1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1216					2740	2825			1497	2825
Flt Permitted	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1216					2740	2825			1497	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	570	0	333	0	0	0	165	205	0	5	5	462
RTOR Reduction (vph)	0	114	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	473	316	0	0	0	0	165	205	0	0	10	462
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA					Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	33.4	33.4					15.2	57.6			1.4	43.8
Effective Green, g (s)	33.4	33.4					15.2	57.6			1.4	43.8
Actuated g/C Ratio	0.32	0.32					0.14	0.55			0.01	0.42
Clearance Time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Vehicle Extension (s)	2.0	2.0					2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	426	386					396	1549			19	1178
v/s Ratio Prot	c0.35	0.26					c0.06	0.07			0.01	c0.16
v/s Ratio Perm												
v/c Ratio	1.11	0.82					0.42	0.13			0.53	0.39
Uniform Delay, d1	35.8	33.0					40.9	11.5			51.5	21.3
Progression Factor	1.00	1.00					1.00	1.00			1.21	1.05
Incremental Delay, d2	77.0	12.1					0.3	0.2			9.0	0.8
Delay (s)	112.8	45.1					41.1	11.7			71.4	23.2
Level of Service	F	D					D	B			E	C
Approach Delay (s)		80.6			0.0			24.8				37.3
Approach LOS		F			A			C				D

Intersection Summary			
HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	196
Future Volume (vph)	196
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1227
Flt Permitted	1.00
Satd. Flow (perm)	1227
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	202
RTOR Reduction (vph)	118
Lane Group Flow (vph)	84
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	43.8
Effective Green, g (s)	43.8
Actuated g/C Ratio	0.42
Clearance Time (s)	4.6
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	511
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.16
Uniform Delay, d1	19.2
Progression Factor	3.51
Incremental Delay, d2	0.5
Delay (s)	67.8
Level of Service	E
Approach Delay (s)	
Approach LOS	

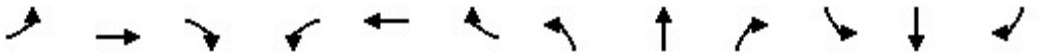
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	227	84	179	152	156	40	362	372	409	378	84
Future Volume (vph)	194	227	84	179	152	156	40	362	372	409	378	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)		3008		2717	1474	1253	1490	2981	1333	1421	2950	1317
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)		3008		2717	1474	1253	1490	2981	1333	1421	2950	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	204	239	88	188	160	164	42	381	392	431	398	88
RTOR Reduction (vph)	0	18	0	0	0	136	0	0	0	0	0	67
Lane Group Flow (vph)	0	513	0	188	160	28	42	381	392	272	557	21
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		25.1		17.7	17.7	17.7	20.7	20.7	71.5	25.5	25.5	25.5
Effective Green, g (s)		25.1		17.7	17.7	17.7	20.7	20.7	71.5	25.5	25.5	25.5
Actuated g/C Ratio		0.24		0.17	0.17	0.17	0.20	0.20	0.68	0.24	0.24	0.24
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		719		458	248	211	293	587	907	345	716	319
v/s Ratio Prot		c0.17		0.07	c0.11		0.03	c0.13	0.29	c0.19	0.19	
v/s Ratio Perm						0.02						0.02
v/c Ratio		0.71		0.41	0.65	0.13	0.14	0.65	0.43	0.79	0.78	0.07
Uniform Delay, d1		36.7		39.0	40.7	37.1	34.8	38.8	7.6	37.2	37.1	30.6
Progression Factor		1.00		1.00	1.00	1.00	1.50	1.42	0.30	0.96	0.96	1.61
Incremental Delay, d2		3.2		0.6	5.7	0.3	0.1	1.3	0.1	15.7	7.7	0.4
Delay (s)		39.8		39.6	46.4	37.4	52.2	56.4	2.4	51.5	43.5	49.7
Level of Service		D		D	D	D	D	E	A	D	D	D
Approach Delay (s)		39.8			41.0			30.2			46.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



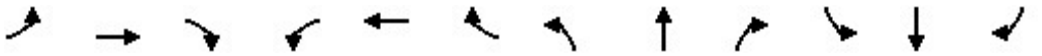
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	2	23	4	2	44	29	433	2	66	299	62
Future Volume (veh/h)	91	2	23	4	2	44	29	433	2	66	299	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	2	25	4	2	48	32	471	2	72	325	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	3	34	6	3	69	55	1027	4	106	466	96
Arrive On Green	0.10	0.10	0.10	0.05	0.05	0.05	0.03	0.28	0.28	0.06	0.31	0.31
Sat Flow, veh/h	1366	28	345	119	59	1426	1781	3629	15	1781	1496	308
Grp Volume(v), veh/h	126	0	0	54	0	0	32	231	242	72	0	392
Grp Sat Flow(s),veh/h/ln	1738	0	0	1604	0	0	1781	1777	1867	1781	0	1805
Q Serve(g_s), s	2.2	0.0	0.0	1.0	0.0	0.0	0.6	3.4	3.4	1.2	0.0	6.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	1.0	0.0	0.0	0.6	3.4	3.4	1.2	0.0	6.0
Prop In Lane	0.79		0.20	0.07		0.89	1.00		0.01	1.00		0.17
Lane Grp Cap(c), veh/h	171	0	0	78	0	0	55	503	528	106	0	562
V/C Ratio(X)	0.73	0.00	0.00	0.69	0.00	0.00	0.58	0.46	0.46	0.68	0.00	0.70
Avail Cap(c_a), veh/h	1608	0	0	307	0	0	227	1077	1132	455	0	1324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	0.0	0.0	14.7	0.0	0.0	15.0	9.3	9.3	14.4	0.0	9.5
Incr Delay (d2), s/veh	2.3	0.0	0.0	4.1	0.0	0.0	9.2	0.2	0.2	7.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.4	0.0	0.0	0.3	0.9	1.0	0.6	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	0.0	18.8	0.0	0.0	24.2	9.5	9.5	21.9	0.0	10.1
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	B
Approach Vol, veh/h		126			54			505			464	
Approach Delay, s/veh		16.0			18.8			10.4			11.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	12.9		7.1	5.0	13.8		5.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	19.0		29.0	4.0	23.0		6.0				
Max Q Clear Time (g_c+I1), s	3.2	5.4		4.2	2.6	8.0		3.0				
Green Ext Time (p_c), s	0.0	1.6		0.4	0.0	1.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		12.0
HCM 6th LOS		B

Notes

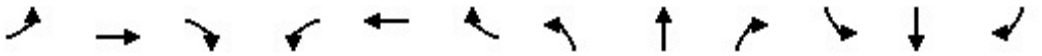
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	24	28	13	18	48	26	539	19	46	393	75
Future Volume (veh/h)	118	24	28	13	18	48	26	539	19	46	393	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	26	30	14	20	52	28	586	21	50	427	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	46	43	154	89	177	216	1562	56	79	586	112
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.12	0.45	0.45	0.04	0.38	0.38
Sat Flow, veh/h	1007	264	248	152	512	1016	1781	3498	125	1781	1521	292
Grp Volume(v), veh/h	184	0	0	86	0	0	28	297	310	50	0	509
Grp Sat Flow(s),veh/h/ln	1518	0	0	1680	0	0	1781	1777	1846	1781	0	1813
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	0.0	0.5	3.7	3.7	0.9	0.0	7.9
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.5	0.0	0.0	0.5	3.7	3.7	0.9	0.0	7.9
Prop In Lane	0.70		0.16	0.16		0.60	1.00		0.07	1.00		0.16
Lane Grp Cap(c), veh/h	451	0	0	421	0	0	216	793	824	79	0	698
V/C Ratio(X)	0.41	0.00	0.00	0.20	0.00	0.00	0.13	0.37	0.38	0.63	0.00	0.73
Avail Cap(c_a), veh/h	1476	0	0	1570	0	0	406	2997	3114	487	0	3169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0	11.8	0.0	0.0	12.9	6.1	6.1	15.5	0.0	8.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	7.9	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.4	0.0	0.0	0.2	0.8	0.8	0.5	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	0.0	0.0	11.9	0.0	0.0	13.0	6.2	6.2	23.4	0.0	9.2
LnGrp LOS	B	A	A	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		184			86			635			559	
Approach Delay, s/veh		12.8			11.9			6.5			10.5	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	18.2		9.2	7.5	16.2		9.2				
Change Period (Y+Rc), s	4.0	3.5		3.5	3.5	3.5		3.5				
Max Green Setting (Gmax), s	9.0	55.5		29.5	7.5	57.5		29.5				
Max Q Clear Time (g_c+I1), s	2.9	5.7		5.6	2.5	9.9		3.5				
Green Ext Time (p_c), s	0.0	2.5		0.7	0.0	2.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	180	24	439	244	0	22	253	433	34	222	58
Future Volume (vph)	24	180	24	439	244	0	22	253	433	34	222	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.0	3.5		3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.88		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.99	
Satd. Flow (prot)	1770	1830		1770	1863			1855	2787		1806	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.94	
Satd. Flow (perm)	1770	1830		1770	1863			1798	2787		1702	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	196	26	477	265	0	24	275	471	37	241	63
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	292	0	9	0
Lane Group Flow (vph)	26	216	0	477	265	0	0	299	179	0	332	0
Turn Type	Split	NA		Split	NA		Perm	NA	Over	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4			4		
Actuated Green, G (s)	13.3	13.3		26.1	26.1			19.4	26.1		19.4	
Effective Green, g (s)	13.3	13.3		26.1	26.1			19.4	26.1		19.4	
Actuated g/C Ratio	0.19	0.19		0.38	0.38			0.28	0.38		0.28	
Clearance Time (s)	3.5	3.5		3.5	3.5			3.0	3.5		3.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	342	353		671	706			506	1057		479	
v/s Ratio Prot	0.01	c0.12		c0.27	0.14				0.06			
v/s Ratio Perm								0.17			c0.20	
v/c Ratio	0.08	0.61		0.71	0.38			0.59	0.17		0.69	
Uniform Delay, d1	22.7	25.4		18.1	15.5			21.3	14.2		22.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.2		3.0	0.1			1.2	0.0		3.5	
Delay (s)	22.8	27.6		21.1	15.6			22.5	14.2		25.6	
Level of Service	C	C		C	B			C	B		C	
Approach Delay (s)		27.1			19.1			17.4			25.6	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	316	0	252	0	0	0	360	452	0	5	4	625
Future Volume (vph)	316	0	252	0	0	0	360	452	0	5	4	625
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Lane Util. Factor	0.95	0.95					0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.98					1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00					1.00	1.00			1.00	1.00
Frt	1.00	0.87					1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1196					2740	2825			1487	2825
Flt Permitted	0.95	0.99					0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1196					2740	2825			1487	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	326	0	260	0	0	0	371	466	0	5	4	644
RTOR Reduction (vph)	0	200	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	293	93	0	0	0	0	371	466	0	0	9	644
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA					Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	27.8	27.8					23.6	78.2			1.4	56.0
Effective Green, g (s)	27.8	27.8					23.6	78.2			1.4	56.0
Actuated g/C Ratio	0.23	0.23					0.20	0.65			0.01	0.47
Clearance Time (s)	4.0	4.0					4.0	4.6			4.0	4.6
Vehicle Extension (s)	2.0	2.0					2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	310	277					538	1840			17	1318
v/s Ratio Prot	c0.22	0.08					c0.14	0.16			0.01	c0.23
v/s Ratio Perm												
v/c Ratio	0.95	0.34					0.69	0.25			0.53	0.49
Uniform Delay, d1	45.4	38.4					44.8	8.7			59.0	22.1
Progression Factor	1.00	1.00					1.32	1.49			1.24	0.64
Incremental Delay, d2	36.2	0.3					2.0	0.2			9.9	1.0
Delay (s)	81.5	38.7					61.0	13.3			83.2	15.1
Level of Service	F	D					E	B			F	B
Approach Delay (s)		60.1			0.0			34.4				31.4
Approach LOS		E			A			C				C

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

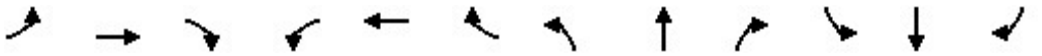
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	397
Future Volume (vph)	397
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1224
Flt Permitted	1.00
Satd. Flow (perm)	1224
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	409
RTOR Reduction (vph)	218
Lane Group Flow (vph)	191
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	56.0
Effective Green, g (s)	56.0
Actuated g/C Ratio	0.47
Clearance Time (s)	4.6
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	571
v/s Ratio Prot	
v/s Ratio Perm	0.16
v/c Ratio	0.33
Uniform Delay, d1	20.2
Progression Factor	2.71
Incremental Delay, d2	1.2
Delay (s)	55.9
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	65	77	570	212	561	41	271	434	96	423	114
Future Volume (vph)	180	65	77	570	212	561	41	271	434	96	423	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2967		3090	1676	1425	1577	3154	1411	1408	2961	1269
Flt Permitted		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2967		3090	1676	1425	1577	3154	1411	1408	2961	1269
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	68	80	594	221	584	43	282	452	100	441	119
RTOR Reduction (vph)	0	28	0	0	0	264	0	0	0	0	0	99
Lane Group Flow (vph)	0	308	0	594	221	320	43	282	452	90	451	20
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		19.0		44.3	44.3	44.3	20.7	20.7	92.0	20.0	20.0	20.0
Effective Green, g (s)		19.0		44.3	44.3	44.3	20.7	20.7	92.0	20.0	20.0	20.0
Actuated g/C Ratio		0.16		0.37	0.37	0.37	0.17	0.17	0.77	0.17	0.17	0.17
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		469		1140	618	526	272	544	1081	234	493	211
v/s Ratio Prot		c0.10		0.19	0.13		0.03	c0.09	0.32	0.06	c0.15	
v/s Ratio Perm						c0.22						0.02
v/c Ratio		0.66		0.52	0.36	0.61	0.16	0.52	0.42	0.38	0.91	0.09
Uniform Delay, d1		47.4		29.6	27.5	30.8	42.2	45.1	4.8	44.5	49.2	42.3
Progression Factor		1.00		1.00	1.00	1.00	1.22	1.25	0.40	1.07	1.07	1.45
Incremental Delay, d2		2.9		0.4	0.4	2.0	0.2	0.5	0.2	4.5	23.3	0.8
Delay (s)		50.4		30.0	27.9	32.8	51.9	56.8	2.1	52.0	75.7	62.1
Level of Service		D		C	C	C	D	E	A	D	E	E
Approach Delay (s)		50.4			30.8			24.7			70.0	
Approach LOS		D			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



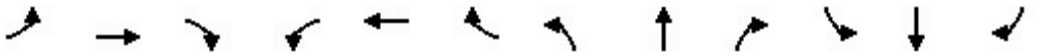
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	0	38	0	0	0	18	380	0	0	376	103
Future Volume (veh/h)	122	0	38	0	0	0	18	380	0	0	376	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	133	0	41	0	0	0	20	413	0	0	409	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	183	0	57	0	10	0	225	1528	0	0	641	175
Arrive On Green	0.14	0.00	0.14	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.45	0.45
Sat Flow, veh/h	1316	0	406	0	1870	0	57	3451	0	0	1412	387
Grp Volume(v), veh/h	174	0	0	0	0	0	232	201	0	0	0	521
Grp Sat Flow(s),veh/h/ln	1722	0	0	0	1870	0	1806	1617	0	0	0	1798
Q Serve(g_s), s	1.9	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	4.4
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0	0.0	4.4
Prop In Lane	0.76		0.24	0.00		0.00	0.09		0.00	0.00		0.21
Lane Grp Cap(c), veh/h	240	0	0	0	10	0	1019	734	0	0	0	816
V/C Ratio(X)	0.73	0.00	0.00	0.00	0.00	0.00	0.23	0.27	0.00	0.00	0.00	0.64
Avail Cap(c_a), veh/h	1839	0	0	0	1046	0	2498	2137	0	0	0	2377
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	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	0.0	0.0	0.0	3.3	3.3	0.0	0.0	0.0	4.1
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	0.0	0.0	0.0	0.0	0.0	3.4	3.4	0.0	0.0	0.0	4.4
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		174			0			433			521	
Approach Delay, s/veh		9.7			0.0			3.4			4.4	
Approach LOS		A						A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.9		6.7		12.9		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		21.0		26.0		11.0				
Max Q Clear Time (g_c+I1), s		3.5		3.9		6.4		0.0				
Green Ext Time (p_c), s		1.8		0.6		2.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			4.9									
HCM 6th LOS			A									

Notes

User approved pedestrian interval to be less than phase max green.



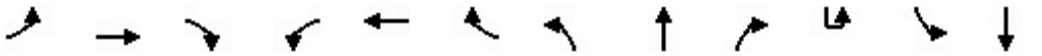
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	8	60	0	5	10	23	463	14	23	444	62
Future Volume (veh/h)	154	8	60	0	5	10	23	463	14	23	444	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	9	65	0	5	11	25	503	15	25	483	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	20	80	0	106	232	36	756	24	30	576	80
Arrive On Green	0.20	0.20	0.20	0.00	0.20	0.20	0.22	0.22	0.22	0.38	0.38	0.38
Sat Flow, veh/h	965	98	393	0	518	1139	163	3440	108	79	1534	213
Grp Volume(v), veh/h	241	0	0	0	0	16	285	0	258	575	0	0
Grp Sat Flow(s),veh/h/ln	1456	0	0	0	0	1657	1862	0	1849	1826	0	0
Q Serve(g_s), s	7.8	0.0	0.0	0.0	0.0	0.4	7.4	0.0	6.6	15.0	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	0.0	0.0	0.4	7.4	0.0	6.6	15.0	0.0	0.0
Prop In Lane	0.69		0.27	0.00		0.69	0.09		0.06	0.04		0.12
Lane Grp Cap(c), veh/h	413	0	0	0	0	338	409	0	406	686	0	0
V/C Ratio(X)	0.58	0.00	0.00	0.00	0.00	0.05	0.70	0.00	0.64	0.84	0.00	0.00
Avail Cap(c_a), veh/h	712	0	0	0	0	680	942	0	936	1621	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	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.8	0.0	0.0	0.0	0.0	16.8	18.8	0.0	18.5	14.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.6	1.1	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	2.6	0.0	0.0	0.0	0.0	0.1	3.0	0.0	2.7	5.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	0.0	0.0	0.0	16.8	19.6	0.0	19.1	16.0	0.0	0.0
LnGrp LOS	C	A	A	A	A	B	B	A	B	B	A	A
Approach Vol, veh/h		241			16			543			575	
Approach Delay, s/veh		20.3			16.8			19.4			16.0	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.0		14.2		23.2		14.2				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		21.5		46.5		21.5				
Max Q Clear Time (g_c+I1), s		9.4		10.3		17.0		2.4				
Green Ext Time (p_c), s		2.1		0.7		2.7		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	466	39	237	92	13	8	182	523	42	272	18
Future Volume (vph)	21	466	39	237	92	13	8	182	523	42	272	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Lane Util. Factor		0.95		1.00	1.00			1.00	0.88	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00			1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.99		1.00	0.98			1.00	0.85	1.00	0.99	
Flt Protected		1.00		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		2779		1413	1453			1484	2182	1413	1468	
Flt Permitted		1.00		0.95	1.00			0.98	1.00	0.52	1.00	
Satd. Flow (perm)		2779		1413	1453			1464	2182	777	1468	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	23	501	42	255	99	14	9	196	562	45	292	19
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	98	0	2	0
Lane Group Flow (vph)	0	560	0	255	108	0	0	205	464	45	309	0
Confl. Peds. (#/hr)			13			9			9			19
Confl. Bikes (#/hr)			2			1			2			7
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)		20.6		19.6	19.6			20.4	40.0	20.4	20.4	
Effective Green, g (s)		20.6		19.6	19.6			20.4	40.0	20.4	20.4	
Actuated g/C Ratio		0.29		0.28	0.28			0.29	0.57	0.29	0.29	
Clearance Time (s)		3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		810		392	403			423	1344	224	424	
v/s Ratio Prot		c0.20		c0.18	0.07				0.10		c0.21	
v/s Ratio Perm								0.14	0.12	0.06		
v/c Ratio		0.69		0.65	0.27			0.48	0.35	0.20	0.73	
Uniform Delay, d1		22.2		22.5	19.9			20.8	8.2	18.9	22.6	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.1		2.9	0.1			0.3	0.1	0.2	5.2	
Delay (s)		24.2		25.4	20.0			21.1	8.3	19.1	27.8	
Level of Service		C		C	C			C	A	B	C	
Approach Delay (s)		24.2			23.8			11.7			26.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	70.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



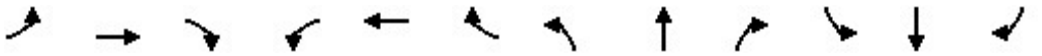
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	638	1	350	14	4	17	146	237	4	5	11	533
Future Volume (vph)	638	1	350	14	4	17	146	237	4	5	11	533
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.9			4.0	4.9
Lane Util. Factor	0.95	0.95			1.00		0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.89			0.93		1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99			0.98		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1222			1535		2740	2824			1535	2825
Flt Permitted	0.95	0.99			0.66		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1222			1028		2740	2824			1535	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	658	1	361	15	4	18	151	244	4	5	12	549
RTOR Reduction (vph)	0	86	0	0	17	0	0	1	0	0	0	0
Lane Group Flow (vph)	533	401	0	0	20	0	151	247	0	0	17	549
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	40.0	40.0			7.2		11.4	52.7			3.2	44.5
Effective Green, g (s)	40.0	40.0			7.2		11.4	52.7			3.2	44.5
Actuated g/C Ratio	0.33	0.33			0.06		0.10	0.44			0.03	0.37
Clearance Time (s)	4.0	4.0			4.0		4.0	4.9			4.0	4.9
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	447	407			61		260	1240			40	1047
v/s Ratio Prot	c0.40	0.33					c0.06	0.09			0.01	c0.19
v/s Ratio Perm					c0.02							
v/c Ratio	1.19	0.99			0.33		0.58	0.20			0.42	0.52
Uniform Delay, d1	40.0	39.7			54.1		52.0	20.7			57.5	29.5
Progression Factor	1.00	1.00			1.00		1.18	1.30			1.00	1.00
Incremental Delay, d2	106.8	40.3			1.2		2.1	0.3			2.6	1.9
Delay (s)	146.8	80.0			55.2		63.2	27.3			60.1	31.4
Level of Service	F	E			E		E	C			E	C
Approach Delay (s)		114.9			55.2			40.9				30.6
Approach LOS		F			E			D				C

Intersection Summary			
HCM 2000 Control Delay	71.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	211
Future Volume (vph)	211
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1224
Flt Permitted	1.00
Satd. Flow (perm)	1224
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	218
RTOR Reduction (vph)	137
Lane Group Flow (vph)	81
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	44.5
Effective Green, g (s)	44.5
Actuated g/C Ratio	0.37
Clearance Time (s)	4.9
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	453
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.18
Uniform Delay, d1	25.4
Progression Factor	1.00
Incremental Delay, d2	0.9
Delay (s)	26.3
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

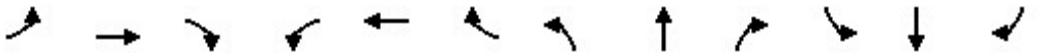


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	398	150	310	262	278	71	623	657	730	646	123
Future Volume (vph)	325	398	150	310	262	278	71	623	657	730	646	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)		3007		2717	1474	1253	1490	2981	1333	1421	2947	1317
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)		3007		2717	1474	1253	1490	2981	1333	1421	2947	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	342	419	158	326	276	293	75	656	692	768	680	129
RTOR Reduction (vph)	0	17	0	0	0	259	0	0	0	0	0	90
Lane Group Flow (vph)	0	902	0	326	276	34	75	656	692	468	980	39
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		35.1		12.0	12.0	12.0	14.0	14.0	69.1	27.0	27.0	27.0
Effective Green, g (s)		35.1		12.0	12.0	12.0	14.0	14.0	69.1	27.0	27.0	27.0
Actuated g/C Ratio		0.34		0.12	0.12	0.12	0.13	0.13	0.66	0.26	0.26	0.26
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		1013		313	169	144	200	400	884	368	764	341
v/s Ratio Prot		c0.30		0.12	c0.19		0.05	c0.22	0.52	0.33	c0.33	
v/s Ratio Perm						0.03						0.03
v/c Ratio		0.89		1.04	1.63	0.23	0.38	1.64	0.78	1.27	1.28	0.11
Uniform Delay, d1		32.7		46.0	46.0	41.9	41.1	45.0	12.2	38.5	38.5	29.4
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.9		62.1	310.1	0.8	0.9	299.1	4.4	142.0	137.1	0.1
Delay (s)		42.6		108.1	356.2	42.7	41.9	344.2	16.7	180.5	175.7	29.5
Level of Service		D		F	F	D	D	F	B	F	F	C
Approach Delay (s)		42.6			163.2			169.0			165.2	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	142.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	104.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



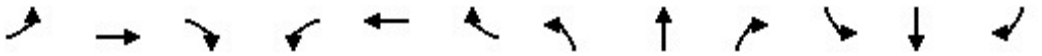
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	0	26	0	0	0	33	489	0	0	337	70
Future Volume (veh/h)	103	0	26	0	0	0	33	489	0	0	337	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	112	0	28	0	0	0	36	532	0	0	366	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	149	0	37	0	11	0	277	1399	0	0	635	132
Arrive On Green	0.11	0.00	0.11	0.00	0.00	0.00	0.42	0.42	0.00	0.00	0.42	0.42
Sat Flow, veh/h	1387	0	347	0	1870	0	98	3378	0	0	1495	310
Grp Volume(v), veh/h	140	0	0	0	0	0	303	265	0	0	0	442
Grp Sat Flow(s),veh/h/ln	1733	0	0	0	1870	0	1774	1617	0	0	0	1805
Q Serve(g_s), s	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.0	0.0	0.0	1.9	1.9	0.0	0.0	0.0	3.2
Prop In Lane	0.80		0.20	0.00		0.00	0.12		0.00	0.00		0.17
Lane Grp Cap(c), veh/h	186	0	0	0	11	0	989	687	0	0	0	767
V/C Ratio(X)	0.75	0.00	0.00	0.00	0.00	0.00	0.31	0.39	0.00	0.00	0.00	0.58
Avail Cap(c_a), veh/h	2129	0	0	0	1203	0	2826	2459	0	0	0	2745
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	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	0.0	0.0	0.0	3.4	3.4	0.0	0.0	0.0	3.7
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	0.0	0.0	0.0	0.0	0.0	3.4	3.5	0.0	0.0	0.0	4.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		140			0			568			442	
Approach Delay, s/veh		9.7			0.0			3.5			4.0	
Approach LOS		A						A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.3		5.8		11.3		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		21.0		26.0		11.0				
Max Q Clear Time (g_c+I1), s		3.9		3.3		5.2		0.0				
Green Ext Time (p_c), s		2.3		0.4		1.9		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			4.4									
HCM 6th LOS			A									

Notes

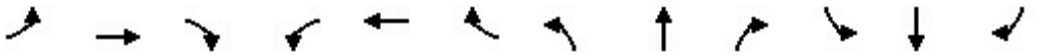
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	27	29	15	20	54	27	512	22	52	371	85
Future Volume (veh/h)	134	27	29	15	20	54	27	512	22	52	371	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	29	32	16	22	59	29	557	24	57	403	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	45	41	109	91	181	41	818	37	69	490	112
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.24	0.24	0.24	0.37	0.37	0.37
Sat Flow, veh/h	1031	256	235	144	520	1030	168	3380	153	186	1316	300
Grp Volume(v), veh/h	207	0	0	97	0	0	321	0	289	552	0	0
Grp Sat Flow(s),veh/h/ln	1523	0	0	1694	0	0	1862	0	1839	1802	0	0
Q Serve(g_s), s	3.7	0.0	0.0	0.0	0.0	0.0	7.9	0.0	7.1	13.9	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	2.5	0.0	0.0	7.9	0.0	7.1	13.9	0.0	0.0
Prop In Lane	0.71		0.15	0.16		0.61	0.09		0.08	0.10		0.17
Lane Grp Cap(c), veh/h	390	0	0	381	0	0	451	0	445	671	0	0
V/C Ratio(X)	0.53	0.00	0.00	0.25	0.00	0.00	0.71	0.00	0.65	0.82	0.00	0.00
Avail Cap(c_a), veh/h	749	0	0	785	0	0	950	0	938	1712	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	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.4	0.0	0.0	18.0	0.0	0.0	17.4	0.0	17.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	0.0	0.8	0.0	0.6	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.9	0.0	0.0	3.1	0.0	2.7	5.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	0.0	18.2	0.0	0.0	18.1	0.0	17.6	15.2	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	B	B	A	A
Approach Vol, veh/h		207			97			610			552	
Approach Delay, s/veh		19.8			18.2			17.9			15.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.6		12.3		22.1		12.3				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		25.5		21.5		47.5		21.5				
Max Q Clear Time (g_c+I1), s		9.9		8.3		15.9		4.5				
Green Ext Time (p_c), s		2.2		0.6		2.8		0.3				

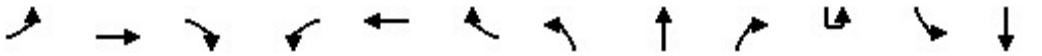
Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	211	28	468	286	36	26	257	445	40	230	68
Future Volume (vph)	28	211	28	468	286	36	26	257	445	40	230	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.88	1.00	1.00	
Frt	1.00	0.98		1.00	0.98			1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1830		1770	1832			1854	2787	1770	1799	
Flt Permitted	0.95	1.00		0.95	1.00			0.89	1.00	0.33	1.00	
Satd. Flow (perm)	1770	1830		1770	1832			1663	2787	622	1799	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	229	30	509	311	39	28	279	484	43	250	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	168	0	12	0
Lane Group Flow (vph)	30	254	0	509	346	0	0	307	316	43	312	0
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	15.0	15.0		28.2	28.2			19.0	47.2	19.0	19.0	
Effective Green, g (s)	15.0	15.0		28.2	28.2			19.0	47.2	19.0	19.0	
Actuated g/C Ratio	0.21	0.21		0.39	0.39			0.26	0.65	0.26	0.26	
Clearance Time (s)	3.5	3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	367	380		691	715			437	1957	163	473	
v/s Ratio Prot	0.02	c0.14		c0.29	0.19				0.06		0.17	
v/s Ratio Perm								c0.18	0.05	0.07		
v/c Ratio	0.08	0.67		0.74	0.48			0.70	0.16	0.26	0.66	
Uniform Delay, d1	23.0	26.3		18.8	16.5			24.0	4.8	21.1	23.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	3.4		3.5	0.2			4.2	0.0	0.3	2.7	
Delay (s)	23.1	29.8		22.4	16.7			28.2	4.9	21.4	26.4	
Level of Service	C	C		C	B			C	A	C	C	
Approach Delay (s)		29.1			20.1			13.9			25.8	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	347	4	256	10	3	13	392	530	17	5	27	733
Future Volume (vph)	347	4	256	10	3	13	392	530	17	5	27	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.6			4.0	4.6
Lane Util. Factor	0.95	0.95			1.00		0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.98			1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.87			0.93		1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99			0.98		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1201			1533		2740	2822			1563	2825
Flt Permitted	0.95	0.99			0.73		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1201			1148		2740	2822			1563	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	358	4	264	11	3	14	404	546	18	5	29	756
RTOR Reduction (vph)	0	182	0	0	14	0	0	1	0	0	0	0
Lane Group Flow (vph)	322	122	0	0	14	0	404	563	0	0	34	756
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	32.0	32.0			4.5		16.6	71.7			5.2	60.3
Effective Green, g (s)	32.0	32.0			4.5		16.6	71.7			5.2	60.3
Actuated g/C Ratio	0.25	0.25			0.03		0.13	0.55			0.04	0.46
Clearance Time (s)	4.0	4.0			4.0		4.0	4.6			4.0	4.6
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	330	295			39		349	1556			62	1310
v/s Ratio Prot	c0.24	0.10					c0.15	0.20			0.02	c0.27
v/s Ratio Perm					c0.01							
v/c Ratio	0.98	0.41			0.37		1.16	0.36			0.55	0.58
Uniform Delay, d1	48.6	41.1			61.4		56.7	16.3			61.2	25.5
Progression Factor	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	42.5	0.3			2.2		98.3	0.7			5.2	1.9
Delay (s)	91.1	41.5			63.5		155.0	17.0			66.5	27.4
Level of Service	F	D			E		F	B			E	C
Approach Delay (s)		67.0			63.5			74.6				27.4
Approach LOS		E			E			E				C

Intersection Summary			
HCM 2000 Control Delay	52.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	449
Future Volume (vph)	449
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1222
Flt Permitted	1.00
Satd. Flow (perm)	1222
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	463
RTOR Reduction (vph)	248
Lane Group Flow (vph)	215
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	60.3
Effective Green, g (s)	60.3
Actuated g/C Ratio	0.46
Clearance Time (s)	4.6
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	566
v/s Ratio Prot	
v/s Ratio Perm	0.18
v/c Ratio	0.38
Uniform Delay, d1	22.7
Progression Factor	1.00
Incremental Delay, d2	1.9
Delay (s)	24.6
Level of Service	C
Approach Delay (s)	
Approach LOS	

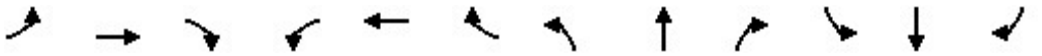
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	289	105	134	989	363	978	71	446	748	167	718	180
Future Volume (vph)	289	105	134	989	363	978	71	446	748	167	718	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2957		3090	1676	1425	1577	3154	1411	1408	2961	1271
Flt Permitted		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2957		3090	1676	1425	1577	3154	1411	1408	2961	1271
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	301	109	140	1030	378	1019	74	465	779	174	748	188
RTOR Reduction (vph)	0	29	0	0	0	392	0	0	0	0	0	146
Lane Group Flow (vph)	0	521	0	1030	378	627	74	465	779	157	765	42
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		33.1		30.9	30.9	30.9	13.0	13.0	85.0	27.0	27.0	27.0
Effective Green, g (s)		33.1		30.9	30.9	30.9	13.0	13.0	85.0	27.0	27.0	27.0
Actuated g/C Ratio		0.28		0.26	0.26	0.26	0.11	0.11	0.71	0.22	0.22	0.22
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		815		795	431	366	170	341	999	316	666	285
v/s Ratio Prot		0.18		0.33	0.23		0.05	c0.15	c0.55	0.11	c0.26	
v/s Ratio Perm						c0.44						0.03
v/c Ratio		0.64		1.30	0.88	1.71	0.44	1.36	0.78	0.50	1.15	0.15
Uniform Delay, d1		38.2		44.6	42.7	44.6	50.1	53.5	11.4	40.6	46.5	37.3
Progression Factor		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.44
Incremental Delay, d2		1.4		142.3	17.8	332.3	1.3	181.5	3.8	5.4	83.4	1.1
Delay (s)		39.0		186.8	60.6	376.8	51.4	235.0	15.2	47.5	131.6	54.8
Level of Service		D		F	E	F	D	F	B	D	F	D
Approach Delay (s)		39.0			246.9			94.8			106.7	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	159.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.4%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



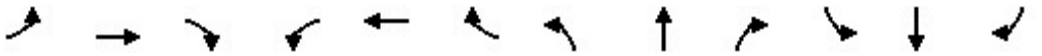
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	2	38	2	2	37	18	383	3	47	378	103
Future Volume (veh/h)	122	2	38	2	2	37	18	383	3	47	378	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	2	41	2	2	40	20	416	3	51	411	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	3	56	3	3	61	36	1260	9	78	526	143
Arrive On Green	0.14	0.14	0.14	0.04	0.04	0.04	0.02	0.35	0.35	0.04	0.37	0.37
Sat Flow, veh/h	1307	20	403	73	73	1451	1781	3616	26	1781	1413	385
Grp Volume(v), veh/h	176	0	0	44	0	0	20	204	215	51	0	523
Grp Sat Flow(s),veh/h/ln	1729	0	0	1596	0	0	1781	1777	1865	1781	0	1798
Q Serve(g_s), s	3.7	0.0	0.0	1.0	0.0	0.0	0.4	3.2	3.2	1.1	0.0	9.7
Cycle Q Clear(g_c), s	3.7	0.0	0.0	1.0	0.0	0.0	0.4	3.2	3.2	1.1	0.0	9.7
Prop In Lane	0.76		0.23	0.05		0.91	1.00		0.01	1.00		0.21
Lane Grp Cap(c), veh/h	240	0	0	67	0	0	36	619	650	78	0	669
V/C Ratio(X)	0.73	0.00	0.00	0.66	0.00	0.00	0.56	0.33	0.33	0.65	0.00	0.78
Avail Cap(c_a), veh/h	968	0	0	468	0	0	190	1232	1294	190	0	1247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	0.0	17.7	0.0	0.0	18.2	9.0	9.0	17.6	0.0	10.4
Incr Delay (d2), s/veh	1.6	0.0	0.0	4.0	0.0	0.0	13.0	0.1	0.1	8.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.4	0.0	0.0	0.3	1.0	1.0	0.6	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	0.0	0.0	21.7	0.0	0.0	31.2	9.1	9.1	26.4	0.0	11.2
LnGrp LOS	B	A	A	C	A	A	C	A	A	C	A	B
Approach Vol, veh/h		176			44			439			574	
Approach Delay, s/veh		17.1			21.7			10.1			12.5	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	17.1		9.2	4.8	18.0		5.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	26.0		21.0	4.0	26.0		11.0				
Max Q Clear Time (g_c+I1), s	3.1	5.2		5.7	2.4	11.7		3.0				
Green Ext Time (p_c), s	0.0	1.6		0.5	0.0	2.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		12.7
HCM 6th LOS		B

Notes

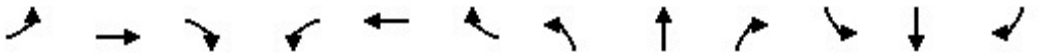
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	8	62	0	5	10	25	538	14	23	539	62
Future Volume (veh/h)	154	8	62	0	5	10	25	538	14	23	539	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	9	67	0	5	11	27	585	15	25	586	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	24	87	0	111	244	171	1759	45	43	720	82
Arrive On Green	0.21	0.21	0.21	0.00	0.21	0.21	0.10	0.50	0.50	0.02	0.44	0.44
Sat Flow, veh/h	948	113	404	0	518	1140	1781	3539	91	1781	1646	188
Grp Volume(v), veh/h	243	0	0	0	0	16	27	293	307	25	0	653
Grp Sat Flow(s),veh/h/ln	1465	0	0	0	0	1658	1781	1777	1853	1781	0	1835
Q Serve(g_s), s	6.0	0.0	0.0	0.0	0.0	0.3	0.6	4.1	4.1	0.6	0.0	12.9
Cycle Q Clear(g_c), s	6.5	0.0	0.0	0.0	0.0	0.3	0.6	4.1	4.1	0.6	0.0	12.9
Prop In Lane	0.69		0.28	0.00		0.69	1.00		0.05	1.00		0.10
Lane Grp Cap(c), veh/h	460	0	0	0	0	355	171	883	921	43	0	802
V/C Ratio(X)	0.53	0.00	0.00	0.00	0.00	0.05	0.16	0.33	0.33	0.58	0.00	0.81
Avail Cap(c_a), veh/h	1212	0	0	0	0	1216	236	2500	2607	214	0	2581
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	0.0	0.0	0.0	13.0	17.2	6.3	6.3	20.1	0.0	10.2
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	11.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.0	0.0	0.1	0.2	1.1	1.2	0.4	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	0.0	0.0	0.0	13.0	17.4	6.4	6.4	31.9	0.0	11.0
LnGrp LOS	B	A	A	A	A	B	B	A	A	C	A	B
Approach Vol, veh/h		243			16			627			678	
Approach Delay, s/veh		15.7			13.0			6.9			11.8	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	24.2		12.4	7.5	21.7		12.4				
Change Period (Y+Rc), s	4.0	3.5		3.5	3.5	3.5		3.5				
Max Green Setting (Gmax), s	5.0	58.5		30.5	5.5	58.5		30.5				
Max Q Clear Time (g_c+I1), s	2.6	6.1		8.5	2.6	14.9		2.3				
Green Ext Time (p_c), s	0.0	2.7		0.9	0.0	3.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	466	39	293	92	13	8	211	569	42	311	18
Future Volume (vph)	21	466	39	293	92	13	8	211	569	42	311	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Lane Util. Factor		0.95		1.00	1.00			1.00	0.88	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00			1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.99		1.00	0.98			1.00	0.85	1.00	0.99	
Flt Protected		1.00		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		2779		1413	1452			1484	2180	1413	1470	
Flt Permitted		1.00		0.95	1.00			0.99	1.00	0.48	1.00	
Satd. Flow (perm)		2779		1413	1452			1466	2180	710	1470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	23	501	42	315	99	14	9	227	612	45	334	19
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	70	0	2	0
Lane Group Flow (vph)	0	560	0	315	108	0	0	236	542	45	351	0
Confl. Peds. (#/hr)			13			9			9			19
Confl. Bikes (#/hr)			2			1			2			7
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)		21.4		23.4	23.4			24.0	47.4	24.0	24.0	
Effective Green, g (s)		21.4		23.4	23.4			24.0	47.4	24.0	24.0	
Actuated g/C Ratio		0.27		0.30	0.30			0.30	0.60	0.30	0.30	
Clearance Time (s)		3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		754		419	431			446	1408	216	447	
v/s Ratio Prot		c0.20		c0.22	0.07				0.11		c0.24	
v/s Ratio Perm								0.16	0.13	0.06		
v/c Ratio		0.74		0.75	0.25			0.53	0.38	0.21	0.79	
Uniform Delay, d1		26.2		25.1	21.0			22.7	8.1	20.3	25.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.5		6.6	0.1			0.5	0.1	0.2	8.1	
Delay (s)		29.7		31.7	21.2			23.2	8.2	20.5	33.2	
Level of Service		C		C	C			C	A	C	C	
Approach Delay (s)		29.7			28.9			12.4			31.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

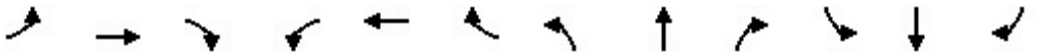
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	655	1	379	14	4	17	183	237	4	5	11	533
Future Volume (vph)	655	1	379	14	4	17	183	237	4	5	11	533
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.9			4.0	4.9
Lane Util. Factor	0.95	0.95			1.00		0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.98			1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.88			0.93		1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99			0.98		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1217			1535		2740	2824			1535	2825
Flt Permitted	0.95	0.99			0.65		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1217			1015		2740	2824			1535	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	675	1	391	15	4	18	189	244	4	5	12	549
RTOR Reduction (vph)	0	101	0	0	17	0	0	1	0	0	0	0
Lane Group Flow (vph)	560	406	0	0	20	0	189	247	0	0	17	549
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	40.0	40.0			7.2		11.4	52.7			3.2	44.5
Effective Green, g (s)	40.0	40.0			7.2		11.4	52.7			3.2	44.5
Actuated g/C Ratio	0.33	0.33			0.06		0.10	0.44			0.03	0.37
Clearance Time (s)	4.0	4.0			4.0		4.0	4.9			4.0	4.9
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	447	405			60		260	1240			40	1047
v/s Ratio Prot	c0.42	0.33					c0.07	0.09			0.01	c0.19
v/s Ratio Perm					c0.02							
v/c Ratio	1.25	1.00			0.33		0.73	0.20			0.42	0.52
Uniform Delay, d1	40.0	40.0			54.1		52.8	20.7			57.5	29.5
Progression Factor	1.00	1.00			1.00		1.16	1.28			1.00	1.00
Incremental Delay, d2	131.1	45.1			1.2		8.1	0.4			2.6	1.9
Delay (s)	171.1	85.1			55.3		69.5	26.8			60.1	31.4
Level of Service	F	F			E		E	C			E	C
Approach Delay (s)		130.2			55.3			45.3				30.6
Approach LOS		F			E			D				C

Intersection Summary			
HCM 2000 Control Delay	79.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	230
Future Volume (vph)	230
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1224
Flt Permitted	1.00
Satd. Flow (perm)	1224
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	237
RTOR Reduction (vph)	149
Lane Group Flow (vph)	88
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	44.5
Effective Green, g (s)	44.5
Actuated g/C Ratio	0.37
Clearance Time (s)	4.9
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	453
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.19
Uniform Delay, d1	25.6
Progression Factor	1.00
Incremental Delay, d2	1.0
Delay (s)	26.5
Level of Service	C
Approach Delay (s)	
Approach LOS	

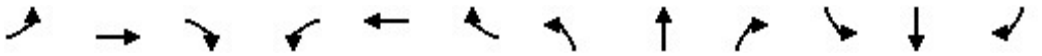
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	402	150	315	267	278	71	636	661	730	662	138
Future Volume (vph)	337	402	150	315	267	278	71	636	661	730	662	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)		3008		2717	1474	1253	1490	2981	1333	1421	2949	1317
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)		3008		2717	1474	1253	1490	2981	1333	1421	2949	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	355	423	158	332	281	293	75	669	696	768	697	145
RTOR Reduction (vph)	0	17	0	0	0	259	0	0	0	0	0	101
Lane Group Flow (vph)	0	919	0	332	281	34	75	669	696	476	989	44
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		35.3		12.0	12.0	12.0	14.0	14.0	69.3	27.0	27.0	27.0
Effective Green, g (s)		35.3		12.0	12.0	12.0	14.0	14.0	69.3	27.0	27.0	27.0
Actuated g/C Ratio		0.34		0.12	0.12	0.12	0.13	0.13	0.66	0.26	0.26	0.26
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		1018		312	169	144	200	400	885	367	763	340
v/s Ratio Prot		c0.31		0.12	c0.19		0.05	c0.22	0.52	0.33	c0.34	
v/s Ratio Perm						0.03						0.03
v/c Ratio		0.90		1.06	1.66	0.23	0.38	1.67	0.79	1.30	1.30	0.13
Uniform Delay, d1		32.9		46.1	46.1	42.0	41.2	45.1	12.3	38.6	38.6	29.6
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		11.1		68.9	322.9	0.8	0.9	313.4	4.5	152.4	142.9	0.1
Delay (s)		43.9		115.1	369.1	42.8	42.0	358.6	16.8	191.1	181.6	29.7
Level of Service		D		F	F	D	D	F	B	F	F	C
Approach Delay (s)		43.9			170.5			176.9			170.7	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	148.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	2	26	3	2	44	33	491	2	33	339	70
Future Volume (veh/h)	103	2	26	3	2	44	33	491	2	33	339	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	2	28	3	2	48	36	534	2	36	368	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	3	38	4	3	69	60	1220	5	60	503	104
Arrive On Green	0.11	0.11	0.11	0.05	0.05	0.05	0.03	0.34	0.34	0.03	0.34	0.34
Sat Flow, veh/h	1371	24	343	91	60	1450	1781	3631	14	1781	1496	309
Grp Volume(v), veh/h	142	0	0	53	0	0	36	261	275	36	0	444
Grp Sat Flow(s),veh/h/ln	1738	0	0	1601	0	0	1781	1777	1868	1781	0	1805
Q Serve(g_s), s	2.7	0.0	0.0	1.1	0.0	0.0	0.7	3.9	3.9	0.7	0.0	7.4
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.1	0.0	0.0	0.7	3.9	3.9	0.7	0.0	7.4
Prop In Lane	0.79		0.20	0.06		0.91	1.00		0.01	1.00		0.17
Lane Grp Cap(c), veh/h	193	0	0	76	0	0	60	597	628	60	0	606
V/C Ratio(X)	0.74	0.00	0.00	0.69	0.00	0.00	0.60	0.44	0.44	0.60	0.00	0.73
Avail Cap(c_a), veh/h	1076	0	0	519	0	0	210	1361	1431	210	0	1382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	15.9	0.0	0.0	16.2	8.8	8.8	16.2	0.0	9.9
Incr Delay (d2), s/veh	2.1	0.0	0.0	4.2	0.0	0.0	9.0	0.2	0.2	9.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.4	0.0	0.0	0.4	1.1	1.1	0.4	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	0.0	20.1	0.0	0.0	25.2	9.0	9.0	25.2	0.0	10.6
LnGrp LOS	B	A	A	C	A	A	C	A	A	C	A	B
Approach Vol, veh/h		142			53			572			480	
Approach Delay, s/veh		16.7			20.1			10.0			11.7	
Approach LOS		B			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	15.4		7.8	5.2	15.4		5.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	26.0		21.0	4.0	26.0		11.0				
Max Q Clear Time (g_c+I1), s	2.7	5.9		4.7	2.7	9.4		3.1				
Green Ext Time (p_c), s	0.0	2.0		0.4	0.0	1.8		0.1				

Intersection Summary		
HCM 6th Ctrl Delay	11.8	
HCM 6th LOS	B	

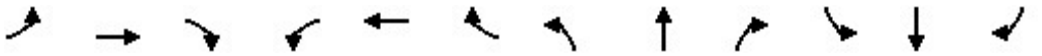
Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	27	31	15	20	54	29	600	22	52	437	85
Future Volume (veh/h)	134	27	31	15	20	54	29	600	22	52	437	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	29	34	16	22	59	32	652	24	57	475	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	52	47	144	99	197	197	1591	59	86	618	120
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.46	0.46	0.05	0.41	0.41
Sat Flow, veh/h	996	270	246	145	512	1021	1781	3494	129	1781	1519	294
Grp Volume(v), veh/h	209	0	0	97	0	0	32	331	345	57	0	567
Grp Sat Flow(s),veh/h/ln	1512	0	0	1678	0	0	1781	1777	1846	1781	0	1813
Q Serve(g_s), s	2.7	0.0	0.0	0.0	0.0	0.0	0.6	4.5	4.5	1.1	0.0	9.8
Cycle Q Clear(g_c), s	4.5	0.0	0.0	1.8	0.0	0.0	0.6	4.5	4.5	1.1	0.0	9.8
Prop In Lane	0.70		0.16	0.16		0.61	1.00		0.07	1.00		0.16
Lane Grp Cap(c), veh/h	460	0	0	439	0	0	197	809	840	86	0	738
V/C Ratio(X)	0.45	0.00	0.00	0.22	0.00	0.00	0.16	0.41	0.41	0.66	0.00	0.77
Avail Cap(c_a), veh/h	1377	0	0	1471	0	0	271	2578	2677	541	0	2931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	12.5	0.0	0.0	14.6	6.6	6.6	16.9	0.0	9.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	8.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.6	0.0	0.0	0.2	1.1	1.1	0.6	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	0.0	12.6	0.0	0.0	14.7	6.7	6.7	25.4	0.0	9.9
LnGrp LOS	B	A	A	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		209			97			708			624	
Approach Delay, s/veh		13.7			12.6			7.1			11.3	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	20.0		10.5	7.5	18.2		10.5				
Change Period (Y+Rc), s	4.0	3.5		3.5	3.5	3.5		3.5				
Max Green Setting (Gmax), s	11.0	52.5		30.5	5.5	58.5		30.5				
Max Q Clear Time (g_c+I1), s	3.1	6.5		6.5	2.6	11.8		3.8				
Green Ext Time (p_c), s	0.1	2.9		0.8	0.0	2.9		0.3				

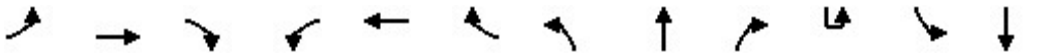
Intersection Summary			
HCM 6th Ctrl Delay		9.9	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	211	28	508	286	36	26	291	499	40	256	68
Future Volume (vph)	28	211	28	508	286	36	26	291	499	40	256	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.88	1.00	1.00	
Frt	1.00	0.98		1.00	0.98			1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1830		1770	1832			1855	2787	1770	1804	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.34	1.00	
Satd. Flow (perm)	1770	1830		1770	1832			1781	2787	635	1804	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	229	30	552	311	39	28	316	542	43	278	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	150	0	9	0
Lane Group Flow (vph)	30	254	0	552	346	0	0	344	392	43	343	0
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	1		2	2			4	2		4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	16.2	16.2		31.6	31.6			27.7	59.3	27.7	27.7	
Effective Green, g (s)	16.2	16.2		31.6	31.6			27.7	59.3	27.7	27.7	
Actuated g/C Ratio	0.19	0.19		0.37	0.37			0.32	0.69	0.32	0.32	
Clearance Time (s)	3.5	3.5		3.5	3.5			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	335	346		654	677			577	2047	205	584	
v/s Ratio Prot	0.02	c0.14		c0.31	0.19				0.07		0.19	
v/s Ratio Perm								c0.19	0.07	0.07		
v/c Ratio	0.09	0.73		0.84	0.51			0.60	0.19	0.21	0.59	
Uniform Delay, d1	28.6	32.6		24.7	20.9			24.2	4.6	21.0	24.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	6.8		9.4	0.3			1.1	0.0	0.2	1.0	
Delay (s)	28.6	39.4		34.0	21.2			25.3	4.6	21.1	25.1	
Level of Service	C	D		C	C			C	A	C	C	
Approach Delay (s)		38.3			29.1			12.7			24.7	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



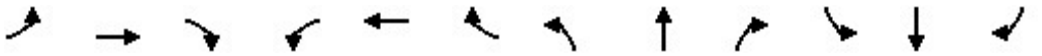
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	367	4	290	10	3	13	418	530	17	5	27	733
Future Volume (vph)	367	4	290	10	3	13	418	530	17	5	27	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.9			4.0	4.9
Lane Util. Factor	0.95	0.95			1.00		0.97	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.98			1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.87			0.93		1.00	1.00			1.00	1.00
Flt Protected	0.95	0.99			0.98		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1342	1200			1533		2740	2822			1563	2825
Flt Permitted	0.95	0.99			0.74		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1342	1200			1151		2740	2822			1563	2825
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.97	0.92	0.97
Adj. Flow (vph)	378	4	299	11	3	14	431	546	18	5	29	756
RTOR Reduction (vph)	0	198	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	340	143	0	0	15	0	431	563	0	0	34	756
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	15%	2%	15%	2%	2%	2%	15%	15%	2%	15%	2%	15%
Turn Type	Split	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases	4	4			8		1	6		5	5	2
Permitted Phases				8								
Actuated Green, G (s)	32.0	32.0			7.2		16.6	68.5			5.4	57.3
Effective Green, g (s)	32.0	32.0			7.2		16.6	68.5			5.4	57.3
Actuated g/C Ratio	0.25	0.25			0.06		0.13	0.53			0.04	0.44
Clearance Time (s)	4.0	4.0			4.0		4.0	4.9			4.0	4.9
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	330	295			63		349	1486			64	1245
v/s Ratio Prot	c0.25	0.12					c0.16	0.20			0.02	c0.27
v/s Ratio Perm					c0.01							
v/c Ratio	1.03	0.49			0.23		1.23	0.38			0.53	0.61
Uniform Delay, d1	49.0	42.0			58.8		56.7	18.2			61.1	27.8
Progression Factor	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	57.6	0.5			0.7		128.1	0.7			4.2	2.2
Delay (s)	106.6	42.4			59.5		184.8	18.9			65.2	30.0
Level of Service	F	D			E		F	B			E	C
Approach Delay (s)		74.4			59.5			90.8				29.7
Approach LOS		E			E			F				C

Intersection Summary			
HCM 2000 Control Delay	60.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	463
Future Volume (vph)	463
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.9
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1222
Flt Permitted	1.00
Satd. Flow (perm)	1222
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	477
RTOR Reduction (vph)	267
Lane Group Flow (vph)	210
Confl. Peds. (#/hr)	12
Heavy Vehicles (%)	15%
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	57.3
Effective Green, g (s)	57.3
Actuated g/C Ratio	0.44
Clearance Time (s)	4.9
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	538
v/s Ratio Prot	
v/s Ratio Perm	0.17
v/c Ratio	0.39
Uniform Delay, d1	24.6
Progression Factor	1.00
Incremental Delay, d2	2.1
Delay (s)	26.7
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary



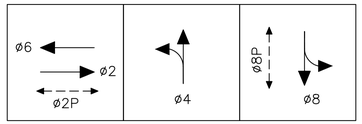
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	303	110	134	992	367	978	71	461	753	167	729	191
Future Volume (vph)	303	110	134	992	367	978	71	461	753	167	729	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2964		3090	1676	1425	1577	3154	1411	1408	2961	1273
Flt Permitted		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2964		3090	1676	1425	1577	3154	1411	1408	2961	1273
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	316	115	140	1033	382	1019	74	480	784	174	759	199
RTOR Reduction (vph)	0	27	0	0	0	395	0	0	0	0	0	153
Lane Group Flow (vph)	0	544	0	1033	382	624	74	480	784	157	776	46
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		33.1		28.1	28.1	28.1	13.0	13.0	82.2	27.1	27.1	27.1
Effective Green, g (s)		33.1		28.1	28.1	28.1	13.0	13.0	82.2	27.1	27.1	27.1
Actuated g/C Ratio		0.28		0.24	0.24	0.24	0.11	0.11	0.70	0.23	0.23	0.23
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		836		740	401	341	174	349	988	325	684	294
v/s Ratio Prot		0.18		0.33	0.23		0.05	c0.15	c0.56	0.11	c0.26	
v/s Ratio Perm						c0.44						0.04
v/c Ratio		0.65		1.40	0.95	1.83	0.43	1.38	0.79	0.48	1.13	0.16
Uniform Delay, d1		37.0		44.6	43.9	44.6	48.7	52.1	11.8	39.0	45.1	36.0
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.6		186.4	32.7	385.2	1.2	186.1	4.3	0.4	77.8	0.1
Delay (s)		38.7		231.0	76.7	429.8	49.9	238.2	16.1	39.5	122.9	36.1
Level of Service		D		F	E	F	D	F	B	D	F	D
Approach Delay (s)		38.7			290.0			97.7			96.1	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	176.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	117.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.0%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

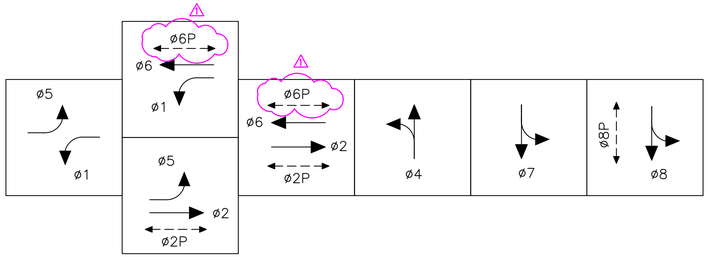
Appendix C

Conceptual Signal Modification Plans



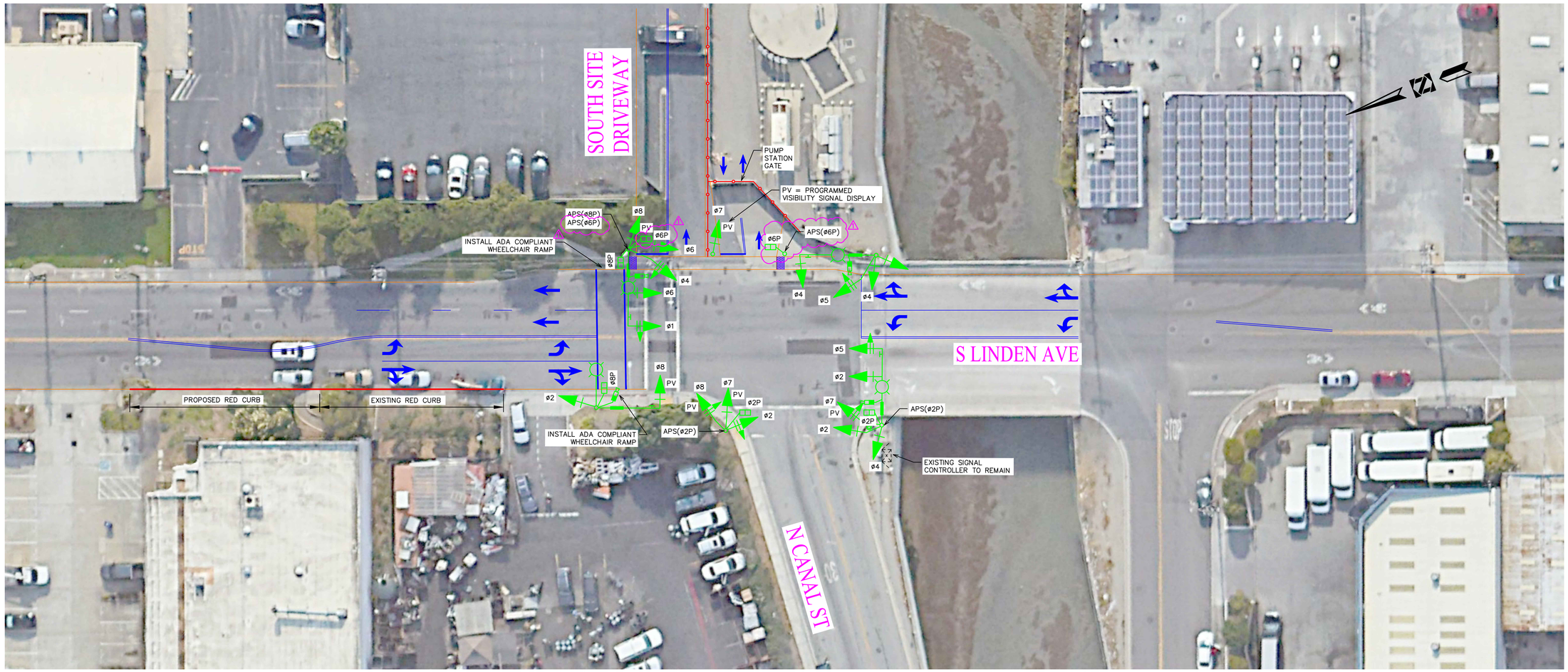
STEADY DEMAND SEQUENCE

EXISTING PHASE DIAGRAM



STEADY DEMAND SEQUENCE

PROPOSED PHASE DIAGRAM



CONCEPT
PLAN
NOT FOR CONSTRUCTION

GRAPHIC SCALE

20 0 10 20 40 80

1 INCH = 20 FEET

DRAWN	DESIGNED	SCALE 1"=20'
CHECKED	DATE	
APPROVED		
ENGINEER	DATE	CONTRACT NO.

PREPARED BY:

Hexagon Transportation Consultants, Inc.

5776 Stoneridge Mall Road, Suite 175
Pleasanton, California 94588
Ph: (925) 225-1439

REVISIONS

NO.	DATE	BY	DESCRIPTION	APPR.	DATE
1			ADDED PEDESTRIAN SIGNAL PHASE		

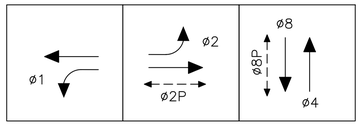
CITY OF SOUTH SAN FRANCISCO

CONCEPTUAL TRAFFIC SIGNAL MODIFICATION
AT
SOUTH LINDEN AVENUE & NORTH CANAL STREET

PREPARED FOR: CITY OF SOUTH SAN FRANCISCO

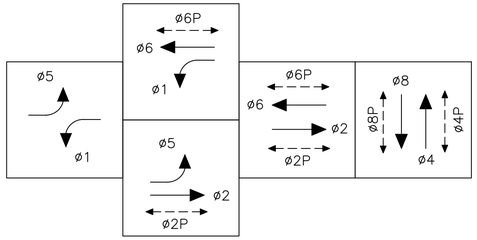
DRAWING NO.

EX-1



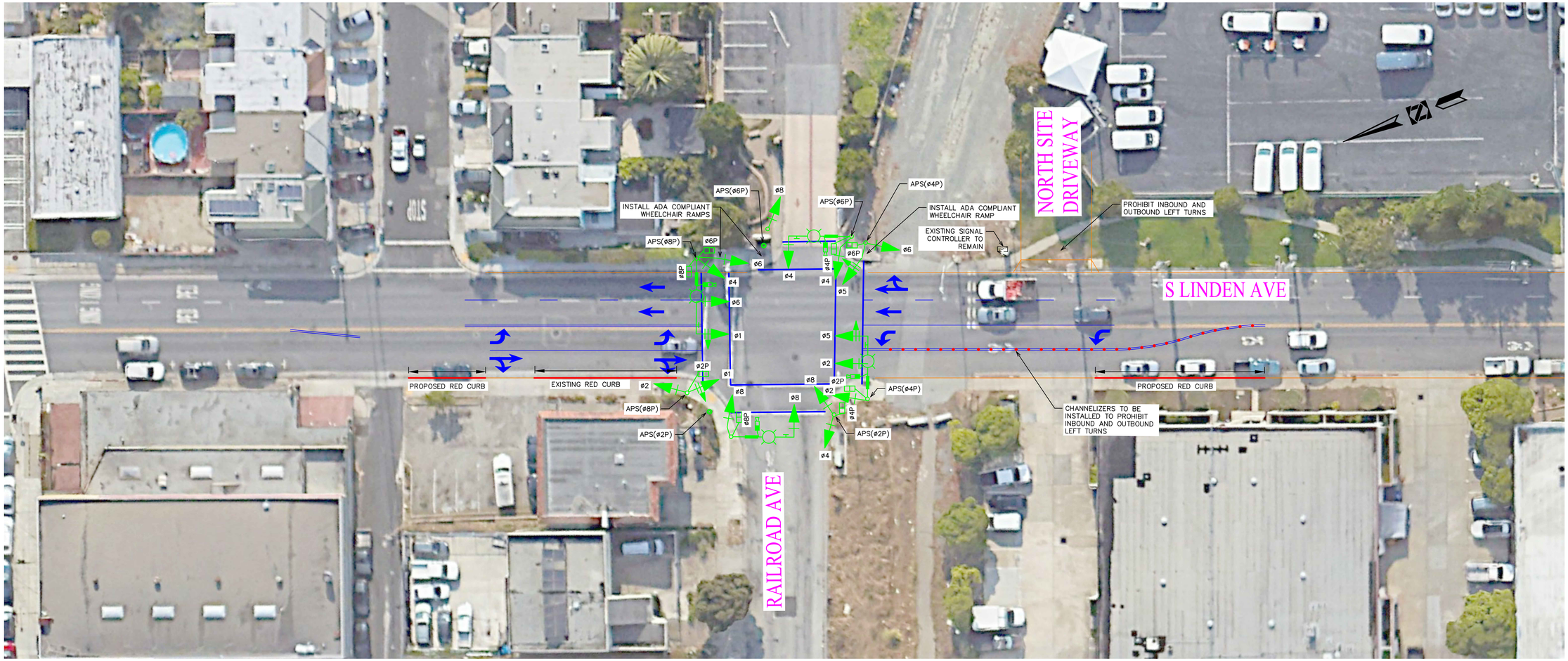
STEADY DEMAND SEQUENCE

EXISTING PHASE DIAGRAM



STEADY DEMAND SEQUENCE

PROPOSED PHASE DIAGRAM



CONCEPT
PLAN
NOT FOR CONSTRUCTION

GRAPHIC SCALE

20 0 10 20 40 80

1 INCH = 20 FEET

DRAWN	DESIGNED	SCALE 1"=20'
CHECKED	DATE	
APPROVED		
ENGINEER	DATE	CONTRACT NO.

PREPARED BY:

Hexagon Transportation Consultants, Inc.
5776 Stoneridge Mall Road, Suite 175
Pleasanton, California 94588
Ph: (925) 225-1439

REVISIONS

NO.	DATE	BY	DESCRIPTION	APPR.	DATE

CITY OF SOUTH SAN FRANCISCO

CONCEPTUAL TRAFFIC SIGNAL MODIFICATION
AT
SOUTH LINDEN AVENUE & RAILROAD AVENUE

PREPARED FOR: CITY OF SOUTH SAN FRANCISCO

DRAWING NO.

EX-2

SHEET 2 OF 2

Appendix D

Parking Stackers Spec Sheets

DE PARK

THE NEW EASE OF PARKING

data sheet DE-61

DE-61 is our independent parking-system without a pit. Our semi-automatic system offers a high standard of comfort from the ahead of time control panel, through the easy access to the parking space.

D2

EASY TO PLAN with space saving construction.

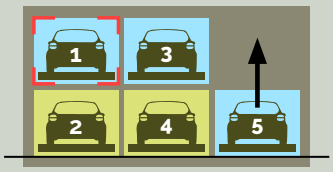
EASY TO INSTALL with minimized parts construction.

EASY TO USE due to barrier free construction.

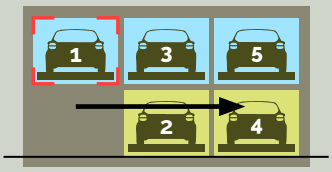
1. THE FUNCTIONALITY OF DE-PARK DIGITAL

Our Digital Series have a combination of lifting and sliding platforms. There is one sliding platform less than lifting platforms per system. A system with up to 10 segments and 19 parking spaces is possible.
You can choose your parking space with one touch at the control panel.

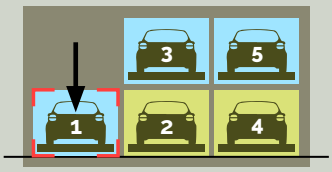
The example shows 3 grids with 5 parking places: 1 empty space is needed for the movement.



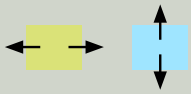
A) To get your parking space N°1 to the ground floor parking space N°5 lifts to the top position ...



B) A horizontal movement to the right by the sliding places N°2 and N°4 is followed ...



C) After the platforms reach their defined positions your lifting platform N°1 is lowered to the entrance level.

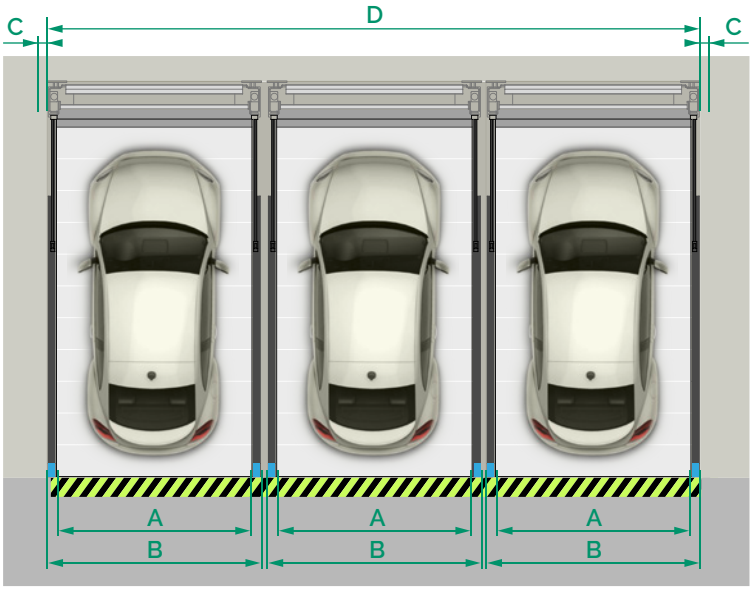


2. WIDTH OF PARKING SPACE / SYSTEM (IN CM)

A = parking width
B = segment width
C = additional Space
D = system width [1*]

[1*] Tolerance of dimensions on the construction site = 0 to + 3 cm

Parking width	Segment width	Additional space
A	B	C
230	250	10
240	260	10
250	270	10
260	280	10
270	290	10



Parking width A	System width D	System width D	System width D	System width D	System width D	System width D	System width D	System width D	System width D
	2 seg. 3 cars	3 seg. 5 cars	4 seg. 7 cars	5 seg. 9 cars	6 seg. 11 cars	7 seg. 13 cars	8 seg. 15 cars	9 seg. 17 cars	10 seg. 19 cars
230	520	770	1020	1270	1520	1770	2020	2270	2520
240	540	800	1060	1320	1580	1840	2100	2360	2620
250	560	830	1100	1370	1640	1910	2180	2450	2720
260	580	860	1140	1420	1700	1980	2260	2540	2820
270	600	890	1180	1470	1760	2050	2340	2630	2920

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3. PILLARS IN FRONT OF THE PARKING AREA

A	outer seg.	inner seg.
230	250	230
240	260	240
250	270	250
260	280	260
270	290	270

min.20

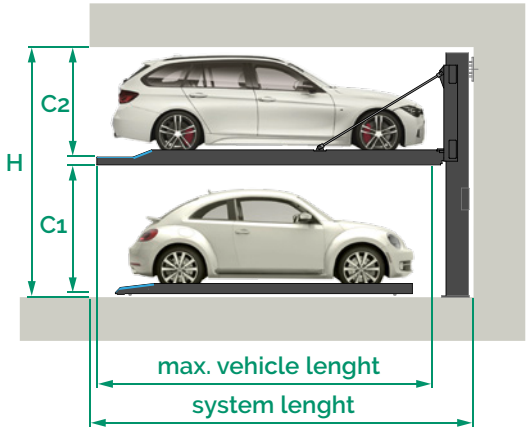
A	outer seg.	inner seg.	inner seg.	inner seg.
230	500		480	
240	520		500	
250	540		520	
260	560		540	
270	580		560	

min.20

A	outer seg.	inner seg.	inner seg.	inner seg.	inner seg.	inner seg.
230	750			730		
240	780			760		
250	810			790		
260	840			820		
270	870			840		

min.20

4. DIMENSIONS (IN CM)

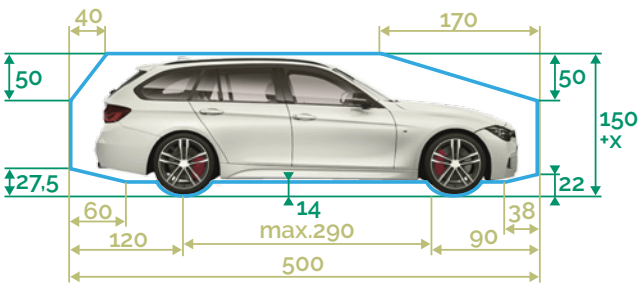


H = clear height
C1/C2 = vehicle height bottom / top [2*]

H	C1	C2		C1	C2		C1	C2
330	150	150		–			–	
340	160	150		–			–	
350	170	150	or	160	160		–	
360	180	150	or	170	160		–	
370	190	150	or	180	160	or	170	170
380	200	150	or	190	160	or	180	170

[2*] The vehicle height with roof rails, antenna and other height increases must not exceed the listed max. vehicle heights.

5. TECHNICAL DATA



Height
In areas with higher ceilings, taller vehicles can be parked on the top platform accordingly.

System length
For a 500 cm car length a 545 cm system length is necessary. A system length of 560 cm is recommended. This enables larger safety distances, if newer, longer vehicles are purchased.

Dimensions
- All dimensions are minimum finished dimensions in cm.
- Allow for tolerances to VOB Part C (DIN 18330, 18331) and additionally DIN 18202 (+ 30 mm / 0 mm).
- In case of partition walls 15x15 cm opening for hydraulik pipes are necessary in the walls. Do not close the opening after the installation.

Maximum vehicle weight
- 2000kg / 500kg wheel load
- 2600kg / 650kg wheel load

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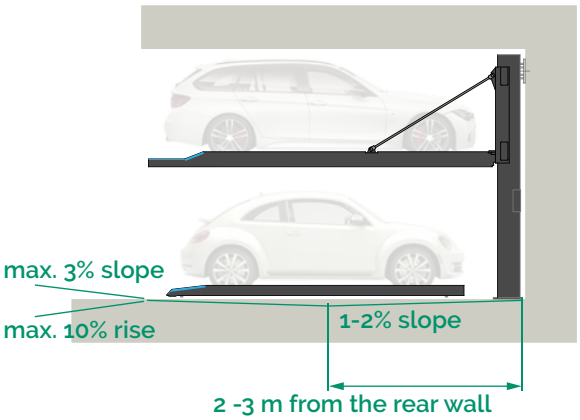


6. ACCESS CONDITIONS

With our innovative design the access to the parking place is very easy. Our flat profile over the complete platform provides higher comfort and driving safety. The light rise of the entrance to the parking place and the reduced side beam of the lifting platform allow an easy maneuvering and reduce the risk of wheel collision.

Maximum slope / rise

- Max. 3% slope [3*]
- Max. 10% rise [3*]

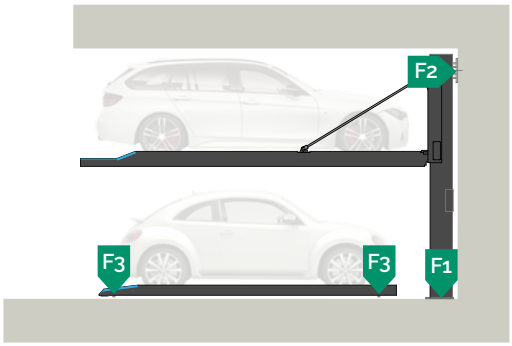
Drainage

- 1-2 % slope on the pit floor

[3*] In case of higher values, safe access of the vehicle cannot be guaranteed by DE-PARK.

7. ANCHORING

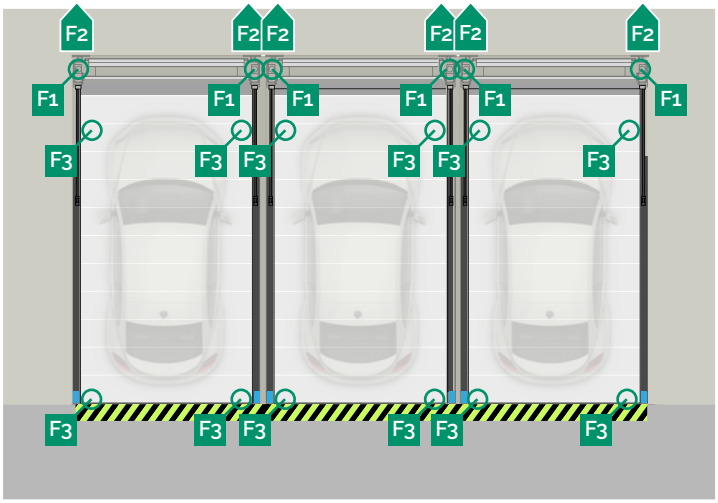
- Systems are anchored into the floor and rear wall. The hole depth is approximately 13 cm.
- The quality of the concrete in the structure (for the parking system) must be at least C20/25.
- The precise position of the load application points depends on the selected system. For precise values, please contact DE-PARK.



8. FORCES TO THE STRUCTURE

	2000 kg	2600 kg
F1	20 kN	25 kN
F2	20 kN	25 kN
F3	8 kN	10 kN

The force F2 can also be absorbed via the ceiling (ceiling fixation available upon request).



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9. TYPE OF CONTROL

Interactive control unit:
Our system DE-61 is controlled digitally.
With one touch you can choose your parking place by using this control unit. You can view the progress of the provision on the screen.
If the optional gate is not chosen, then the system works with a dead man's control.

10. ELECTRICAL ELEMENTS

Connected load of unit: 3 kW / 400 V / 50 Hz

- The control cabinet must be placed outside the moving range of the system.

We recommend positioning the cabinet near the system for a better overview of the system.
The space in front of the cabinet must be minimum 1,00 m for opening the door and the operator.

Services provided in the system:
- Operator terminal including operator presence control with raising and lowering.
- Emergency stop placed outside of the system's range of movement.

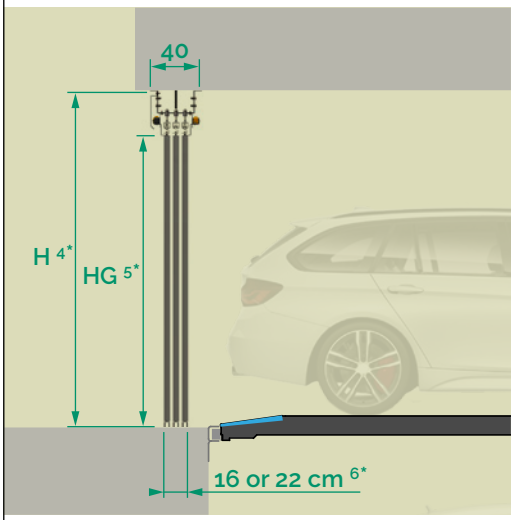
To be provided from customer:

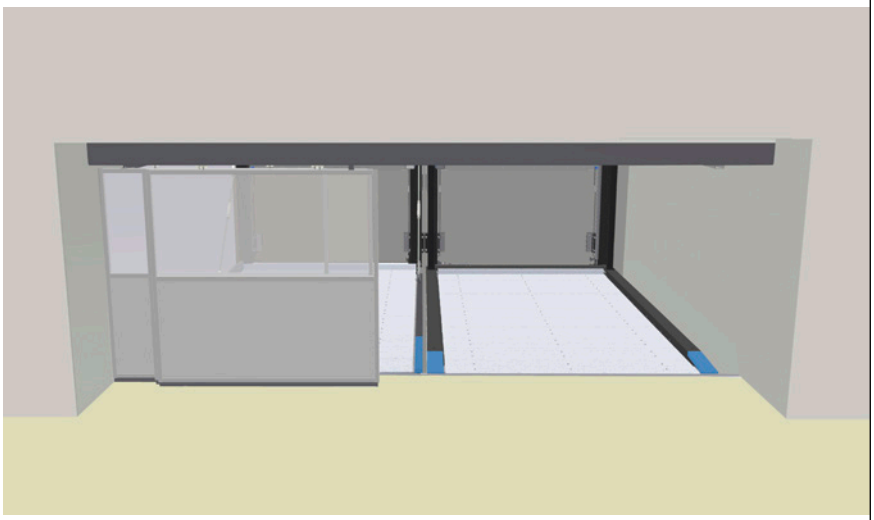
Item	Description
1	Electric meter
2	Fuse or automatic circuit breaker according to DIN VDE 0100 part 430, max. 16 A
3	According to local power supply regulations 3 PH + N + PE
4	Main switch lockable
5	Connection for the protective potential equalization DIN 60204
6	Protective bonding all 10m

Operation of the gate:
Option A – manually operated.
Option B – electrical drive per touch screen at the control unit. Additional operation with a remote control is optional.

11. GATES (OPTIONAL)

With our new innovative gates, we provide up to 50 cm wider entrance space than the requested parking space.





H [4*] = Clear height: 225 cm
HG [5*] = Entrance height: 200 cm

[4*] Other dimensions are available on request
[5*] Car height = HG - 5 cm tolerance
[6*] 16 cm – if gates are for 2 segments /
22 cm – if gates are for 3 segments

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12. SYSTEM-RELATED REQUIREMENTS

Maintenance, cleaning & prevention
- The systems must be serviced and cleaned regularly. This applies more so if the systems and the platforms are exposed to aggressive substances such as salt, water, dirt, operating supplies, sand, etc.
- Adequate drainage must be ensured.

Ventilation
The garage must be adequately ventilated.

13. LEGAL REQUIREMENTS

Separating elements / Barriers
According to EN ISO 13857, separating elements or barriers must be installed in the pedestrian area / accessible areas around the parking system, including during installation.

Fire safety
The garage design must fulfil the regional fire safety provisions. The requirements can vary. Therefore the situation must be clarified and information obtained in advance by the customer and then agreed and coordinated.

Noise emissions
According to the noise insulation regulations for buildings to DIN 4109, a value of 30dB (A) must be complied with in occupied rooms and spaces. You receive a sound insulation package with the system for the required 30dB (A) insulation of the structure is also necessary. Sound reduction index min. Rw = 57dB.

14. REQUIREMENTS ON SITE

Ambient conditions
Temperature range from -5 to +40 °C. Relative humidity max. 80%.
Please contact DE-PARK in case of different conditions.

Lighting
The parking spaces must be adequately illuminated on site as specified.

15. CE AND CONFORMITY

The systems conform to ...
- EN 14010-2009-12 Safety of Machinery - Equipment for power driven parking of motor vehicles
- Machinery Directive 2006/42/EC

CE

Design changes
We reserve the right to continuously develop our product on the basis of technical progress and to make changes and/or modifications to parts, assemblies or overall, to processes and to standards with no advance notice.

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DE-PARK IS MAKING YOUR LIFE EASY:

GERMAN MADE WITH A SLIM & MODULAR DESIGN
EASY PLANNING AND SETUP

LOW MAINTENANCE CONSTRUCTION
EASY TO USE WITH LOW NOISE EMISSIONS

NO PILLARS IN THE ENTRY AND PEDESTRIAN AREA
EASY MANOEUVERING AND SENSORLESS POSITIONING

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