AGRICULTURAL WORKER HOUSING TRANSPORTATION IMPACT ANALYSIS DRAFT

JULY 2023

PREPARED FOR:

CITY OF HALF MOON BAY

DKS

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INTRODUCTION

The City of Half Moon Bay is seeking to address the housing needs of its agricultural workforce and to replace substandard housing that has been lost due to recent events. The project proposed to meet these needs would consist of up to 50 mobile home units to be located on the City property at the eastern end of Stone Pine Road. The City's corporation yard facilities are co-located on the eastern half of the site.

This report presents an analysis of the potential traffic impacts that would be associated with the proposed project. The traffic study was completed in accordance with the criteria established by the City of Half Moon Bay and City/County Association of Governments of San Mateo County. This report documents analysis of the potential local transportation-related effects of the proposed project as well as consideration of potential VMT impacts. In addition to examining the operations at two study intersections, this study also addresses site access as well as bicycle and pedestrian access and safety.

PROJECT SETTING AND STUDY INTERSECTIONS

The proposed project consists of the construction of 50 mobile homes on an undeveloped parcel of land, to be co-located with the City's corporation yard. The project is located with State Route 92/San Mateo Road (SR-92) to the north, a residential neighborhood to the west, Pilarcitos Creek to the south, and commercial and agricultural uses to the east. Access to the residential project and the City's corporation yard would be provided via Stone Pine Road. Currently, there is no direct access to San Mateo Road/State Route 92 (SR-92) but there is an easement along the eastern edge of the property through which emergency access will be provided.

The project is located near downtown Half Moon Bay and would be within walking distance of many key destinations including Stone Pine Shopping Center, New Leaf Community Market, Half Moon Bay Pharmacy, Rite Aid, CVS, Safeway, and numerous restaurants.

The project site and study area boundary are illustrated in **Figure 1**, a project site plan is provided in **Figure 2**.

FIGURE 1: PROJECT SITE AND STUDY AREA

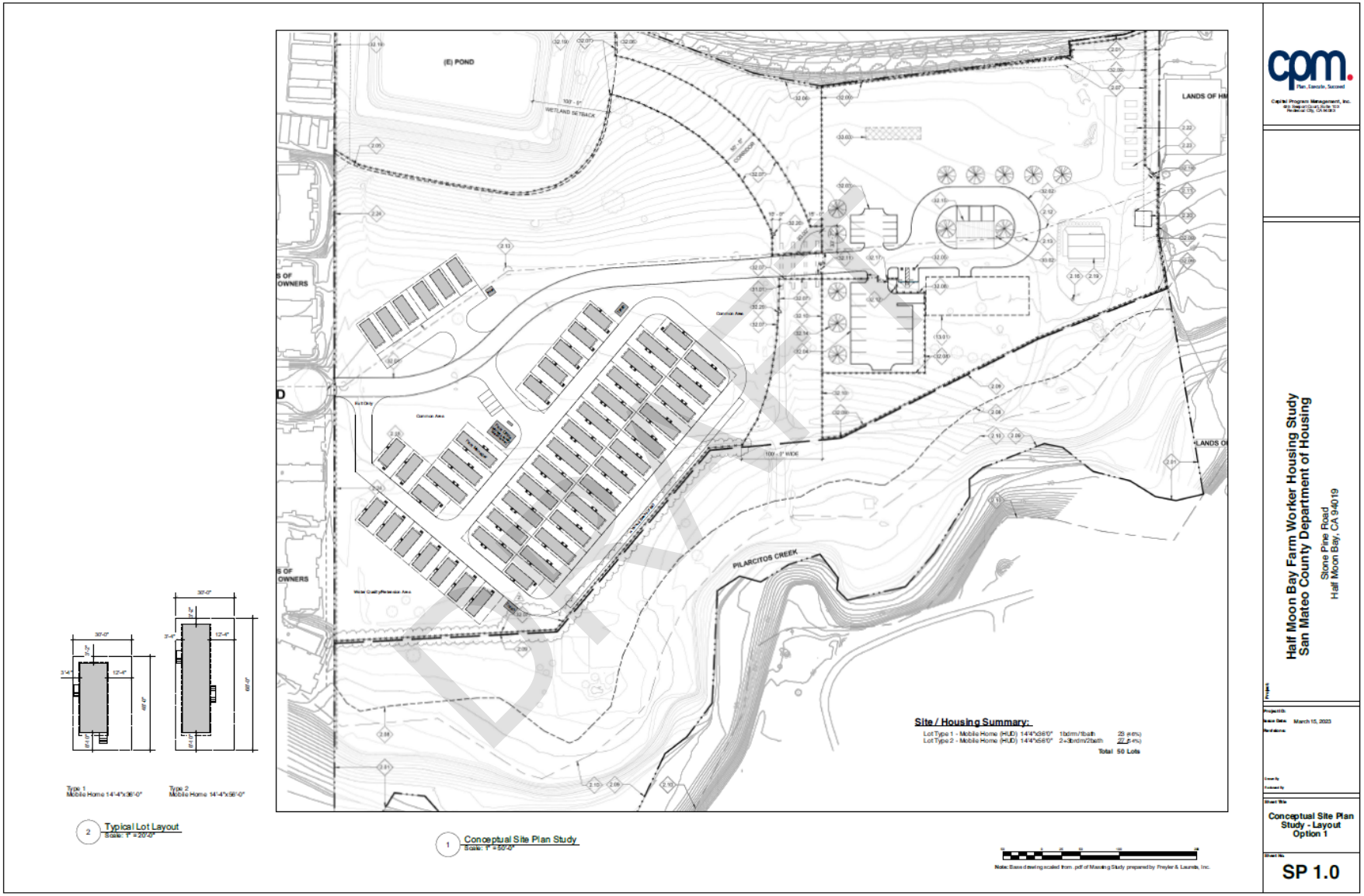


FIGURE 2: PROJECT SITE PLAN

STUDY INTERSECTIONS

The roadway network and study intersections are shown in **Figure 1**. This analysis will examine the project's potential effects on peak hour operations at two study intersections:

1. **SR-92 and Main Street** is a signalized, four-legged intersection with protected left-turn phasing on all approaches. Marked crosswalks and pedestrian signals are provided across every approach. This intersection is part of the County of San Mateo Congestion Management Program and is operated by Caltrans.
2. **Main Street and Stone Pine Road** is an all-way stop-controlled (AWSC), four-legged intersection. There are high-visibility crosswalks across the east and south approaches.

Crosswalks and sidewalks are generally provided within the study intersections and the study area. Bus stops are also located along SR-92 in both directions. A detailed description of the existing pedestrian and transit facilities is provided within the Existing Conditions Analysis.

STUDY ROADWAYS

SR-92 is a major east-west state highway that serves regional traffic between Highway 1, Interstate 280, the San Mateo Bridge and the City of Hayward. East of the study intersection, there is a raised median with one or two through lanes in each direction. Adjacent to the project site, the cross-section tapers to an undivided two-lane cross section with shoulders.

Main Street is a north-south arterial roadway that serves local circulation. This street has one travel lane in each direction with on street parking in some locations. Adjacent land uses include agricultural and local businesses, public facilities, commercial and residential. South of the Study Area, Main Street traverses the historic shopping district of Half Moon Bay and the posted speed limit is 25 mph.

Stone Pine Road is a local east-west street that primarily provides access to residential neighborhoods as well as the Stone Pine Shopping Center. The street has one travel lane in each direction and a posted speed limit of 25 mph.

STUDY TIME PERIOD

Operating conditions during the weekday morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 a.m. to 6:00 p.m.) as well as the Saturday midday (12:00 p.m. to 2:00 p.m.) peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the study road network. Intersection counts are provided in **Appendix A**. Conditions during the weekday and Saturday midday peak hours were evaluated for the following scenarios:

- **Existing Conditions**: Existing peak hour volume, lane geometry, and traffic control
- **Existing plus Project Conditions**: Existing peak hour volumes plus net-new project-generated trips estimated for the proposed development.

DATA COLLECTION

Traffic volume data representative of a typical weekday was collected on Wednesday, May 17, 2023, while local schools were in session.

For the weekend analysis, counts collected in 2019 for another traffic study were used at the SR-92 and Main Street intersection[1]. Weekday volumes collected at this intersection in 2019 and 2023 were compared to analyze if there was an increase in volume. Based on the weekday count comparison, using the 2019 weekend counts without adjustment would be the more conservative approach.

Weekend midday volumes entering and exiting Stone Pine Road and Main Street were estimated based on the tube counts collected for the speed study. The inbound and outbound trip distributions among these intersections were based on existing traffic patterns.

EXISTING CONDITIONS

EXISTING INTERSECTION OPERATIONS

Intersection analyses were conducted using a methodology outlined in the *Highway Capacity Manual 6th Edition* (HCM 6) and implemented in the Synchro 11 software package. This procedure calculates an average control delay per vehicle at an intersection and assigns a level of service designation based upon the delay. **Table 1** presents the level of service criteria for intersections in accordance with the HCM 6 methodology.

TABLE 1: INTERSECTION LEVEL-OF-SERVICE AND AVERAGE DELAY

LEVEL OF SERVICE (LOS)	DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80	> 50

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

[1] Half Moon Bay Hyatt Place Project (2022)

OPERATION ANALYSIS THRESHOLDS

The City of Half Moon Bay has established criteria to determine the level of significance of traffic impacts based on standards set by the City's *General Plan Circulation Element* (2013), and the *San Mateo County Congestion Management Program (CMP), Appendix L: Traffic Impact Analysis Policy*.

As the SR-92 and Main Street study intersection is within the CMP network, a project is considered to have an adverse impact on this intersection if it causes one or more of the following:

1. For a CMP intersection currently in compliance with the adopted LOS standard:
    a. A project will be considered to have an adverse impact if the project will cause the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
    b. A project will be considered to have an adverse impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP intersection operating at a level of service that violates the standard adopted in the current CMP AND the proposed project increases the average control delay at the intersection by four seconds or more.
    c. For a CMP intersection currently not in compliance with the adopted LOS standard, a project is considered to have an adverse impact if the project will add any additional traffic to the CMP intersection that is currently not in compliance with its adopted level of service standard as established in the CMP.

The City's policy has established that LOS C is the desired level of service at study intersections on SR-92, except during the peak two-hour commuting period and the peak recreational hour when LOS E is considered the minimum acceptable standard.

The City of Half Moon Bay does not have a formally adopted minimum threshold for unsignalized intersections. For this analysis, a traffic impact is considered to be adverse if the addition of project-generated traffic causes operation of an unsignalized intersection to deteriorate from an acceptable LOS to LOS F, or queue lengths exceed storage lengths or spillback to impact nearby intersections.

EXISTING CONDITIONS ANALYSIS

The existing conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday a.m. and p.m. peak periods as well as weekend midday peak period.

Existing traffic operations have been calculated based on the lane configurations and traffic volumes shown in **Figure 3**. The results of the traffic operations and queuing analysis are summarized in **Table 2** and **Table 3**, respectively. Operations analysis results indicate that both study intersections currently operate acceptably during the weekday a.m. and p.m. and weekend midday peak hours based on established performance standards. Detailed existing condition intersection analysis results may be found in **Appendix B**. The signal timing worksheets used in the Synchro analysis are shown in **Appendix C**.

The queuing analysis results indicate that queuing demand does not exceed available storage at the Main Street and Stone Pine Road intersection; however, queues at do exceed storage lengths for some movements during both a.m. and p.m. peak hour under existing conditions. Under existing conditions, queues at the SR-92 and Main Street intersection exceed available storage for the following movements:

- Eastbound left turn movement during the weekday a.m. peak hour
- Westbound right movement during the weekday p.m. and weekend midday peak hours
- Northbound left turn movements during the weekday p.m. peak hour
- Southbound left turn movement during the weekday a.m. and weekend midday peak hours

Under existing conditions, queues do not exceed available storage at the Main Street and Stone Pine Road intersection.

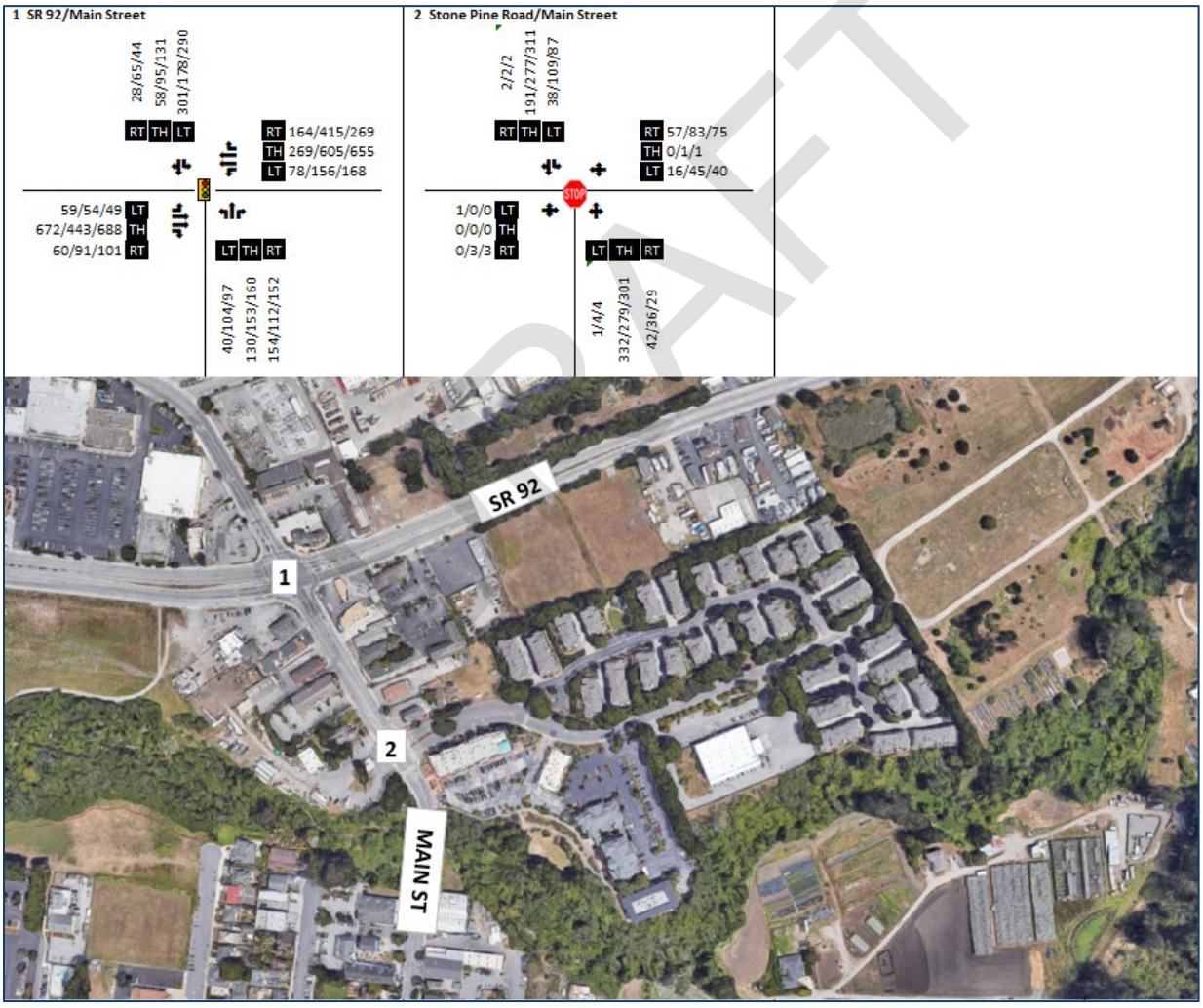


FIGURE 3: INTERSECTION GEOMETRY AND EXISTING WEEKDAY/WEEKEND VOLUMES

TABLE 2: EXISTING INTERSECTION DELAY AND LEVEL OF SERVICE

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR		WEEKEND PEAK HOUR	
	DELAY	LOS	DELAY	LOS	DELAY	LOS
SR-92 & MAIN STREET	44.6	D	38.3	D	42.6	D
MAIN STREET & STONE PINE ROAD	10.8	B	11.6	B	11.5	B

Source: DKS Associates, 2023.

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service;

TABLE 3: EXISTING INTERSECTION 95TH PERCENTILE QUEUE LENGTHS

INTERSECTION/ MOVEMENT	TURN BAY LENGTH (FT)	AM PEAK HOUR	PM PEAK HOUR	WEEKEND PEAK HOUR
		QUEUE (FT)	QUEUE (FT)	QUEUE (FT)
SR-92 & MAIN STREET				
EBL	110	**116**	103	96
EBR		24	42	46
WBL	430	140	230	245
WBR	100	49	**245**	**167**
NBL	100	74	**162**	**146**
NBR		62	59	64
SBL	340	**417**	238	**388**
SBT/R		111	197	222
MAIN STREET & STONE PINE ROAD				
NBL/T/R		73	65	63
EBL/T/R		0	0	0
SBL	100	5	18	13
SBT/R		30	58	63
WBL/T/R		10	20	15

Source: DKS Associates, 2023.

EXISTING ACTIVE TRANSPORTATION AND TRANSIT

PEDESTRIAN FACILITIES

Pedestrian facilities in the study area include sidewalks, crosswalks, pedestrian signal phases, curb ramps, and various streetscape amenities such as lighting and benches. A network of sidewalks, crosswalks, pedestrian signals and curb ramps provides access for pedestrians in the project vicinity, primarily along Main Street.

State Route 92 (SR-92). A continuous sidewalk is provided along the north side of SR-92 between Main Street and SR-1, and along the south side of SR-92 approximately 330 ft west of Main Street. Crosswalks are provided at nearby signalized intersections.

Main Street. Sidewalks are provided along both sides of Main Street with curb ramps and overhead lighting at intersections between SR-92 and Half Moon Bay's downtown. Crosswalks are also provided at the Main Street intersections with SR-92 and Stone Pine Road.

Stone Pine Road. Sidewalks are provided along the southern side of Stone Pine Road between Main Street and the western edge of the property. Crosswalks are provided at Main Street and Patrick Way.

BICYCLE FACILITIES

Within the vicinity of the project area, there are Class II (on-street bike lanes) bike facilities on Main Street north of the SR-92 intersection, but no facilities south of the intersection. There are no bike facilities on Stone Pine Road or SR-92. The proposed project does not provide direct access to the bicycle network, but is within 0.5 mile of the Naomi Partridge Trail, a Class I shared use path which travels north-south adjacent to Highway 1 within Half Moon Bay. This path could be accessed by travelling north via Main Street. The existing bicycle network The Existing Bicycle Network is illustrated in **Figure 4**, the full Half Moon Bay bike map is provided in **Appendix E**.

TRANSIT FACILITIES

SamTrans provides multiple fixed-route bus services in the City of Half Moon Bay. Routes 117 and 294 operate daily and Route 18 operates only on school days. All three routes have stops in Half Moon Bay primarily along SR-1, Main Street, and SR-92.

Route 117 (Linda Mar Park & Ride - Moonridge Apartments) operates daily between Linda Mar Park and Ride in Pacifica and Miramontes Point Road along SR-1 in Half Moon Bay, with limited service to the town of Pescadaro. Service is provided from 5 a.m. to 9 p.m. on weekdays and 5 a.m. and 8 p.m. on weekends. Headways are approximately 1 hour on both weekends and weekdays.

Route 18 operates on school days only and provides service between the town of Montara and the Moonridge Apartments in Half Moon Bay via SR-1 and Main Street. During the mornings, the northbound service departs from the Moonridge Apartments at 7:27 a.m. and 8:06 a.m. while the southbound service departs from Montara at 7:28 a.m., 7:29 a.m. In the afternoons, the northbound service departs at 3:03 p.m., 4:03 p.m. and 4:34 p.m. while the southbound service departs at 2:37 p.m., 3:37 p.m. and 4:18 p.m.

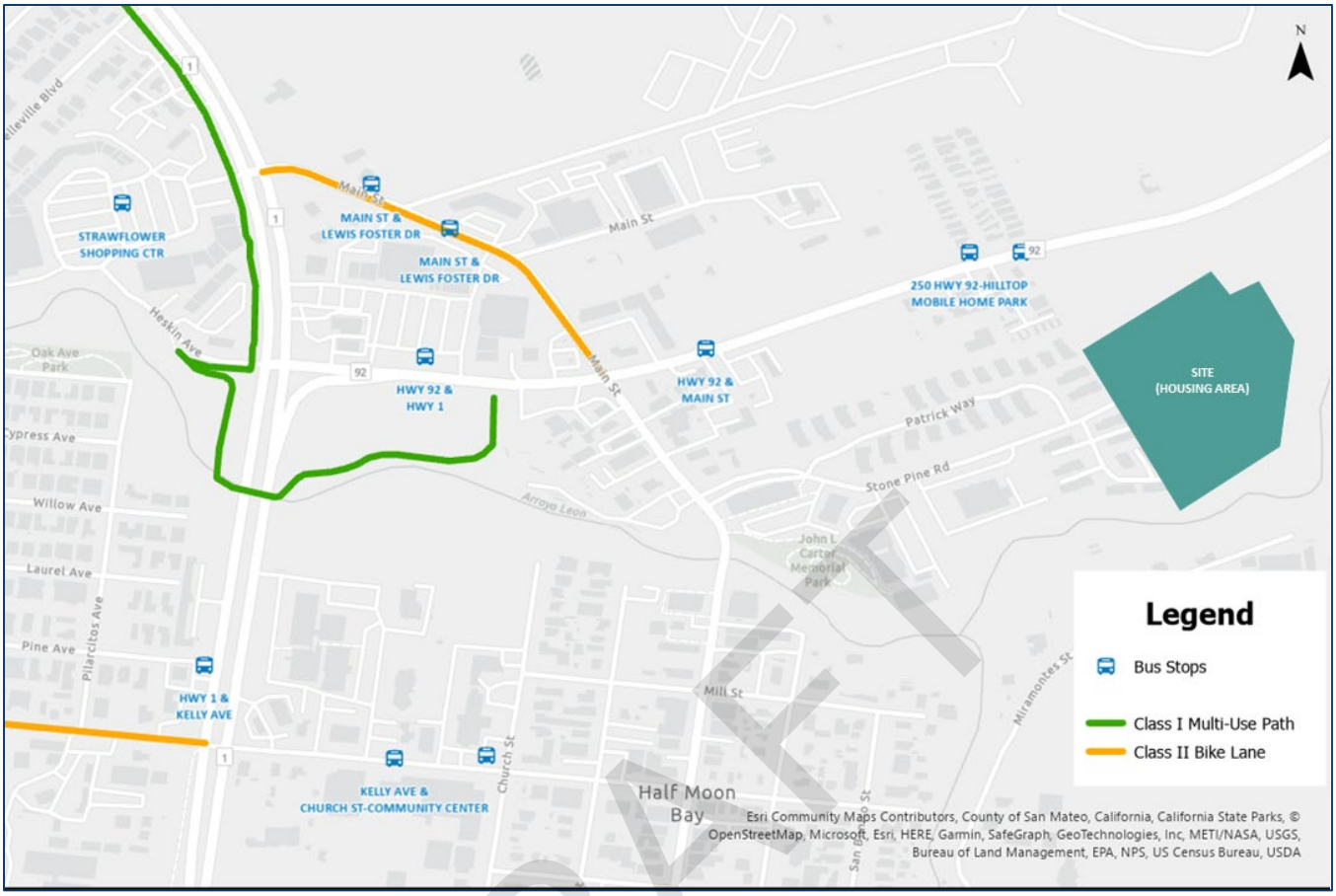


FIGURE 4: EXISTING PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

Route 294 operates daily from approximately 5:00 a.m. to 9:00 p.m., with headways ranging from one to two hours. Route 294 connects Half Moon Bay with the San Mateo Medical Center with stops along Main Street and SR-92. The existing bus stops near the study site are illustrated in **Figure 4**.

SPEED ANALYSIS ON STONE PINE ROAD

Vehicle speed data was collected along Stone Pine Road, east and west of Patrick Way. Twenty-four-hour tube counts were conducted on two midweek days (Wednesday and Thursday) as well as the weekend mid-day peak hour (Saturday) at the locations illustrated in **Figure 5**.

Results of the midweek twenty-four-hour tube counts recorded 3,700 vehicles west of Patrick Way on Stone Pine Road, and 1,400 vehicles east of Patrick Way. Peak hour volumes west of Patrick Way were 350 vehicles at 1:00 p.m., and 167 vehicles at 3:00 p.m. east of Patrick Way. Results of the weekend twenty-four hour tube counts recorded 2,900 vehicles west of Patrick Way on Stone Pine Road, with the peak hour volume of 305 vehicles recorded at 11:00 a.m. Traffic volume hourly trends on Stone Pine Road west of Patrick Way on collected on weekday and weekday dates are illustrated in **Figure 6**. Tube counts are provided in **Appendix D**.

FIGURE 5: SPEED STUDY LOCATIONS

Results of the vehicle speed data study are summarized in **Table 4**. Based on the comparison between the average and 85th percentile speeds with the posted speed of 25 mph, excessive speeding was not observed on either data collection date on Stone Pine Road. See **Appendix D** for a full summary of the collected count and speed data.

TABLE 4: SPEED DATA (MAY 17, 2023 AND JUNE 1, 2023)

LOCATION	SPEED DATA (MPH)			
	COLLECTION DATE	POSTED SPEED	AVERAGE SPEED	85TH PERCENTILE SPEED
1. STONE PINE ROAD EAST OF PATRICK WAY	May 17, 2023	25	19	23
2. STONE PINE ROAD WEST OF PATRICK WAY	June 1, 2023	25	19	24

Source: DKS Associates, 2023

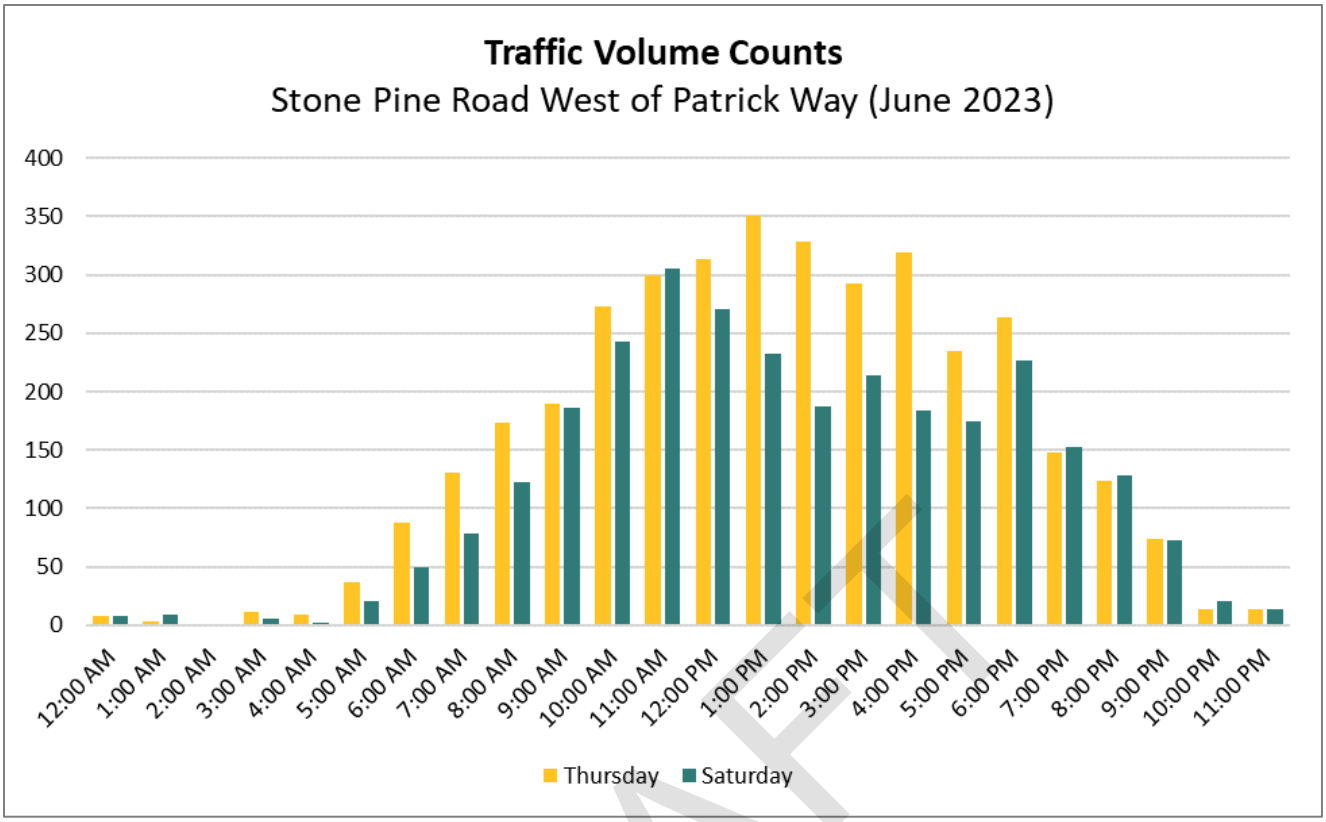


FIGURE 6: TRAFFIC VOLUME PATTERNS ON STONE PINE ROAD WEST OF PATRICK WAY

PROJECT TRAVEL CHARACTERISTICS

PROJECT TRIP GENERATION

Anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual, 11th Edition for* "Mobile Home Park" (ITE LU #240).

The resulting expected trip generation potential for the proposed project is indicated in **Table 5**. The project is expected to generate an average of 356 trips per day, including 26 trips during the weekday a.m. peak hour, 43 trips during the weekday p.m. peak hour and 32 trips on the weekend midday peak hour.

The trip generation analysis also includes the site generated trips from the Corporation Yard that is currently under construction. Based on discussions with City Staff, there are seven employees who typically arrive at the project site before the a.m. peak hour and depart in city-owned vehicles during the a.m. peak hour. Then, employees typically return during the p.m. peak hour to retrieve their personal vehicles. These trips have been added to the site-generated traffic by adding seven additional outbound trips to the a.m. peak hour, and seven inbound and outbound (14 total) during the p.m. peak hour.

TABLE 5: VEHICLE TRIP GENERATION
ITE CODE 240, MOBILE HOME PARK

TRIP TYPE AND RATE PER DWELLING UNIT	TRIPS ENTERING	TRIPS EXITING	TOTAL TRIPS
DAILY TRIPS (RATE)	178	178	356 [a]
AM PEAK HOUR (RATE)	4	22	26
PM PEAK HOUR (RATE)	25	18	43
WEEKEND PEAK HOUR (RATE)	17	15	32

Source: Institute of Transportation Engineers Trip Generation, 11th edition (itetripgen.org)

TRIP DISTRIBUTION

Project trip distribution for peak hours was based on existing travel patterns identified through the turning movement counts. Weekday peak hour distribution is illustrated in **Figure 7** and **Figure 8**.

EXISTING PLUS PROJECT CONDITIONS

Existing plus project condition intersection analysis results are summarized in with analysis details in **Appendix F**. Project trips, as shown in **Figure 9**, were developed from the site trip generation and the trip distribution described above. Existing plus project traffic volumes are shown in **Figure 10**. The results of the traffic operations during the existing plus project conditions are summarized in **Table 5**. Consistent with the existing conditions, the operational analysis results indicate that all two study intersections will continue to operate acceptably during the weekday and weekend midday peak hours.

The queuing analysis results, as shown in **Table 6**, are generally consistent with the existing conditions. The only movement where an increase in queue length was seen was the northbound left turn movement at SR-92 and Main Street, which only increases by three feet in both the weekday p.m. and the weekend midday peak hours.

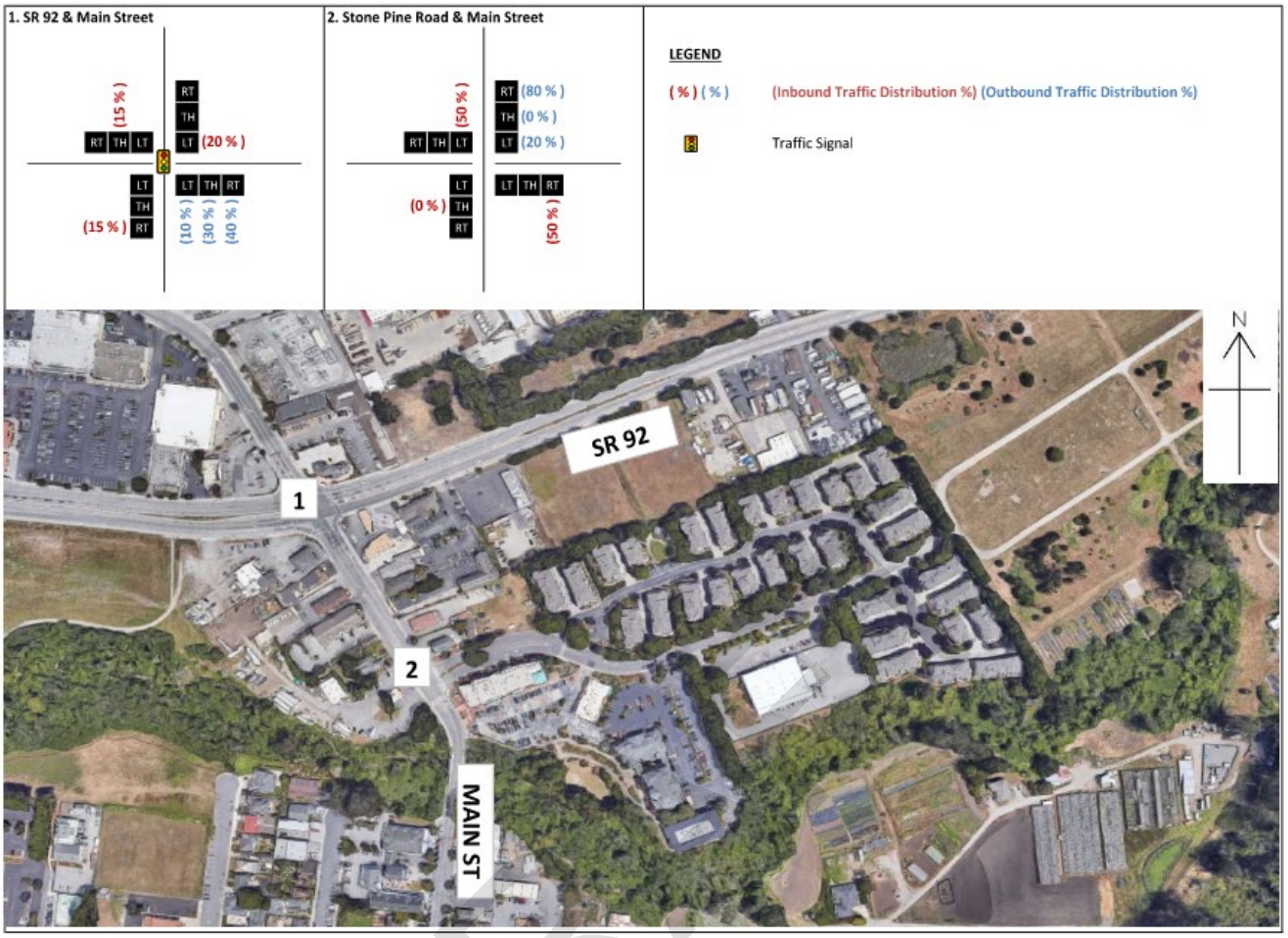


FIGURE 7: PROJECT A.M. TRIP DISTRIBUTION

FIGURE 8: PROJECT P.M. TRIP DISTRIBUTION

FIGURE 9: PROJECT SITE TRIP VOLUMES

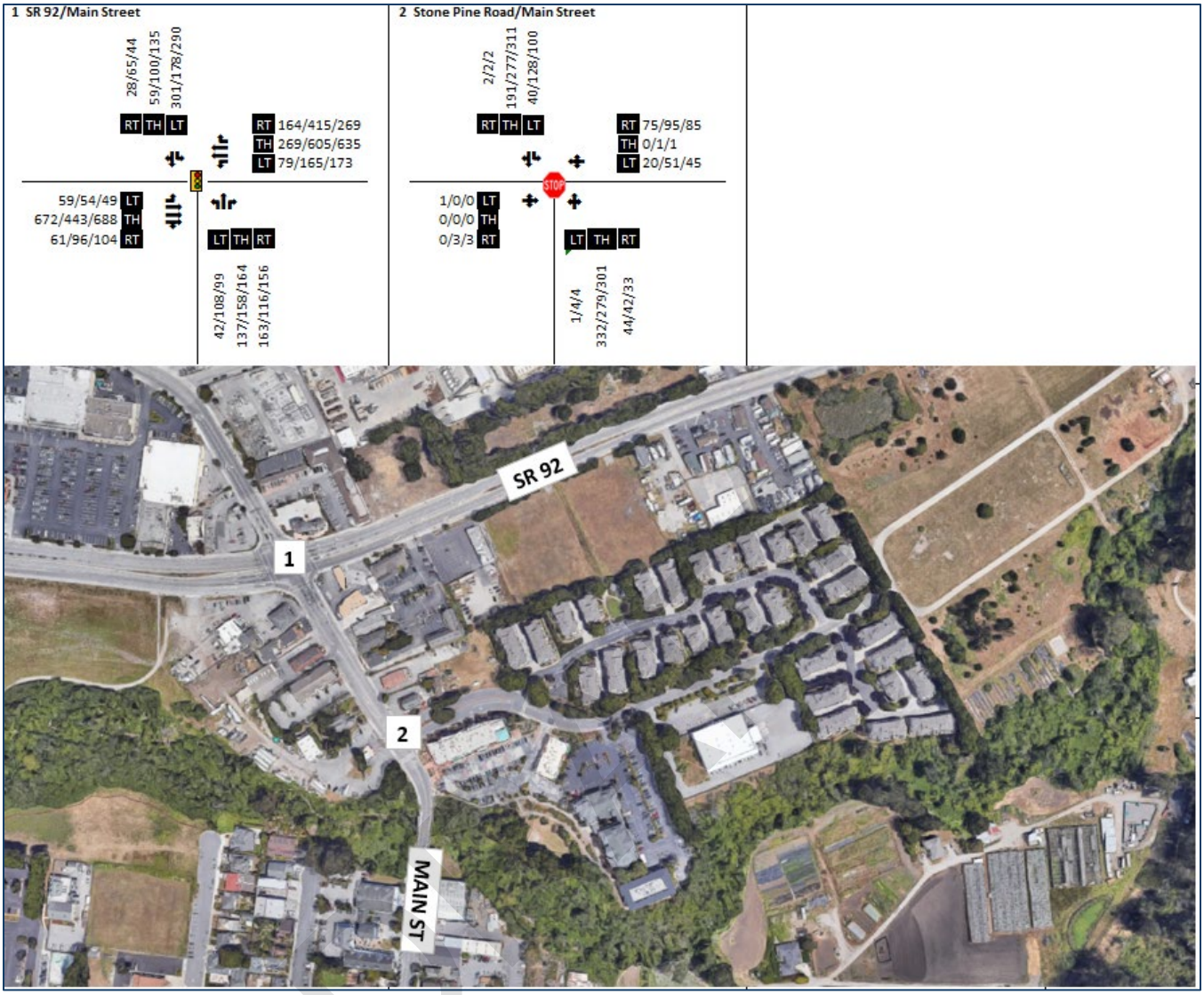


FIGURE 10: EXISTING PLUS PROJECT TRAFFIC VOLUMES

TABLE 5: INTERSECTION OPERATING CONDITIONS WITH PROJECT

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR		WEEKEND PEAK HOUR	
	DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS
1. SR-92 & MAIN STREET	45.1	D	38.9	D	42.9	D
2. MAIN STREET & STONE PINE ROAD	11.0	B	11.8	B	11.7	B

Source: DKS Associates, 2023

TABLE 6: INTERSECTION OPERATING CONDITIONS WITH PROJECT - 95TH PERCENTILE QUEUE LENGTHS

INTERSECTION/ MOVEMENT	TURN BAY LENGTH (FT)	AM PEAK HOUR	PM PEAK HOUR	WEEKEND PEAK HOUR
		QUEUE (FT)	QUEUE (FT)	QUEUE (FT)
SR-92 & MAIN STREET				
EBL	110	**116**	103	96
EBR		25	44	47
WBL	430	140	241	251
WBR	100	49	**246**	**167**
NBL	100	78	**167**	**149**
NBR		64	59	64
SBL	340	**417**	238	**388**
SBT/R		113	204	228
MAIN STREET & STONE PINE ROAD				
NBL/T/R		75	70	65
EBL/T/R		0	0	0
SBL	100	5	23	15
SBT/R		30	60	63
WBL/T/R		13	25	20

Source: DKS Associates, 2023.

SIGNAL WARRANT ANALYSIS

A preliminary traffic signal warrant analysis was performed to determine if the Main Street and Stone Pine Road intersection would meet the thresholds to warrant a traffic signal with the current existing plus project traffic conditions.

For this preliminary signal warrant study, data were available to examine Warrants 2, and 3 (Four-Hour Vehicular Volume, and Peak Hour) in the 2014 California Manual of Uniform Traffic Devices (CA MUTCD).

Based on the results of this preliminary signal warrant analysis, neither Warrant 2 nor Warrant 3 are met. Full results of the preliminary signal warrant study can be found in **Appendix G**.

SITE CIRCULATION AND ACCESS

As shown in the site plan, access to the proposed project would be located along the western edge of the property via Stone Pine Road. There are three driveways that serve as access points for residential housing. It is noted that the driveway closest to the direct access point on Stone Pine Road serves as an exit-only driveway.

Within the vicinity of the proposed project, sidewalks are only provided on the south side of Stone Pine Road between the western edge of the property and Main Street, providing access to the Stone Pine shopping plaza. The commercial plaza, which includes a pharmacy, a coffee shop, and restaurants, is less than a quarter mile away from the proposed project along Stone Pine Road.

Due to the low volumes entering and exiting Stone Pine Road along Main Street, the crosswalks across Stone Pine Road at Main Street and Patrick Way are generally safe, as motorists are expected to come to a full-stop at the all-way stop-controlled intersection. Additionally, the average and 85th percentile speed along Stone Pine Road does not exceed the posted speed limit. Results of the speed study do not show a need for additional traffic calming measures along Stone Pine Road.

POTENTIAL DIRECT ACCESS TO SR-92

The project site includes emergency access to SR-92 through an easement along the eastern edge of the property. The possibility of adding another driveway access point from SR-92 that directly serves the residential complex was also examined, including the option for an SR-92 driveway to replace vehicular access from Stone Pine Road. Provision of a regular access point from SR-92 was found to be subject to several constraints. These constraints pertain to factors such as constructability, cost, safety, environmental considerations, and operational feasibility, all of which would negatively affect the feasibility of such an access point.

- Environmental constraints, topography, and access spacing related to adjacent site access limit the potential locations for providing an access point to the site via SR-92. The grade differential between SR-92 and the project site presents a challenge in finding a suitable location for a driveway that would not require significant grading, which restricts possible driveway locations. The slope or grade of a driveway has a direct impact on maneuverability, as driveways with steep slopes can cause vehicles to scrape their undercarriages, necessitating a slow speed

transition. The maximum recommended slope for a driveway on a major arterial is 6 percent[2]. Potential driveway locations are constrained by on-site environmental conditions, such as the pond located on the western edge of the project site, as well as the existing Frog Corridor. The Frog Corridor, in the context of the California Environmental Quality Act (CEQA), refers to a designated area or habitat crucial for the conservation and protection of frogs and other amphibians. The potential impact of a driveway on these corridors would need careful evaluation and mitigation, which limits how far west along the project frontage an additional driveway can be located.

- The existing driveways located adjacent to the eastern project frontage also impose a constraint on potential driveway locations. Appropriate distances between driveways along SR-92 should be maintained for the safety of both the mainline and drivers entering and exiting the access points. Sufficient access spacing is necessary to ensure proper separation between crossing, stopping, and turning movements, avoiding overlaps that could create conflict points, and the addition of new driveways without adequate spacing increases the potential for conflicts and collisions.
- A full-movement unsignalized site access on SR-92 is not advisable due to the number of additional conflicts points it would create on a state highway facility. Conflict points refer to locations where the travel paths of different vehicles may legally cross.
- If full-movement access on SR-92 were to be provided, signalization would be the preferred control measure from a safety perspective. However, it would not be preferable from an operational standpoint. A full signal with proper geometric upgrades including right-turn tapers and left-turn pockets would require additional right-of-way acquisition and earthwork in addition to geometric upgrades and signal installation due to the terrain adjacent to SR-92. While a signalized access with proper left-turn storage lanes and suitable pedestrian-cycling crossing treatments could offer a safer option for full-movement site access, the associated costs and operational considerations make signalization prohibitive for the project.
- In addition to the geometric upgrades that would be required, signalization of a full movement access on SR-92 is generally not supported from an operations standpoint as it would negatively impact traffic flow and operations due to increased congestion and delays caused by the introduction of signal cycles, as well as its spacing from other existing signals. Signalization would resolve issues for this development; however, it would cause impacts to the rest of the travelling public on SR-92.
- A restricted movement access, such as right-in, right-out only, would be a safer alternative to an unsignalized full-movement access as this would reduce the complexity of driving conditions and minimize conflicts between through vehicles and turning vehicles. However, this would not efficiently serve the needs of the project traffic.
- The implementation of any additional signalization on SR-92 would require multijurisdictional coordination involving local, regional, and state agencies. Caltrans, which is responsible for enhancing and maintaining the State Highway System, aims to minimize the number of connection points on freeways and expressways to protect access control rights. Introducing a new driveway on SR-92 does not align with the general objectives of access management and would necessitate coordination among various agencies. This coordination process would lead to delays and complications for the project.

[2] Transportation Research Board Access Management Manual, 2nd Edition

VEHICLE MILES TRAVELED

The California Environmental Quality Act (CEQA) Guidelines Section 15064.3 states that a project's potential effects on VMT must be examined. The proposed project is intended to allow agricultural workers of modest income to live relatively near to their workplaces rather than potentially commuting into Half Moon Bay from greater distances. The proposed project is located within the City's Town Center area and within walking distance of retail and service opportunities, which will also tend to reduce VMT.

In addition, this agricultural worker housing project was analyzed as part of the City's currently ongoing Housing Element update. In aggregate, the planned additional housing units, including those in this project, result in a Year 2040 citywide VMT per capita that is lower than 85% of the baseline VMT per capita in the Coastside region. Although a threshold of significance has not been formally adopted, the Housing Element analysis supports the proposition that the project will have less than significant VMT impacts.

SUMMARY OF FINDINGS

This transportation impact assessment analyzed the potential traffic and circulation effects associated with the proposed project, which consists of the construction of 50 mobile home units to be located on city property at the eastern end of Stone Pine Road.

- The existing conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday a.m. and p.m. peak periods as well as weekend midday peak period. Operations analysis results indicate that all two study intersections currently operate acceptably during the weekday morning, weekday afternoon and weekend midday peak hours based on established performance thresholds.
- Under existing conditions, all intersections are operating at LOS D or better during both weekday and weekend peak hours. The SR-92 and Main Street intersection is operating at LOS D in the weekday a.m. peak period, and LOS D in the weekday p.m. peak period.
- The project site is served by adequate pedestrian, cycling and transit facilities. Sidewalks connect the project site to key destinations in the area such as the Stone Pine shopping center and bus stops, and pedestrian crossing treatments are provided at both study intersections.
- Vehicle speed data collected on Stone Pine Road did not indicate that high vehicle travel speeds are an issue at this location.
- With the addition of site-generated traffic, both study intersections are expected to continue to operate at acceptable levels of service. Significant increases in queuing are not expected at the study intersections with the addition of site-generated traffic.
- A preliminary traffic signal warrant analysis was performed to determine if the Main Street and Stone Pine Road intersection would meet the thresholds to warrant a traffic signal with the current existing plus project conditions. Results did not indicate that a signal was warranted at the study intersection.
- While the proposed site already includes emergency access to SR-92 through an easement along the eastern edge of the property, the possibility of adding another driveway access point that directly serves the residential complex was also examined. This option is not recommended due

to significant challenges related to constructability, cost, safety, environmental considerations, and operational feasibility.

- The project is expected to have less than significant VMT impacts.

APPENDIX

DKS

1970 BROADWAY, SUITE 740, OAKLAND, CA 94612 • 510.763.2061 • DKSASSOCIATES.COM

CONTENTS

SECTION 1. APPENDIX A: TRAFFIC COUNT DATA SHEETS

SPRING 2023

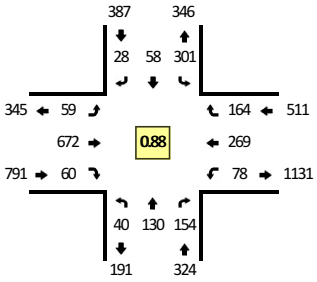
Type of peak hour being reported: Intersection Peak

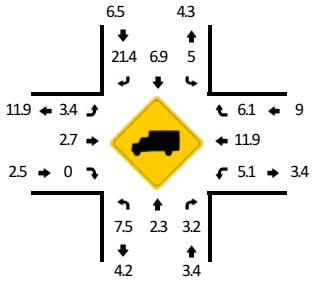
Method for determining peak hour: Total Entering Volume

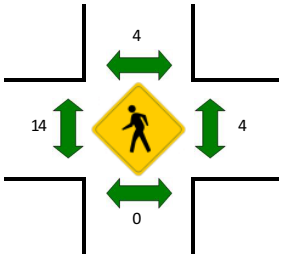
LOCATION: Main St -- San Mateo Rd
CITY/STATE: Half Moon Bay, CA

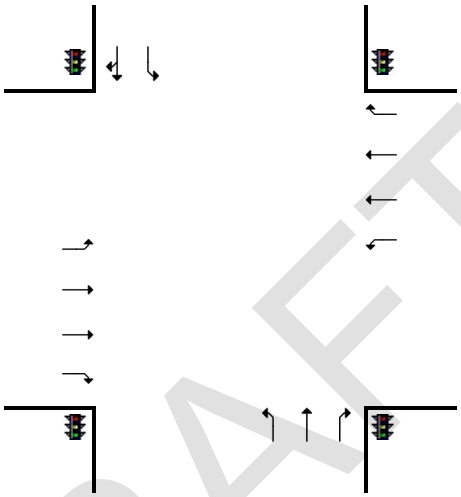
QC JOB #: 16189901
DATE: Wed, May 17 2023

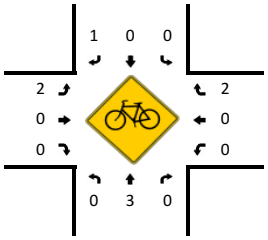
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

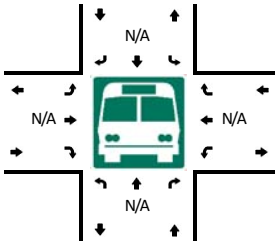


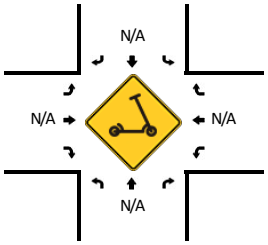












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				San Mateo Rd (Eastbound)				San Mateo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	3	8	0	35	3	0	0	0	40	7	1	1	16	16	0	132	
7:05 AM	3	4	7	0	34	12	2	0	1	67	3	2	1	9	10	0	155	
7:10 AM	4	4	9	0	34	6	2	0	0	41	4	1	3	15	10	0	133	
7:15 AM	2	3	12	0	40	2	4	0	3	42	3	0	7	18	18	2	156	
7:20 AM	4	4	8	0	31	5	1	0	0	57	8	1	2	24	11	0	156	
7:25 AM	3	6	13	0	40	6	3	0	0	75	5	1	4	23	12	0	191	
7:30 AM	3	2	16	0	33	4	1	0	0	81	3	1	12	23	16	1	196	
7:35 AM	1	7	7	0	43	6	1	0	1	73	5	0	10	17	16	1	188	
7:40 AM	2	8	17	0	31	4	2	0	2	41	4	0	1	27	19	1	159	
7:45 AM	2	8	6	0	21	6	2	0	3	46	7	0	7	21	10	0	139	
7:50 AM	8	11	11	0	21	8	2	0	4	51	6	3	7	35	25	0	192	
7:55 AM	5	14	11	0	25	4	3	0	4	41	4	0	6	12	12	0	141	1938
8:00 AM	2	12	13	0	16	5	3	0	9	39	6	2	9	41	11	0	168	1974
8:05 AM	3	21	14	0	13	5	1	0	7	48	5	0	4	19	10	0	150	1969
8:10 AM	3	23	26	0	15	4	3	0	15	46	1	0	10	9	13	1	169	2005
8:15 AM	4	14	12	0	11	1	6	1	6	74	6	0	1	18	9	1	164	2013
8:20 AM	3	24	6	0	16	4	8	1	5	52	5	0	3	12	13	0	152	2009
8:25 AM	9	10	11	0	14	5	6	0	2	54	8	1	6	22	11	0	159	1977
8:30 AM	8	14	8	0	17	14	3	0	4	20	7	0	11	24	21	0	151	1932
8:35 AM	1	11	10	0	11	14	5	0	9	49	6	0	6	17	9	0	148	1892
8:40 AM	2	9	9	0	15	4	5	0	4	15	12	0	11	9	7	0	102	1835
8:45 AM	8	20	11	0	15	12	3	0	3	38	10	1	9	13	13	0	156	1852
8:50 AM	3	9	10	0	6	10	4	0	5	28	17	0	6	15	5	0	118	1778
8:55 AM	2	9	3	0	7	11	1	0	3	21	13	3	1	14	14	0	102	1739

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	60	144	0	464	64	20	0	4	916	52	8	104	252	176	8	2300
Heavy Trucks	0	4	12		16	16	0		0	16	0		4	44	12		124
Buses																	
Pedestrians		0				8				12				8			28
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 5/25/2023 3:47 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

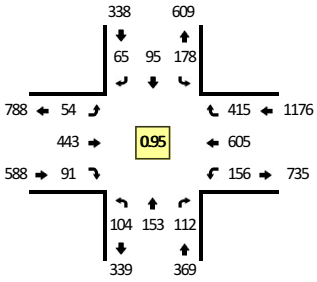
Type of peak hour being reported: Intersection Peak

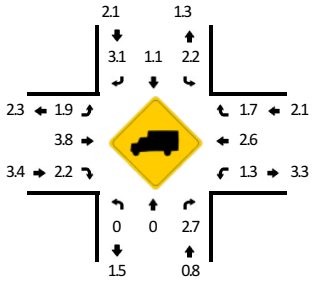
Method for determining peak hour: Total Entering Volume

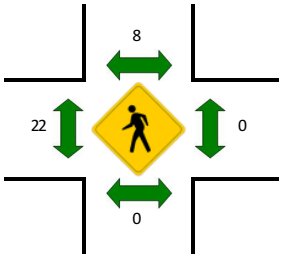
LOCATION: Main St -- San Mateo Rd
CITY/STATE: Half Moon Bay, CA

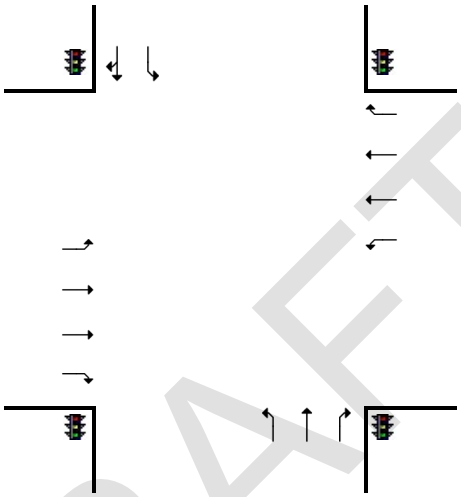
QC JOB #: 16189902
DATE: Wed, May 17 2023

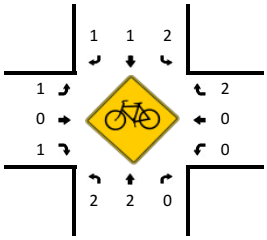
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

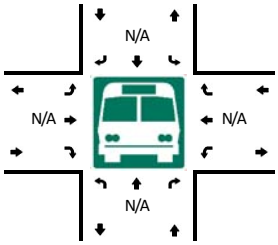


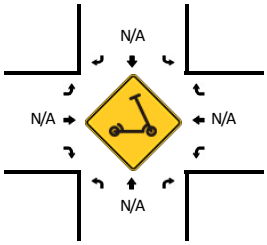












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				San Mateo Rd (Eastbound)				San Mateo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	12	10	0	17	8	6	0	3	58	7	2	16	51	28	0	229	
4:05 PM	16	14	8	0	18	12	11	0	0	35	2	2	12	42	29	2	203	
4:10 PM	8	14	9	0	18	6	6	0	4	46	14	2	12	44	20	0	203	
4:15 PM	7	10	10	0	9	7	10	1	2	57	8	4	12	49	44	0	230	
4:20 PM	6	9	10	0	19	11	7	1	2	33	15	1	15	57	30	0	216	
4:25 PM	9	13	6	0	11	9	3	0	2	32	7	0	9	40	21	0	162	
4:30 PM	12	17	7	0	16	8	7	0	6	30	6	0	10	54	37	0	210	
4:35 PM	6	16	13	0	22	10	8	0	5	25	4	2	9	57	35	1	213	
4:40 PM	3	11	13	0	6	5	2	0	1	41	6	0	20	55	38	1	202	
4:45 PM	10	16	10	0	16	7	4	0	4	33	6	1	16	44	25	0	192	
4:50 PM	9	11	10	0	14	4	3	0	4	37	3	2	8	46	48	1	200	
4:55 PM	10	12	3	0	18	9	2	0	3	32	7	2	9	48	44	1	200	2460
5:00 PM	11	10	11	0	15	13	5	0	4	29	10	1	22	51	42	0	224	2455
5:05 PM	12	14	10	1	12	6	8	0	2	48	5	0	10	60	31	0	219	2471
5:10 PM	5	20	8	0	24	12	4	0	2	37	4	0	10	42	33	0	201	2469
5:15 PM	9	15	13	0	12	14	5	0	0	26	11	1	9	57	21	1	194	2433
5:20 PM	8	6	14	0	19	14	7	0	3	39	11	0	22	66	36	0	245	2462
5:25 PM	6	10	8	0	17	6	8	0	4	28	9	3	11	27	29	0	166	2466
5:30 PM	10	20	8	0	12	5	1	0	3	31	1	0	12	48	32	3	186	2442
5:35 PM	6	11	8	0	12	12	2	0	1	30	1	1	12	43	44	0	183	2412
5:40 PM	12	18	8	0	12	7	5	0	3	27	4	2	11	62	33	0	204	2414
5:45 PM	5	21	9	0	11	2	4	0	7	26	7	1	10	36	36	0	175	2397
5:50 PM	7	17	11	0	10	6	1	0	9	34	9	0	14	54	29	1	202	2399
5:55 PM	7	16	7	0	9	2	6	0	6	32	6	0	10	37	31	0	169	2368

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	132	116	0	184	96	92	8	32	544	148	28	156	600	376	0	2596
Heavy Trucks	0	0	0		4	0	8		0	20	0		4	24	16		76
Buses																	
Pedestrians		0				16				16				0			32
Bicycles	0	4	0		4	0	0		0	0	4		0	0	4		16
Scooters																	

Comments:

Report generated on 5/25/2023 3:47 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

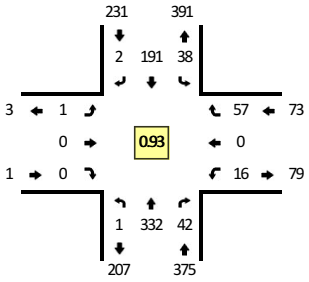
Type of peak hour being reported: Intersection Peak

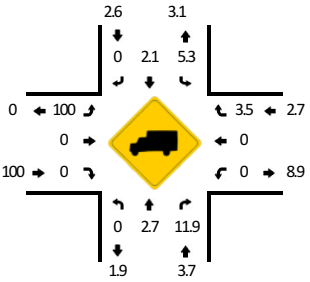
Method for determining peak hour: Total Entering Volume

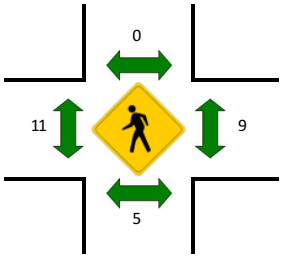
LOCATION: Main St -- Produce Shop Dwy/Stone Pine Rd
CITY/STATE: Half Moon Bay, CA

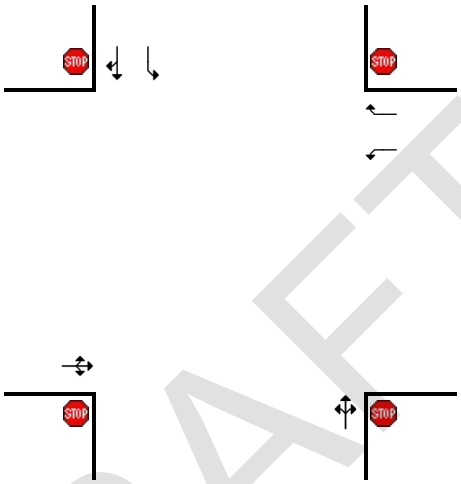
QC JOB #: 16189904
DATE: Wed, May 17 2023

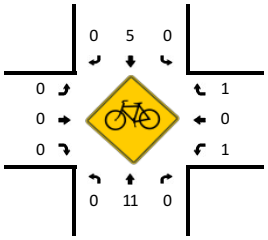
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

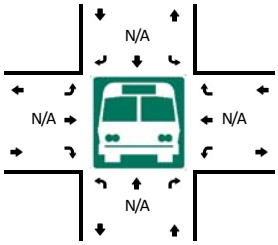


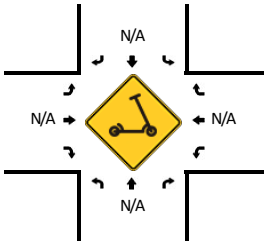












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				Produce Shop Dwy/Stone Pine Rd (Eastbound)				Produce Shop Dwy/Stone Pine Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	8	3	0	7	3	0	0	0	0	0	0	3	0	7	0	31	
7:05 AM	0	11	1	0	5	8	0	1	0	0	0	0	1	0	2	0	29	
7:10 AM	0	13	0	0	4	9	0	0	0	0	0	0	0	0	6	0	32	
7:15 AM	0	12	1	0	4	7	0	0	0	0	0	0	2	0	5	0	31	
7:20 AM	0	15	1	0	4	5	0	0	0	0	0	0	1	0	1	0	27	
7:25 AM	0	15	1	0	5	12	0	0	0	0	0	0	3	0	6	0	42	
7:30 AM	0	16	1	0	6	14	0	0	0	0	0	0	2	0	3	0	42	
7:35 AM	0	14	1	0	2	17	0	0	0	0	0	0	3	0	5	0	42	
7:40 AM	0	18	3	0	1	8	1	0	0	0	1	0	1	0	5	0	38	
7:45 AM	0	18	2	0	4	14	0	0	0	0	0	0	2	0	1	0	41	
7:50 AM	0	26	3	0	0	19	0	0	0	0	0	0	2	0	6	0	56	
7:55 AM	0	20	6	0	1	15	0	0	0	0	0	0	1	0	6	0	49	460
8:00 AM	0	25	1	0	6	18	0	0	0	0	0	0	0	0	5	0	55	484
8:05 AM	0	36	2	0	2	13	0	0	0	0	0	0	1	0	2	0	56	511
8:10 AM	0	54	2	0	1	9	1	0	0	0	0	0	3	0	2	0	72	551
8:15 AM	0	29	7	0	5	9	0	0	0	0	0	0	0	0	5	0	55	575
8:20 AM	0	34	3	0	1	4	0	0	0	0	0	0	1	0	5	0	48	596
8:25 AM	1	20	3	0	3	16	0	0	0	0	0	0	1	0	2	0	46	600
8:30 AM	0	28	4	0	0	26	1	0	0	0	0	0	1	0	5	0	65	623
8:35 AM	0	14	3	0	3	18	0	0	0	0	0	0	2	0	5	0	45	626
8:40 AM	0	27	5	0	8	21	0	0	1	0	0	0	1	0	5	0	68	656
8:45 AM	0	19	3	0	7	23	0	1	0	0	0	0	3	0	9	0	65	680
8:50 AM	0	14	1	0	5	23	0	1	0	0	0	0	3	0	3	0	50	674
8:55 AM	0	10	3	0	6	9	0	0	0	0	0	0	2	0	6	0	36	661

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	460	20	0	36	160	4	0	0	0	0	0	16	0	36	0	732
Heavy Trucks	0	8	0		0	4	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		0				0				16				12			28
Bicycles	0	16	0		0	4	0		0	0	0		4	0	0		24
Scooters																	

Comments:

Report generated on 5/25/2023 3:47 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

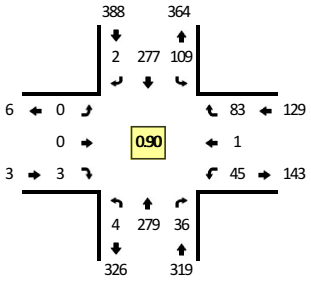
Type of peak hour being reported: Intersection Peak

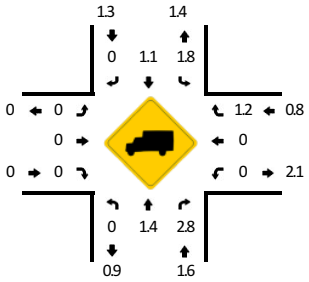
Method for determining peak hour: Total Entering Volume

LOCATION: Main St -- Produce Shop Dwy/Stone Pine Rd
CITY/STATE: Half Moon Bay, CA

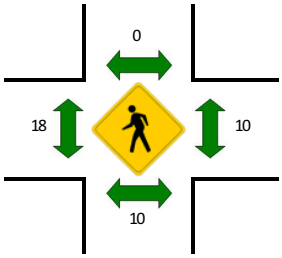
QC JOB #: 16189905
DATE: Wed, May 17 2023

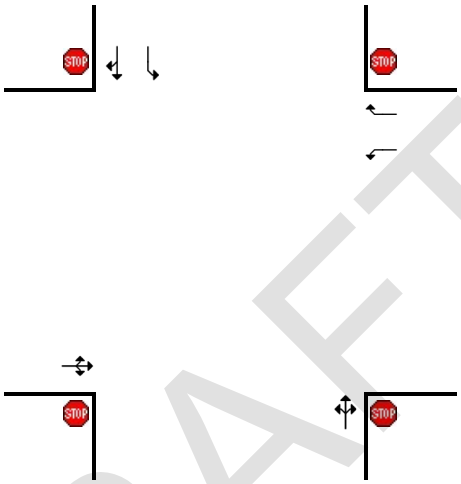
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

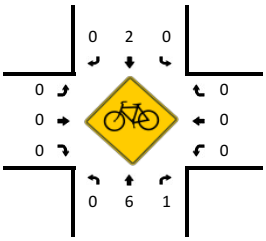


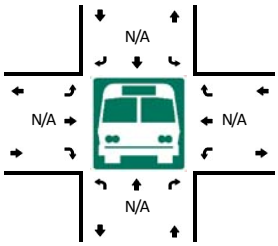


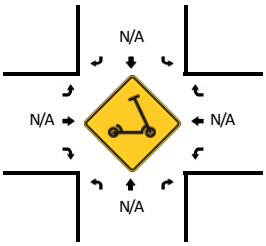
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				Produce Shop Dwy/Stone Pine Rd (Eastbound)				Produce Shop Dwy/Stone Pine Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	21	6	0	6	25	1	0	0	0	1	0	4	0	11	0	75	
4:05 PM	1	19	5	0	7	24	1	0	0	0	1	0	5	0	16	0	79	
4:10 PM	0	21	3	0	11	20	0	0	0	0	1	0	1	0	5	0	62	
4:15 PM	0	17	3	0	7	26	0	0	0	0	0	0	2	0	9	0	64	
4:20 PM	0	22	2	0	10	33	0	0	0	0	0	0	5	0	6	0	78	
4:25 PM	0	19	4	0	6	21	0	1	0	0	0	0	2	0	8	0	61	
4:30 PM	0	23	3	0	8	24	0	0	0	0	0	0	4	0	10	0	72	
4:35 PM	0	28	4	0	4	18	0	0	0	0	0	0	3	0	6	0	63	
4:40 PM	0	23	4	0	12	25	1	0	0	0	0	0	4	0	7	0	76	
4:45 PM	2	26	4	0	12	21	1	0	0	0	1	0	3	0	5	0	75	
4:50 PM	0	13	3	0	3	15	0	1	0	0	0	0	4	0	7	0	46	
4:55 PM	0	13	2	0	10	22	0	0	0	0	0	0	4	0	6	0	57	808
5:00 PM	0	26	4	0	11	26	0	0	0	0	0	0	3	0	9	0	79	812
5:05 PM	1	30	1	0	13	23	0	0	0	0	1	0	4	0	6	0	79	812
5:10 PM	0	30	3	0	6	25	0	0	0	0	0	0	5	1	4	0	74	824
5:15 PM	0	28	2	0	8	21	0	1	0	0	0	0	5	0	8	0	73	833
5:20 PM	0	20	2	1	11	33	0	0	0	0	1	0	4	0	5	0	77	832
5:25 PM	0	19	4	0	9	24	0	0	0	0	0	0	2	0	10	0	68	839
5:30 PM	0	19	7	0	5	12	0	0	0	0	0	0	5	0	9	0	57	824
5:35 PM	0	23	1	0	8	24	0	0	0	0	0	0	2	0	6	0	64	825
5:40 PM	0	22	2	0	10	18	0	1	0	0	0	0	1	0	12	0	66	815
5:45 PM	0	22	3	0	8	14	0	0	0	0	0	0	4	0	7	0	58	798
5:50 PM	0	32	5	0	7	22	0	0	0	0	0	0	3	0	7	0	76	828
5:55 PM	0	19	1	0	8	17	0	0	0	0	0	0	2	0	7	0	54	825

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	344	32	0	120	296	0	0	0	0	4	0	48	4	76	0	928
Heavy Trucks	0	12	0		4	4	0		0	0	0		0	0	0		20
Buses																	
Pedestrians		20				0				12				16			48
Bicycles	0	12	0		0	0	0		0	0	0		0	0	0		12
Scooters																	

Comments:

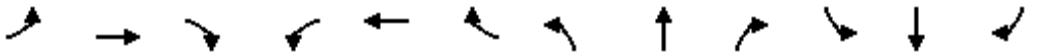
Report generated on 5/25/2023 3:47 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

SECTION 2. APPENDIX B: EXISTING CONDITIONS OPERATIONAL ANALYSIS REPORTS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	764	68	89	306	186	45	148	175	342	98
v/c Ratio	0.61	0.47	0.09	0.65	0.19	0.23	0.23	0.70	0.53	0.90	0.25
Control Delay	91.3	32.1	4.5	87.1	24.9	4.7	60.2	80.6	13.3	81.8	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	32.1	4.5	87.1	24.9	4.7	60.2	80.6	13.3	81.8	39.8
Queue Length 50th (ft)	65	266	0	86	88	0	41	143	0	325	65
Queue Length 95th (ft)	116	411	24	140	148	49	74	197	62	417	111
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1646	781	157	1642	804	330	348	431	439	447
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.46	0.09	0.57	0.19	0.23	0.14	0.43	0.41	0.78	0.22

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	672	60	78	269	164	40	130	154	301	58	28
Future Volume (vph)	59	672	60	78	269	164	40	130	154	301	58	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1688	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1688	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	764	68	89	306	186	45	148	175	342	66	32
RTOR Reduction (vph)	0	0	37	0	0	95	0	0	155	0	12	0
Lane Group Flow (vph)	67	764	31	89	306	91	45	148	20	342	86	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	3%	3%	3%	9%	9%	9%	3%	3%	3%	6%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.3	68.6	68.6	13.1	73.4	73.4	17.1	17.1	17.1	33.7	33.7	
Effective Green, g (s)	8.3	68.6	68.6	13.1	73.4	73.4	17.1	17.1	17.1	33.7	33.7	
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.49	0.49	0.11	0.11	0.11	0.22	0.22	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	96	1602	717	144	1620	701	199	210	174	382	379	
v/s Ratio Prot	c0.04	c0.22		c0.05	0.09		0.03	c0.08		c0.20	0.05	
v/s Ratio Perm			0.02			0.06			0.01			
v/c Ratio	0.70	0.48	0.04	0.62	0.19	0.13	0.23	0.70	0.11	0.90	0.23	
Uniform Delay, d1	69.6	28.2	22.5	66.0	21.6	20.9	60.4	64.0	59.7	56.4	47.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.3	1.0	0.1	5.5	0.3	0.4	0.2	8.5	0.1	22.0	0.1	
Delay (s)	85.9	29.3	22.6	71.5	21.8	21.3	60.6	72.5	59.8	78.5	47.6	
Level of Service	F	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		33.0			29.2			65.0			71.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	16	0	57	1	332	42	38	191	2
Future Vol, veh/h	1	0	0	16	0	57	1	332	42	38	191	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	4	4	4	3	3	3
Mvmt Flow	1	0	0	17	0	61	1	357	45	41	205	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.8	8.7	12	9.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	22%	100%	0%
Vol Thru, %	89%	0%	0%	0%	99%
Vol Right, %	11%	0%	78%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	375	1	73	38	193
LT Vol	1	1	16	38	0
Through Vol	332	0	0	0	191
RT Vol	42	0	57	0	2
Lane Flow Rate	403	1	78	41	208
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.502	0.002	0.109	0.063	0.291
Departure Headway (Hd)	4.485	5.755	4.99	5.552	5.042
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	802	619	716	645	712
Service Time	2.513	3.817	3.037	3.284	2.774
HCM Lane V/C Ratio	0.502	0.002	0.109	0.064	0.292
HCM Control Delay	12	8.8	8.7	8.7	9.8
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	2.9	0	0.4	0.2	1.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	466	96	164	637	437	109	161	118	187	168
v/c Ratio	0.53	0.28	0.12	0.76	0.33	0.47	0.55	0.77	0.42	0.59	0.52
Control Delay	84.8	28.5	6.4	85.1	23.3	12.5	72.4	87.2	13.8	62.6	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.8	28.5	6.4	85.1	23.3	12.5	72.4	87.2	13.8	62.6	52.3
Queue Length 50th (ft)	55	160	0	158	206	114	103	155	0	158	122
Queue Length 95th (ft)	103	237	42	230	291	245	162	228	59	238	197
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	133	1648	788	330	1916	936	337	354	393	416	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.28	0.12	0.50	0.33	0.47	0.32	0.45	0.30	0.45	0.40

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	443	91	156	605	415	104	153	112	178	95	65
Future Volume (vph)	54	443	91	156	605	415	104	153	112	178	95	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1770	3539	1513	1787	1881	1573	1770	1721	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1770	3539	1513	1787	1881	1573	1770	1721	
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)	57	466	96	164	637	437	109	161	118	187	100	68
RTOR Reduction (vph)	0	0	51	0	0	118	0	0	105	0	17	0
Lane Group Flow (vph)	57	466	45	164	637	319	109	161	13	187	151	0
Confl. Peds. (#/hr)	8					8	22					22
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.2	69.9	69.9	18.9	80.6	80.6	16.8	16.8	16.8	26.9	26.9	
Effective Green, g (s)	8.2	69.9	69.9	18.9	80.6	80.6	16.8	16.8	16.8	26.9	26.9	
Actuated g/C Ratio	0.05	0.47	0.47	0.13	0.54	0.54	0.11	0.11	0.11	0.18	0.18	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	95	1633	730	223	1901	812	200	210	176	317	308	
v/s Ratio Prot	c0.03	0.13		c0.09	0.18		0.06	c0.09		c0.11	0.09	
v/s Ratio Perm			0.03			c0.21			0.01			
v/c Ratio	0.60	0.29	0.06	0.74	0.34	0.39	0.55	0.77	0.08	0.59	0.49	
Uniform Delay, d1	69.3	24.7	22.0	63.1	19.6	20.4	63.0	64.7	59.6	56.5	55.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	0.4	0.2	10.3	0.5	1.4	1.6	13.9	0.1	1.8	0.4	
Delay (s)	75.9	25.1	22.2	73.5	20.1	21.8	64.6	78.6	59.7	58.3	55.8	
Level of Service	E	C	C	E	C	C	E	E	E	E	E	
Approach Delay (s)		29.3			27.7			68.9			57.1	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

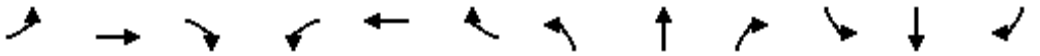
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	45	1	83	4	279	36	109	277	2
Future Vol, veh/h	0	0	3	45	1	83	4	279	36	109	277	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	2	2	2	1	1	1
Mvmt Flow	0	0	3	50	1	92	4	310	40	121	308	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.5	9.9	12.3	11.6
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	100%	0%
Vol Thru, %	87%	0%	1%	0%	99%
Vol Right, %	11%	100%	64%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	319	3	129	109	279
LT Vol	4	0	45	109	0
Through Vol	279	0	1	0	277
RT Vol	36	3	83	0	2
Lane Flow Rate	354	3	143	121	310
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.477	0.005	0.213	0.192	0.448
Departure Headway (Hd)	4.84	5.444	5.346	5.712	5.203
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	737	661	665	624	688
Service Time	2.908	3.444	3.429	3.484	2.974
HCM Lane V/C Ratio	0.48	0.005	0.215	0.194	0.451
HCM Control Delay	12.3	8.5	9.9	9.9	12.2
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	2.6	0	0.8	0.7	2.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	717	105	175	682	280	101	167	158	302	182
v/c Ratio	0.51	0.49	0.15	0.74	0.38	0.33	0.43	0.68	0.46	0.85	0.49
Control Delay	85.7	37.0	7.0	80.1	26.9	13.6	63.8	75.0	11.8	78.2	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	37.0	7.0	80.1	26.9	13.6	63.8	75.0	11.8	78.2	53.5
Queue Length 50th (ft)	49	278	0	166	224	71	94	161	0	276	144
Queue Length 95th (ft)	96	402	46	245	326	167	146	226	64	388	222
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1529	744	245	1782	846	333	351	420	416	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.14	0.71	0.38	0.33	0.30	0.48	0.38	0.73	0.43

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	688	101	168	655	269	97	160	152	290	131	44
Future Volume (vph)	49	688	101	168	655	269	97	160	152	290	131	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1532	1770	1863	1546	1770	1779	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1532	1770	1863	1546	1770	1779	
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)	51	717	105	175	682	280	101	167	158	302	136	46
RTOR Reduction (vph)	0	0	62	0	0	76	0	0	137	0	9	0
Lane Group Flow (vph)	51	717	43	175	682	204	101	167	21	302	173	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.5	61.6	61.6	20.8	74.9	74.9	19.8	19.8	19.8	30.3	30.3	
Effective Green, g (s)	7.5	61.6	61.6	20.8	74.9	74.9	19.8	19.8	19.8	30.3	30.3	
Actuated g/C Ratio	0.05	0.41	0.41	0.14	0.50	0.50	0.13	0.13	0.13	0.20	0.20	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	88	1453	650	245	1767	764	233	245	204	357	359	
v/s Ratio Prot	c0.03	c0.20		c0.10	0.19		0.06	c0.09		c0.17	0.10	
v/s Ratio Perm			0.03			0.13			0.01			
v/c Ratio	0.58	0.49	0.07	0.71	0.39	0.27	0.43	0.68	0.10	0.85	0.48	
Uniform Delay, d1	69.7	32.7	26.8	61.8	23.3	21.7	59.9	62.1	57.3	57.6	52.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.6	1.2	0.2	8.0	0.6	0.9	0.5	6.1	0.1	16.0	0.4	
Delay (s)	75.3	33.9	27.0	69.7	23.9	22.5	60.4	68.2	57.4	73.6	53.3	
Level of Service	E	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		35.5			30.6			62.3			66.0	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	40	1	75	4	301	29	87	311	2
Future Vol, veh/h	0	0	3	40	1	75	4	301	29	87	311	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	42	1	78	4	314	30	91	324	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.4	9.6	11.9	11.7
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	34%	100%	0%
Vol Thru, %	90%	0%	1%	0%	99%
Vol Right, %	9%	100%	65%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	3	116	87	313
LT Vol	4	0	40	87	0
Through Vol	301	0	1	0	311
RT Vol	29	3	75	0	2
Lane Flow Rate	348	3	121	91	326
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.462	0.005	0.179	0.142	0.466
Departure Headway (Hd)	4.78	5.379	5.324	5.652	5.144
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	748	669	668	632	698
Service Time	2.837	3.379	3.4	3.412	2.903
HCM Lane V/C Ratio	0.465	0.004	0.181	0.144	0.467
HCM Control Delay	11.9	8.4	9.6	9.4	12.4
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	2.5	0	0.6	0.5	2.5

SECTION 3. APPENDIX C: SIGNAL TIMING SHEETS

Location: N. MAIN STREET & RTE 92 | **Designed By:**

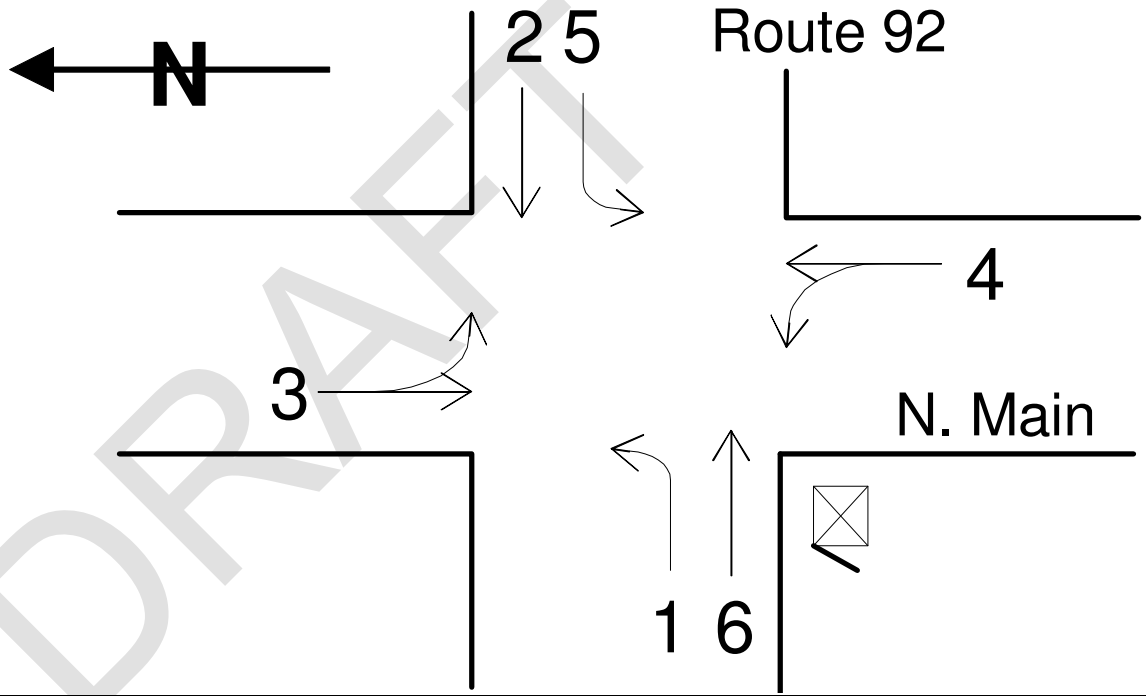
System: | **District:** 04 | **Installed By:**

Master At: | **I/C:** | **Service Info:**

Timing Change: | **Date Start:** | **Date End:** | **Designed:** | **Installed:**

		FLASH
PHASE	1)	[R]
	2)	[R]
	3)	[R]
	4)	[R]
	5)	[R]
	6)	[R]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layou



Comments and Notes:
TSCP 2.20 BUILD 120 - 08/04/2016

RAM Checksum

Page 2: 3C6F	Page 8: 46AD
Page 3: DCF1	Page 9: D2FD
Page 4: 9B9D	Page 10: DC9A
Page 5: 191A	Page 11: CC23
Page 6: 191A	Page 12: EF20
Page 7: 2645	Page 13: 86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 3 4 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. 2 3 4 . 6 . .
Yellow Start Overlaps	. . . . .
Startup All-Red	5.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . 4 . . . .
P5	. . . . .
P6	. . . . . 6 . .
P7	. . . . .
P8	. . 3 . . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	5	5	5	0	5	0	10
Flash Don't Walk	0	18	30	23	0	18	0	10
Minimum Green	4	10	4	4	4	10	2	2
Det Limit	0	30	0	0	0	30	10	10
Max Initial	0	25	0	0	0	25	10	10
Max Green 1	11	55	28	22	21	55	2	2
Max Green 2	50	50	50	50	50	50	50	50
Max Green 3	50	50	50	50	50	50	50	50
Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum Gap	2.0	2.0	1.5	1.5	2.0	2.0	2.0	2.0
Minimum Gap	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
Add Per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	1.0	1.0
Reduce Gap By	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Reduce Every	1.0	1.2	1.0	1.0	1.0	1.2	1.0	1.0
Yellow	3.0	4.1	3.7	3.7	3.0	4.1	3.0	3.0
All-Red	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0

Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	2.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	150		1	74			11	54	38	28	13	47		
Plan 2	Green Factor	136		1	105			10	44	35	28	13	36		
Plan 3	Green Factor	150		1	96			11	57	35	28	25	38		
Plan 4	Green Factor	150		1	17			11	57	35	28	17	46		
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Master Timer Sync (7-A)	
Enable in Plans	
1-9	. . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master	
Input	
Output	

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 3 . 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 2	. 2 3 . 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 3	. 2 3 . 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 4	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	Veh Max
. 2 . . . 6 . .	. . . . .
Ped	Bike
. . . . .	. . . . .
Cond	Cond Grn
. . . . .	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3		2.0	10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4		2.0	10	1.5
5	LIMITED	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	LIMITED	. 2	NO	I4U	7		1.0	10	2.1
8	COUNT+CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	. . 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	. . 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U	13	10		10	4.7
14	CALL+EXTEND	. . . 4 . . .	NO	I7L	14	15		10	6.4
15	CALL+EXTEND	. . . 4 . . .	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	. . 3	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	. . . . 5 . .	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	. . . . 5 . .	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	. . . . . 6 .	NO	J2U	23		2.0	10	1.2
24	COUNT+CALL+EXTEND	. . . . . 6 .	NO	J2L	24		2.0	10	1.6
25	COUNT+CALL+EXTEND	. . . . . 6 .	NO	J3U	25		2.0	10	4.6
26	LIMITED	. . . . . 6 .	NO	J3L	26			10	6.3
27	LIMITED	. . . . . 6 .	NO	J4U	27		1.0	10	2.2
28	COUNT+CALL+EXTEND	. . . . . 6 .	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	. . 3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	. . 3	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	. . 3	NO	J7U	33			10	4.8
34	CALL+EXTEND	. . 3	NO	J7L	34			10	6.5
35	LIMITED	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	. . . . 5 . .	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	. . . . . 6 .	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	. . . 4 . . .	NO	I12L	42			10	5.3
43	PEDESTRIAN	. . . . . 6 .	NO	I13U	43			10	5.2
44	PEDESTRIAN	. . 3	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0645	1	A
1100	2	A
1430	3	A
2000	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
1000	4	A
1500	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	3
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0 . 0 . 0 . 0
Netmask	255 . 255 . 255 . 0
Broadcast	0 . 0 . 0 . 254
Gateway	0 . 0 . 0 . 1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . . .	. . . . . .	. . . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	. 2 . . 5 . . .	. . . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	. . . 4 . . 7 .	. . . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	1 . . . . 6 . .	. . . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	. . 3 8	. . . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	6.6
Advance Enable	6.6

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

\+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	.....	.....
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

SECTION 4. APPENDIX D: 24-HOUR TRAFFIC COUNTS ON STONE PINE ROAD

Type of report: Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Midweek) **QC JOB #:** 16225701

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 1 2023

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	0	1	6	1	0	0	0	0	0	0	0	0	0	0	8	16-25	7
01:00 AM	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3	16-25	2
02:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
03:00 AM	2	1	6	1	1	0	0	0	0	0	0	0	0	0	11	16-25	7
04:00 AM	1	3	3	2	0	0	0	0	0	0	0	0	0	0	9	16-25	6
05:00 AM	2	10	15	10	0	0	0	0	0	0	0	0	0	0	37	16-25	25
06:00 AM	8	43	32	3	2	0	0	0	0	0	0	0	0	0	88	16-25	75
07:00 AM	9	46	57	16	2	0	0	0	0	0	0	0	0	0	130	16-25	103
08:00 AM	11	69	75	18	0	0	0	0	0	0	0	0	0	0	173	16-25	144
09:00 AM	18	56	97	18	0	0	0	0	0	0	0	0	0	0	189	16-25	153
10:00 AM	**26**	122	103	**19**	**3**	0	0	0	0	0	0	0	0	0	273	16-25	225
11:00 AM	26	**149**	**105**	19	1	0	0	0	0	0	0	0	0	0	**300**	16-25	254
12:00 PM	**34**	**150**	112	15	2	0	0	0	0	0	0	0	0	0	313	16-25	262
01:00 PM	17	148	**157**	25	**3**	0	0	0	0	0	0	0	0	0	**350**	16-25	305
02:00 PM	32	136	139	18	3	0	0	0	0	0	0	0	0	0	328	16-25	275
03:00 PM	23	117	126	25	2	0	0	0	0	0	0	0	0	0	293	16-25	243
04:00 PM	22	112	150	**34**	1	0	0	0	0	0	0	0	0	0	319	16-25	262
05:00 PM	22	100	98	14	1	0	0	0	0	0	0	0	0	0	235	16-25	198
06:00 PM	15	120	110	19	0	0	0	0	0	0	0	0	0	0	264	16-25	230
07:00 PM	10	77	48	10	3	0	0	0	0	0	0	0	0	0	148	16-25	125
08:00 PM	12	54	53	5	0	0	0	0	0	0	0	0	0	0	124	16-25	107
09:00 PM	8	25	30	10	1	0	0	0	0	0	0	0	0	0	74	16-25	55
10:00 PM	1	7	4	1	0	0	0	0	0	0	0	0	0	0	13	16-25	11
11:00 PM	0	3	7	3	0	0	0	0	0	0	0	0	0	0	13	16-25	10
Day Total	299	1550	1535	287	25	0	0	0	0	0	0	0	0	0	3696	16-25	3085
Percent	8.1%	41.9%	41.5%	7.8%	0.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
AM Peak Volume	10:00 AM 26	11:00 AM 149	11:00 AM 105	10:00 AM 19	10:00 AM 3	12:00 AM 0	12:00 AM 0	12:00 AM 0	12:00 AM 0	12:00 AM 0	12:00 AM 0	12:00 AM 0	12:00 AM 0	12:00 AM 0	11:00 AM 300		
PM Peak Volume	12:00 PM 34	12:00 PM 150	1:00 PM 157	4:00 PM 34	1:00 PM 3	12:00 PM 0	12:00 PM 0	12:00 PM 0	12:00 PM 0	12:00 PM 0	12:00 PM 0	12:00 PM 0	12:00 PM 0	12:00 PM 0	1:00 PM 350		

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Midweek)
QC JOB #: 16225701
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Half Moon Bay, CA
DATE: Jun 1 2023

Speed Range	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	299	1550	1535	287	25	0	0	0	0	0	0	0	0	0	3696	16-25	3085
Percent	8.1%	41.9%	41.5%	7.8%	0.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Cumulative Percent	8.1%	50%	91.6%	99.3%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

ADT
3696

85th Percentile: 24 MPH
Mean Speed(Average): 19 MPH
Median: 19 MPH
Mode: 18 MPH

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Stone Pine Rd West of Patrick Way (Midweek) **QC JOB #:** 16225701

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 1 2023 - Jun 1 2023

Start Time	Mon	Tue	Wed	Thu 1 Jun 23	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				8		8			8	
01:00 AM				3		3			3	
02:00 AM				1		1			1	
03:00 AM				11		11			11	
04:00 AM				9		9			9	
05:00 AM				37		37			37	
06:00 AM				88		88			88	
07:00 AM				130		130			130	
08:00 AM				173		173			173	
09:00 AM				189		189			189	
10:00 AM				273		273			273	
11:00 AM				**300**		**300**			**300**	
12:00 PM				313		313			313	
01:00 PM				**350**		**350**			**350**	
02:00 PM				328		328			328	
03:00 PM				293		293			293	
04:00 PM				319		319			319	
05:00 PM				235		235			235	
06:00 PM				264		264			264	
07:00 PM				148		148			148	
08:00 PM				124		124			124	
09:00 PM				74		74			74	
10:00 PM				13		13			13	
11:00 PM				13		13			13	
Day Total				3696		3696			3696	
% Weekday Average				100%						
% Week Average				100%		100%				
AM Peak Volume				11:00 AM 300		11:00 AM 300			11:00 AM 300	
PM Peak Volume				1:00 PM 350		1:00 PM 350			1:00 PM 350	

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Saturday) **QC JOB #:** 16225703

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 3 2023

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	1	3	4	0	0	0	0	0	0	0	0	0	0	0	8	16-25	7
01:00 AM	0	1	5	2	1	0	0	0	0	0	0	0	0	0	9	21-30	7
02:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	11-20	1
03:00 AM	2	2	2	0	0	0	0	0	0	0	0	0	0	0	6	16-25	4
04:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	16-25	1
05:00 AM	2	9	7	3	0	0	0	0	0	0	0	0	0	0	21	16-25	16
06:00 AM	4	18	22	6	0	0	0	0	0	0	0	0	0	0	50	16-25	40
07:00 AM	4	31	35	8	0	0	0	0	0	0	0	0	0	0	78	16-25	66
08:00 AM	12	41	54	13	**2**	0	0	0	0	0	0	0	0	0	122	16-25	95
09:00 AM	15	81	77	13	0	0	0	0	0	0	0	0	0	0	186	16-25	158
10:00 AM	17	106	104	**15**	1	0	0	0	0	0	0	0	0	0	243	16-25	210
11:00 AM	**26**	**156**	**113**	10	0	0	0	0	0	0	0	0	0	0	**305**	16-25	269
12:00 PM	21	**136**	**98**	**16**	0	0	0	0	0	0	0	0	0	0	**271**	16-25	234
01:00 PM	**31**	110	82	9	0	0	0	0	0	0	0	0	0	0	232	16-25	192
02:00 PM	25	101	52	8	**1**	0	0	0	0	0	0	0	0	0	187	16-25	153
03:00 PM	25	97	84	8	0	0	0	0	0	0	0	0	0	0	214	16-25	181
04:00 PM	17	61	93	13	0	0	0	0	0	0	0	0	0	0	184	16-25	154
05:00 PM	14	70	80	11	0	0	0	0	0	0	0	0	0	0	175	16-25	150
06:00 PM	19	113	80	15	0	0	0	0	0	0	0	0	0	0	227	16-25	193
07:00 PM	14	79	53	7	0	0	0	0	0	0	0	0	0	0	153	16-25	132
08:00 PM	13	56	51	8	0	0	0	0	0	0	0	0	0	0	128	16-25	107
09:00 PM	12	38	20	3	0	0	0	0	0	0	0	0	0	0	73	16-25	58
10:00 PM	0	4	12	5	0	0	0	0	0	0	0	0	0	0	21	21-30	17
11:00 PM	0	6	5	2	0	0	0	0	0	0	0	0	0	0	13	16-25	11
Day Total	275	1320	1134	175	5	0	0	0	0	0	0	0	0	0	2909	16-25	2454
Percent	9.5%	45.4%	39%	6%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
AM Peak	11:00 AM	11:00 AM	11:00 AM	10:00 AM	8:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	11:00 AM		
Volume	26	156	113	15	2	0	0	0	0	0	0	0	0	0	305		
PM Peak	1:00 PM	12:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM		
Volume	31	136	98	16	1	0	0	0	0	0	0	0	0	0	271		

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Saturday)
QC JOB #: 16225703
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Half Moon Bay, CA
DATE: Jun 3 2023

Speed Range	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	275	1320	1134	175	5	0	0	0	0	0	0	0	0	0	2909	16-25	2454
Percent	9.5%	45.4%	39%	6%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Cumulative Percent	9.5%	54.8%	93.8%	99.8%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

ADT
2909

85th Percentile: 23 MPH
Mean Speed(Average): 19 MPH
Median: 19 MPH
Mode: 18 MPH

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Stone Pine Rd West of Patrick Way (Saturday) **QC JOB #:** 16225703

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 3 2023 - Jun 3 2023

Start Time	Mon	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat 3 Jun 23	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM							8		8	
01:00 AM							9		9	
02:00 AM							1		1	
03:00 AM							6		6	
04:00 AM							2		2	
05:00 AM							21		21	
06:00 AM							50		50	
07:00 AM							78		78	
08:00 AM							122		122	
09:00 AM							186		186	
10:00 AM							243		243	
11:00 AM							**305**		305	
12:00 PM							**271**		271	
01:00 PM							232		232	
02:00 PM							187		187	
03:00 PM							214		214	
04:00 PM							184		184	
05:00 PM							175		175	
06:00 PM							227		227	
07:00 PM							153		153	
08:00 PM							128		128	
09:00 PM							73		73	
10:00 PM							21		21	
11:00 PM							13		13	
Day Total							2909		2909	
% Weekday Average										
% Week Average						0%	100%			
AM Peak Volume							11:00 AM 305		11:00 AM 305	
PM Peak Volume							12:00 PM 271		12:00 PM 271	

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

LOCATION: Stone Pine Road East of Patrick Way
QC JOB #: 16189903
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Half Moon Bay, CA
DATE: May 17 2023

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	21-30	1
01:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	11-20	2
02:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
03:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
04:00 AM	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	11-20	3
05:00 AM	0	5	5	3	0	0	0	0	0	0	0	0	0	0	13	16-25	10
06:00 AM	3	9	13	3	0	0	0	0	0	0	0	0	0	0	28	16-25	22
07:00 AM	5	22	**44**	**9**	0	0	0	0	0	0	0	0	0	0	80	16-25	66
08:00 AM	7	28	23	4	0	0	0	0	0	0	0	0	0	0	62	16-25	51
09:00 AM	12	43	37	3	0	0	0	0	0	0	0	0	0	0	95	16-25	80
10:00 AM	**21**	56	40	6	0	0	0	0	0	0	0	0	0	0	**123**	16-25	96
11:00 AM	15	**59**	40	2	0	0	0	0	0	0	0	0	0	0	116	16-25	99
12:00 PM	25	63	47	2	0	0	0	0	0	0	0	0	0	0	137	16-25	110
01:00 PM	12	44	36	7	**1**	0	0	0	0	0	0	0	0	0	100	16-25	80
02:00 PM	13	56	**55**	8	0	0	0	0	0	0	0	0	0	0	132	16-25	111
03:00 PM	26	**77**	52	**12**	0	0	0	0	0	0	0	0	0	0	**167**	16-25	129
04:00 PM	**29**	60	42	9	0	0	0	0	0	0	0	0	0	0	140	16-25	102
05:00 PM	14	33	30	5	0	0	0	0	0	0	0	0	0	0	82	16-25	63
06:00 PM	11	18	14	0	0	0	0	0	0	0	0	0	0	0	43	16-25	32
07:00 PM	6	19	13	1	0	0	0	0	0	0	0	0	0	0	39	16-25	32
08:00 PM	0	9	5	2	0	0	0	0	0	0	0	0	0	0	16	16-25	14
09:00 PM	5	4	1	1	0	0	0	0	0	0	0	0	0	0	11	11-20	6
10:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
11:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16-25	3
Day Total	206	609	503	78	1	0	0	0	0	0	0	0	0	0	1397	16-25	1112
Percent	14.7%	43.6%	36%	5.6%	0.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
AM Peak	10:00 AM	11:00 AM	7:00 AM	7:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	10:00 AM		
Volume	21	59	44	9	0	0	0	0	0	0	0	0	0	0	123		
PM Peak	4:00 PM	3:00 PM	2:00 PM	3:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM		
Volume	29	77	55	12	1	0	0	0	0	0	0	0	0	0	167		

Comments:

Report generated on 5/23/2023 8:36 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Stone Pine Road East of Patrick Way
SPECIFIC LOCATION:
CITY/STATE: Half Moon Bay, CA

QC JOB #: 16189903
DIRECTION: EB, WB
DATE: May 17 2023

Speed Range	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total **Percent**	206 14.7%	609 43.6%	503 36%	78 5.6%	1 0.1%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	1397	16-25	1112
Cumulative Percent	14.7%	58.3%	94.3%	99.9%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

ADT
1397

85th Percentile: 23 MPH
Mean Speed(Average): 19 MPH
Median: 19 MPH
Mode: 18 MPH

Comments:

Report generated on 5/23/2023 8:36 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Stone Pine Road East of Patrick Way **QC JOB #:** 16189903

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** May 17 2023 - May 17 2023

Start Time	Mon	Tue	Wed 17 May 23	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
01:00 AM			2			2			2	
02:00 AM			1			1			1	
03:00 AM			1			1			1	
04:00 AM			4			4			4	
05:00 AM			13			13			13	
06:00 AM			28			28			28	
07:00 AM			80			80			80	
08:00 AM			62			62			62	
09:00 AM			95			95			95	
10:00 AM			**123**			**123**			**123**	
11:00 AM			116			116			116	
12:00 PM			137			137			137	
01:00 PM			100			100			100	
02:00 PM			132			132			132	
03:00 PM			**167**			**167**			**167**	
04:00 PM			140			140			140	
05:00 PM			82			82			82	
06:00 PM			43			43			43	
07:00 PM			39			39			39	
08:00 PM			16			16			16	
09:00 PM			11			11			11	
10:00 PM			1			1			1	
11:00 PM			3			3			3	
Day Total			1397			1397			1397	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			10:00 AM 123			10:00 AM 123			10:00 AM 123	
PM Peak Volume			3:00 PM 167			3:00 PM 167			3:00 PM 167	

Comments:

Report generated on 5/23/2023 8:36 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

SECTION 5. APPENDIX E: BICYCLE NETWORK

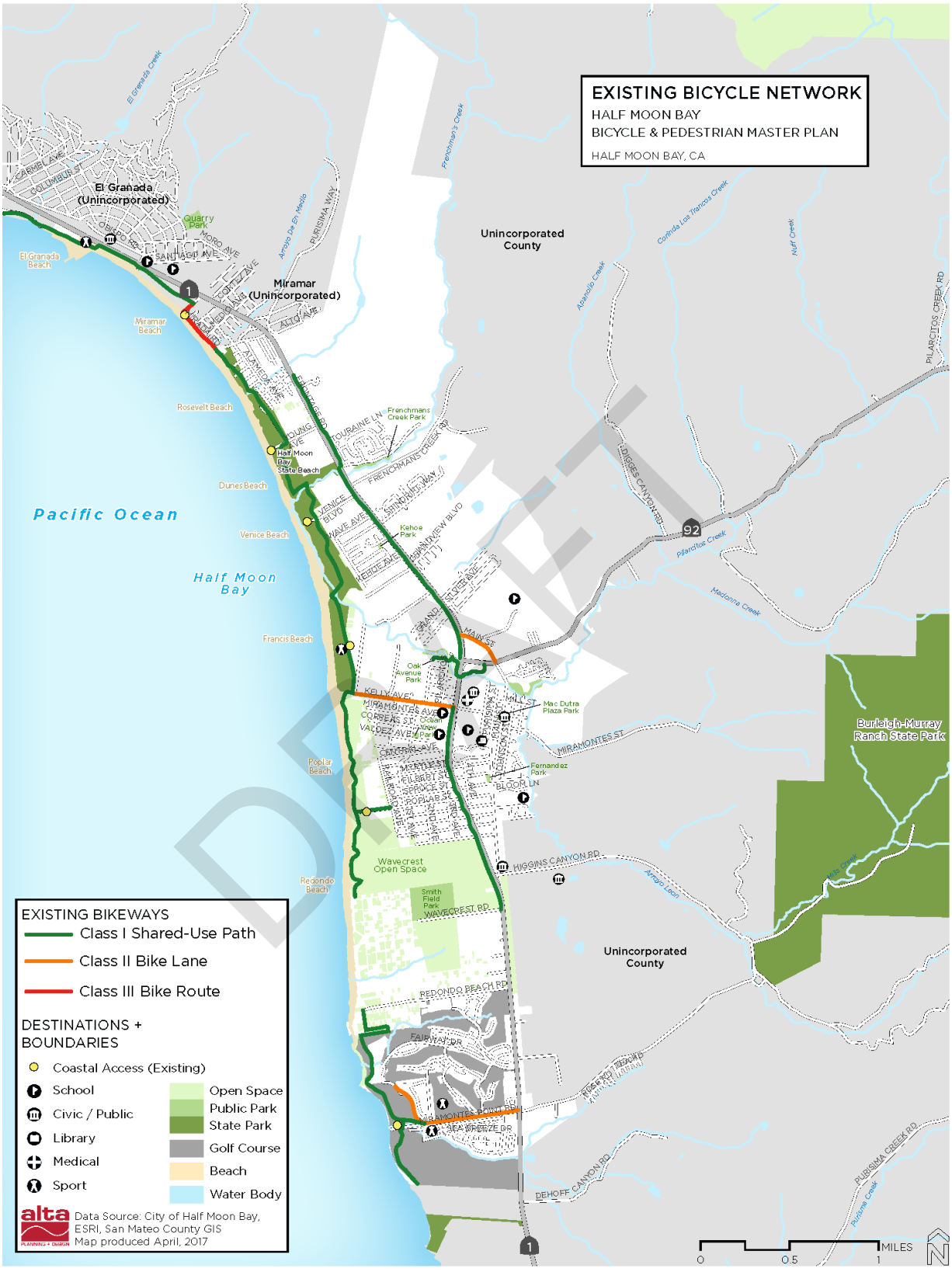


Figure 2-1: Existing Bicycle Network

SECTION 6: APPENDIX F: EXISTING + PROJECT SYNCHRO RESULTS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	764	69	90	306	186	48	156	185	342	99
v/c Ratio	0.61	0.48	0.09	0.65	0.19	0.23	0.23	0.72	0.54	0.90	0.25
Control Delay	91.3	32.5	4.6	86.8	25.1	4.8	60.1	81.3	13.1	82.0	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	32.5	4.6	86.8	25.1	4.8	60.1	81.3	13.1	82.0	40.4
Queue Length 50th (ft)	65	269	0	87	90	0	44	151	0	325	67
Queue Length 95th (ft)	116	411	25	140	147	49	78	208	64	417	113
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1632	775	158	1631	800	330	348	439	439	447
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.47	0.09	0.57	0.19	0.23	0.15	0.45	0.42	0.78	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	672	61	79	269	164	42	137	163	301	59	28
Future Volume (vph)	59	672	61	79	269	164	42	137	163	301	59	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1689	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1689	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	764	69	90	306	186	48	156	185	342	67	32
RTOR Reduction (vph)	0	0	38	0	0	96	0	0	163	0	12	0
Lane Group Flow (vph)	67	764	31	90	306	90	48	156	22	342	87	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	3%	3%	3%	9%	9%	9%	3%	3%	3%	6%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.3	67.9	67.9	13.3	72.9	72.9	17.6	17.6	17.6	33.7	33.7	
Effective Green, g (s)	8.3	67.9	67.9	13.3	72.9	72.9	17.6	17.6	17.6	33.7	33.7	
Actuated g/C Ratio	0.06	0.45	0.45	0.09	0.49	0.49	0.12	0.12	0.12	0.22	0.22	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	96	1586	709	146	1609	696	205	216	179	382	379	
v/s Ratio Prot	c0.04	c0.22		c0.05	0.09		0.03	c0.08		c0.20	0.05	
v/s Ratio Perm			0.02			0.06			0.01			
v/c Ratio	0.70	0.48	0.04	0.62	0.19	0.13	0.23	0.72	0.12	0.90	0.23	
Uniform Delay, d1	69.6	28.7	22.9	65.9	21.8	21.1	60.1	63.8	59.3	56.4	47.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.3	1.1	0.1	5.3	0.3	0.4	0.2	9.7	0.1	22.0	0.1	
Delay (s)	85.9	29.8	23.0	71.2	22.1	21.5	60.3	73.5	59.4	78.5	47.7	
Level of Service	F	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		33.4			29.5			65.2			71.5	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	20	0	75	1	332	44	40	191	2
Future Vol, veh/h	1	0	0	20	0	75	1	332	44	40	191	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	4	4	4	3	3	3
Mvmt Flow	1	0	0	22	0	81	1	357	47	43	205	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.9	8.9	12.3	9.8
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	21%	100%	0%
Vol Thru, %	88%	0%	0%	0%	99%
Vol Right, %	12%	0%	79%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	377	1	95	40	193
LT Vol	1	1	20	40	0
Through Vol	332	0	0	0	191
RT Vol	44	0	75	0	2
Lane Flow Rate	405	1	102	43	208
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.512	0.002	0.142	0.067	0.295
Departure Headway (Hd)	4.551	5.82	5.006	5.627	5.117
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	790	611	713	636	701
Service Time	2.586	3.892	3.058	3.369	2.858
HCM Lane V/C Ratio	0.513	0.002	0.143	0.068	0.297
HCM Control Delay	12.3	8.9	8.9	8.8	10
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	3	0	0.5	0.2	1.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	466	101	174	637	437	114	166	122	187	173
v/c Ratio	0.53	0.29	0.13	0.78	0.33	0.47	0.56	0.77	0.42	0.59	0.53
Control Delay	84.8	29.4	6.4	85.3	23.6	12.7	72.5	87.1	13.5	62.6	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.8	29.4	6.4	85.3	23.6	12.7	72.5	87.1	13.5	62.6	53.4
Queue Length 50th (ft)	55	162	0	167	207	115	107	160	0	158	128
Queue Length 95th (ft)	103	242	44	241	292	246	167	233	59	238	204
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	133	1621	779	330	1907	933	337	354	396	416	421
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.29	0.13	0.53	0.33	0.47	0.34	0.47	0.31	0.45	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	443	96	165	605	415	108	158	116	178	100	65
Future Volume (vph)	54	443	96	165	605	415	108	158	116	178	100	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1770	3539	1513	1787	1881	1574	1770	1725	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1770	3539	1513	1787	1881	1574	1770	1725	
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)	57	466	101	174	637	437	114	166	122	187	105	68
RTOR Reduction (vph)	0	0	55	0	0	119	0	0	108	0	16	0
Lane Group Flow (vph)	57	466	46	174	637	318	114	166	14	187	157	0
Confl. Peds. (#/hr)	8					8	22					22
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.2	68.8	68.8	19.6	80.2	80.2	17.2	17.2	17.2	26.9	26.9	
Effective Green, g (s)	8.2	68.8	68.8	19.6	80.2	80.2	17.2	17.2	17.2	26.9	26.9	
Actuated g/C Ratio	0.05	0.46	0.46	0.13	0.53	0.53	0.11	0.11	0.11	0.18	0.18	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	95	1607	719	231	1892	808	204	215	180	317	309	
v/s Ratio Prot	c0.03	0.13		c0.10	0.18		0.06	c0.09		c0.11	0.09	
v/s Ratio Perm			0.03			c0.21			0.01			
v/c Ratio	0.60	0.29	0.06	0.75	0.34	0.39	0.56	0.77	0.08	0.59	0.51	
Uniform Delay, d1	69.3	25.3	22.6	62.9	19.8	20.6	62.8	64.5	59.3	56.5	55.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	0.5	0.2	11.6	0.5	1.4	1.9	14.4	0.1	1.8	0.5	
Delay (s)	75.9	25.8	22.8	74.5	20.3	22.0	64.7	78.9	59.4	58.3	56.0	
Level of Service	E	C	C	E	C	C	E	E	E	E	E	
Approach Delay (s)		29.9			28.5			69.0			57.2	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

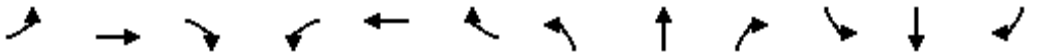
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	51	1	95	4	279	42	128	277	2
Future Vol, veh/h	0	0	3	51	1	95	4	279	42	128	277	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	2	2	2	1	1	1
Mvmt Flow	0	0	3	57	1	106	4	310	47	142	308	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.6	10.3	12.7	11.7
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	100%	0%
Vol Thru, %	86%	0%	1%	0%	99%
Vol Right, %	13%	100%	65%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	325	3	147	128	279
LT Vol	4	0	51	128	0
Through Vol	279	0	1	0	277
RT Vol	42	3	95	0	2
Lane Flow Rate	361	3	163	142	310
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.493	0.005	0.245	0.229	0.454
Departure Headway (Hd)	4.913	5.568	5.4	5.785	5.276
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	726	647	658	616	676
Service Time	2.992	3.568	3.493	3.57	3.06
HCM Lane V/C Ratio	0.497	0.005	0.248	0.231	0.459
HCM Control Delay	12.7	8.6	10.3	10.3	12.4
HCM Lane LOS	B	A	B	B	B
HCM 95th-tile Q	2.8	0	1	0.9	2.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	717	108	180	682	280	103	171	163	302	187
v/c Ratio	0.51	0.50	0.15	0.73	0.38	0.33	0.44	0.69	0.47	0.85	0.51
Control Delay	85.7	37.6	7.0	78.8	27.0	13.7	63.8	75.5	11.7	78.2	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	37.6	7.0	78.8	27.0	13.7	63.8	75.5	11.7	78.2	54.3
Queue Length 50th (ft)	49	282	0	170	225	72	96	165	0	276	149
Queue Length 95th (ft)	96	402	47	251	326	167	149	231	64	388	228
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1512	738	251	1778	845	333	351	424	416	426
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.15	0.72	0.38	0.33	0.31	0.49	0.38	0.73	0.44

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	688	104	173	655	269	99	164	156	290	135	44
Future Volume (vph)	49	688	104	173	655	269	99	164	156	290	135	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1532	1770	1863	1547	1770	1781	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1532	1770	1863	1547	1770	1781	
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)	51	717	108	180	682	280	103	171	162	302	141	46
RTOR Reduction (vph)	0	0	64	0	0	76	0	0	141	0	8	0
Lane Group Flow (vph)	51	717	44	180	682	204	103	171	22	302	179	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.5	60.6	60.6	21.6	74.7	74.7	20.0	20.0	20.0	30.3	30.3	
Effective Green, g (s)	7.5	60.6	60.6	21.6	74.7	74.7	20.0	20.0	20.0	30.3	30.3	
Actuated g/C Ratio	0.05	0.40	0.40	0.14	0.50	0.50	0.13	0.13	0.13	0.20	0.20	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	88	1429	639	254	1762	762	236	248	206	357	359	
v/s Ratio Prot	c0.03	c0.20		c0.10	0.19		0.06	c0.09		c0.17	0.10	
v/s Ratio Perm			0.03			0.13			0.01			
v/c Ratio	0.58	0.50	0.07	0.71	0.39	0.27	0.44	0.69	0.11	0.85	0.50	
Uniform Delay, d1	69.7	33.4	27.4	61.2	23.4	21.8	59.8	62.0	57.1	57.6	53.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.6	1.3	0.2	7.2	0.6	0.9	0.5	6.2	0.1	16.0	0.4	
Delay (s)	75.3	34.7	27.6	68.4	24.1	22.7	60.3	68.3	57.2	73.6	53.5	
Level of Service	E	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		36.2			30.7			62.3			65.9	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	45	1	85	4	301	33	100	311	2
Future Vol, veh/h	0	0	3	45	1	85	4	301	33	100	311	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	47	1	89	4	314	34	104	324	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.5	9.8	12.2	11.9
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	34%	100%	0%
Vol Thru, %	89%	0%	1%	0%	99%
Vol Right, %	10%	100%	65%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	3	131	100	313
LT Vol	4	0	45	100	0
Through Vol	301	0	1	0	311
RT Vol	33	3	85	0	2
Lane Flow Rate	352	3	136	104	326
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.473	0.005	0.203	0.165	0.471
Departure Headway (Hd)	4.833	5.464	5.359	5.706	5.197
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	739	659	663	625	688
Service Time	2.899	3.464	3.443	3.475	2.966
HCM Lane V/C Ratio	0.476	0.005	0.205	0.166	0.474
HCM Control Delay	12.2	8.5	9.8	9.6	12.6
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	2.6	0	0.8	0.6	2.5

SECTION 7. APPENDIX G: SIGNAL WARRANT RESULTS

Traffic Signal Warrant Analysis Workbook

6/23/2023

STUDY AND ANALYSIS INFORMATION

Municipality:	Half Moon Bay	**Analysis Date:**	6/15/2023
County:	San Mateo	**Conducted By:**	Christine Bairan
		Agency/Company Name:	DKS Associates

Analysis Information

Data Collection Date:	5/17/2023
Day of the Week:	Wednesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	Main Street
Major Street Approach #1 Direction:	N-Bound
Major Street Approach #2 Direction:	S-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	1	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	25	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Stone Pine Road
Minor Street Approach #1 Direction:	W-Bound
Minor Street Approach #2 Direction:	E-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	**No**	**N/A**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**No**
Warrant 3, Peak Hour	**Yes**	**No**
Warrant 4, Pedestrian Volume	**No**	**N/A**
Warrant 5, School Crossing	**No**	**N/A**
Warrant 6, Coordinated Signal System	**No**	**N/A**
Warrant 7, Crash Experience	**No**	**N/A**
Warrant 8, Roadway Network	**No**	**N/A**
Warrant 9, Intersection Near a Grade Crossing	**No**	**N/A**
Bicycle Signal Warrant (CA)	**No**	**N/A**

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

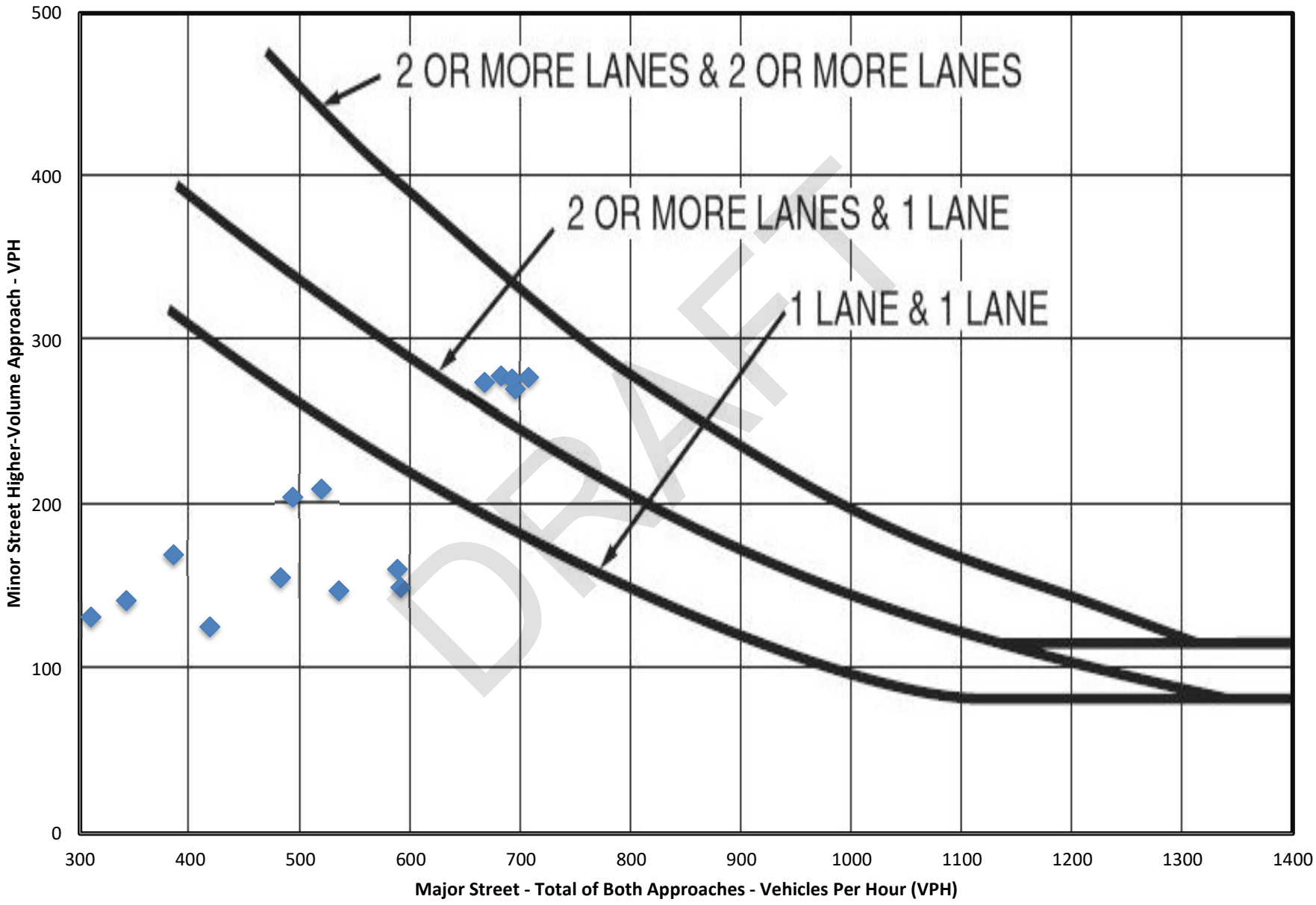
Total Number of Unique Hours Met On Figure 4C-1
2

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	0	0	
5:30 AM	0	0	
5:45 AM	0	0	
6:00 AM	0	0	
6:15 AM	73	49	
6:30 AM	155	93	
6:45 AM	257	134	
7:00 AM	385	170	
7:15 AM	482	156	
7:30 AM	535	148	
7:45 AM	591	150	
8:00 AM	588	161	
8:15 AM	418	126	
8:30 AM	283	90	
8:45 AM	125	47	
9:00 AM	0	0	
9:15 AM	0	0	
9:30 AM	0	0	
9:45 AM	0	0	
10:00 AM	0	0	
10:15 AM	0	0	
10:30 AM	0	0	
10:45 AM	0	0	
11:00 AM	0	0	
11:15 AM	0	0	
11:30 AM	0	0	
11:45 AM	0	0	

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 PM	0	0	
12:15 PM	0	0	
12:30 PM	0	0	
12:45 PM	0	0	
1:00 PM	0	0	
1:15 PM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	171	76	
3:30 PM	342	142	
3:45 PM	519	210	
4:00 PM	667	275	Met
4:15 PM	695	271	Met
4:30 PM	707	278	Met
4:45 PM	682	279	Met
5:00 PM	692	277	Met
5:15 PM	493	205	
5:30 PM	310	132	
5:45 PM	158	63	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
7:00 PM	0	0	
7:15 PM	0	0	
7:30 PM	0	0	
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PM	0	0	
8:30 PM	0	0	
8:45 PM	0	0	
9:00 PM	0	0	
9:15 PM	0	0	
9:30 PM	0	0	
9:45 PM	0	0	
10:00 PM	0	0	
10:15 PM	0	0	
10:30 PM	0	0	
10:45 PM	0	0	
11:00 PM	0	0	

MUTCD Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	No

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	No
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	No
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	No
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-3
1

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
8:00 AM	588	161	
8:15 AM	827	381	Met
8:30 AM	827	381	Met
8:45 AM	827	381	Met
9:00 AM	0	0	
9:15 AM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	171	76	
3:30 PM	342	142	
3:45 PM	519	210	
4:00 PM	667	275	

MUTCD Figure 4C-3. Warrant 3, Peak Hour