

City of Marina Traffic Impact Fee Update

Report

Prepared for:
City of Marina

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Programmed CIP Transportation Projects

For this TIF Program update, the project team worked closely with City staff to conduct a comprehensive review of the transportation projects to be included in the program. This review identified 26 projects focused on intersection and roadway improvements, which have been included in this study. The area covered by the TIF Program and the location of projects proposed for inclusion in the fee program are shown in **Figure 1**.

Cost estimates for each project were provided by the City Staff which were updated to 2024 dollars where applicable. The project list including the 2024 dollars cost estimates is shown in **Table 1**.

Table 1 – Proposed City of Marina TIF Projects – Intersections and Roadways

ID	Project Name	Description ¹	Estimated Cost (2024 dollars)
Intersection Improvement Projects			
1	2nd Avenue & Inter-Garrison Road	Construct a second left turn lane for the eastbound approach, additional through lane for westbound approach and right-turn pocket at southbound approach at the intersection of 2nd Avenue and Inter-Garrison Road.	\$875,200
2	Imjin Road & 8 th Street	Implement modern roundabout at the intersection of Imjin Road and 8th Street.	\$1,800,000
3	California Drive & 8 th Street	Implement modern roundabout at the intersection of California Drive and 8th Street.	\$1,750,300
4	Reservation Road & Salinas Avenue	Signalize intersection of Reservation Road and Salinas Avenue.	\$2,438,600
5	Imjin Parkway bridge @ SR 1 ²	Restripe lanes to accommodate two WB lanes on the Imjin Parkway bridge over SR 1.	\$41,400
6	SR 1 Southbound off-ramp @ Imjin Parkway ²	Convert the southbound off-ramp to a loop configuration at SR 1 and Imjin Parkway interchange.	\$3,182,400
7	SR 1 Southbound on-ramp @ Imjin Parkway ²	Widen the southbound on-ramp at SR 1 and Imjin Parkway interchange to accommodate two lanes.	\$795,600
8	Del Monte Boulevard & Beach Road	Widen the existing roundabout at the intersection of Del Monte Boulevard and Beach Road to 2-lanes.	-
9	Imjin Parkway & 2 nd Avenue	Construct a second eastbound right turn lane and dedicated westbound right-turn lane at the intersection of Imjin Parkway and 2nd Avenue.	\$6,583,200
10	Reservation Road & Del Monte Boulevard	Construct a multi lane roundabout at the intersection of Reservation Road & Del Monte Boulevard.	\$2,800,000
11	California Avenue & Marina Heights Drive	Signalize intersection of California Avenue and Marina Heights Drive.	\$1,384,400
12	SR1 Southbound Ramp @ Reservation Rd	Signalize intersection of SR1 Southbound Ramp and Reservation Road.	\$4,000,000

Table 1 – Proposed City of Marina TIF Projects – Intersections and Roadways

ID	Project Name	Description ¹	Estimated Cost (2024 dollars)
13	SR1 Northbound Ramp @ Reservation Road	Signalize intersection of SR1 Northbound Ramp and Reservation Road.	\$4,000,000
14	Cardoza Avenue & Reservation Road	Construct westbound right turn only lane from Cardoza Avenue to SR1 Northbound Ramp.	\$3,500,000
15	Del Monte Boulevard and Patton Parkway Roundabout	Construct a new Roundabout intersection at Del Monte Boulevard and Patton Parkway	\$6,000,000
Roadway Improvement Projects			
16	Del Monte Boulevard Extension ³	Construct new 2-lane collector between Imjin Parkway and Reindollar Avenue.	\$17,000,000
17	8 th Street from California Avenue to Inter-Garrison Road ³	Reconstruct 8th Street into 2-lane arterial with a two-way-left-turn lane between California Avenue and Inter-Garrison Road.	\$9,449,700
18	Salinas Avenue - Reservation Road to Carmel Avenue ³	Reconstruct Salinas Avenue into a 2-lane collector between Reservation Road and Carmel Avenue.	\$3,450,000
19	Imjin Parkway & SR1 Interchange	Reconstruct interchange between Imjin Parkway and SR1.	\$24,385,300
20	Del Monte Boulevard - Beach Road to Marina Greens Drive	Widen Del Monte Boulevard to a 4-lane arterial between Beach Road and Marina Greens Drive.	\$13,411,900
21	Del Monte Boulevard & SR 1 Interchange	Reconstruct interchange between Del Monte Boulevard and SR1.	-
22	Reservation Road – Beach Road to SR 1	Widen Reservation Road to a 4-lane divided arterial with a two-way-left-turn lane between Beach Road and SR1 Southbound Ramp.	\$6,099,250
23	Reservation Road - Imjin Road to Blanco Road	Widen Reservation Road to a 6-lane expressway between Imjin Road and Blanco Road.	\$13,036,400
24	Airport Access Road	Construct new access road from University Drive and UC Mbest Drive intersection to the existing access road connecting to Ramco Enterprises building providing additional connection to the Marina Municipal Airport.	\$6,190,000
25	Reservation Road – Del Monte Boulevard to California Street	Improve Reservation Corridor from Del Monte Boulevard to California Street with six roundabout intersections, install separated bike facilities and install new sidewalks.	\$31,174,100
26	Del Monte Corridor – Reindollar Avenue to Reservation Road	Improve Del Monte Corridor with two roundabout intersections at Reindollar Avenue and Palm Avenue, install separated bike facilities and sidewalks.	\$16,258,700
Total			\$179,606,450

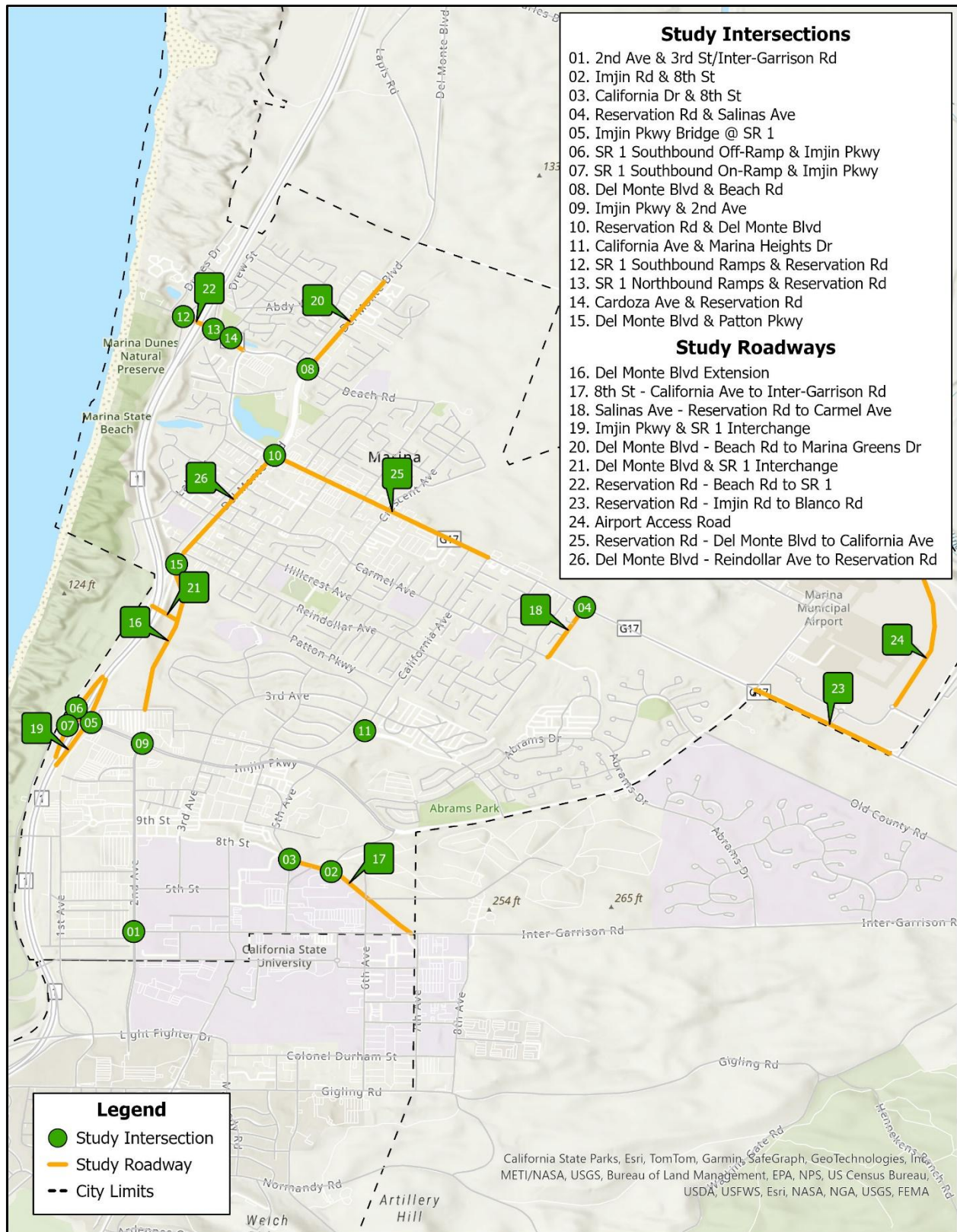
Notes:

1: Project 1 through 20 are intersection improvement projects and Project 21 through 29 are roadway improvement projects.

2: Projects 5, 6, & 7 are considered as intersection projects and analyzed as one combined intersection improvement

3: Projects 8 and 21 are part of the DIF program but are not considered eligible for the current fee program as they are given a lower priority based on traffic growth and may be required beyond 2045 conditions.

Figure 1 – Marina TIF Program Projects



Growth Projections

This chapter details the population and employment growth projections used for the TIF update. Note that these are consistent with those based on the population and employment projections from the City's most recent General Plan and Housing Element Update. Projections by land use category and trip generation by land use are discussed below.

Land Use Growth Projections

The growth projections for the approved and pending developments were determined in coordination with the City and incorporated into the Association of Monterey Bay Governments' travel demand model (AMBAG TDM) used for this study. The AMBAG TDM utilizes a base year of 2015 and a future year of 2045, representing the conditions expected when the City's General Plan and Housing Element are fully built out. As part of this study, the model's base year was revised to reflect 2024 conditions. The growth projections were converted into population, households and employment as input to the model.

The proposed land uses were distributed throughout the Traffic Analysis Zones (TAZs) that represent the proposed growth in the City and were added to the base year household and employment numbers to represent the future build out scenario. In order to estimate the number of employees for the non-residential land uses to input into the model, the ratio of daily trip generation rates listed in the Trip Generation Handbook, 11th Edition published by the Institute of Transportation Engineers (ITE) between 1,000 square-feet and employees was used. The number of daily trips produced by the size of each of the land use codes for office, retail and industrial was used to back calculate the number of employees based on each land use's equation for the number of trips that are produced by each employee.

While the AMBAG TDM uses household as its input, there is no differentiation between single-family and multi-family residential in terms of trip generation and distribution. However, the AMBAG TDM is a hybrid model as its processes follow the traditional four-step model (trip generation, trip distribution, mode choice, and trip assignment), but it also contains a population synthesis step based on socioeconomic data collected throughout the AMBAG region to produce individuals living in each household that contain their own trip making characteristics. Therefore, the population synthesis step was completed to develop the population estimates for the future growth in the City. The land use estimates for future growth are summarized in **Table 2**. The population, household and employment estimates for the base year and future year are summarized in **Table 3**. It is estimated that the growth in the impact fee area will increase the City population by approximately **10,434** people and will generate about **3,318** new jobs.

Table 2 – New Development Impact Fee Area Land Use Projections

Projects	Single Family (DU)	Multi Family (DU)	Office (KSF)	Retail (KSF)	Industrial (KSF)	Hotel (Rooms)
UCMBEST	-	-	266	34	88	150
Downtown Specific Plan	-	1,000	128	219	0	-
Dunes	683	-	0	35	0	300
Marina Station	709	651	144	60	652	-
Sea Haven	476	-	0	0	0	-
3298 Del Monte	-	94	0	0	0	-
Total	1,868	1,745	537	348	740	450

Table 3 – Citywide Growth Projections

Growth Category	2024 Base Year for AMBAG Model	2045 Horizon Year for AMBAG Model	2024 to 2045 Growth
Population	22,336	32,770	10,434 (47%)
Households	7,813	11,426	3,613 (46%)
Employment/Jobs	6,160	9,478	3,318 (54%)

Land Use Trip Generation

To assess the TIF across various land uses a Trip Demand Factor (TDF) is calculated, which reflects the trip generation characteristics of each land use that produces new vehicle trips on the roadway system in Marina. Each land use has unique trip generation characteristics including base trip generation rate, pass-by trip rates and time-of-day variation that are used as inputs in calculating the TDF. The daily trip generation rates have been obtained from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition as shown in **Table 4**.

TDFs are calculated by multiplying the daily trip rate by the new trip percentage for each land use. The new trip percentage for each land use was obtained from SANDAG's Brief Guide of Vehicular Traffic Generation Rates and accounts for the fact that some trips generated by the land uses will be pass-by or otherwise pre-existing trips. As these trips are already on the City's roadway network, they cannot be included as part of the growth used to calculate the fees for the 2024 TIF Program.

Table 4 – Trip Demand Factors

Fee Category (Development Type)	Unit	ITE Lane Use Code	Daily Trip Rate ¹	New Trip Percentage ²	Trip Demand Factor
Residential					
Single Family	Unit	210	9.43	97%	9.15
Multifamily	Unit	220	6.74	97%	6.54
Nonresidential					
Office	KSF	710	10.84	96%	10.41
Retail	KSF	820	37.01	70%	16.61
Industrial	KSF	110	4.87	98%	4.77
Hotel	Room	310	7.99	96%	7.67

1. Reflects average number of daily trips for the unit type indicated based on data from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition).
2. This factor accounts for the fact that some trips generated by the land uses will be pass-by or otherwise pre-existing trips. Source is *Brief Guide of Vehicular Traffic Generation Rates*, SANDAG, April 2002.

The adjusted TDFs are used to calculate the total growth in adjusted daily trips generated by each land use type. The growth projected to occur in the City of Marina was taken from the City's General Plan and Housing Element and in consultation with the City, as outlined in **Table 5**. As shown in **Table 5**, the land use growth was multiplied by its respective adjusted trip rate to calculate the total daily trip generation growth in the City. These calculations resulted in an estimated adjusted daily citywide trip increase of **46,851** between 2024 and 2045.

Table 5 – Land Use Growth Converted to Adjusted Daily Trips

Land Use Type	Unit	Quantity	Adjusted Daily TDF	Adjusted Daily Trips
Single Family	DU	1,868	9.15	17,087
Multifamily	DU	1,000	6.54	11,408
Office	KSF	357.3	10.41	5,592
Retail	KSF	348.0	16.61	5,781
Industrial	KSF	740.0	4.77	3,532
Hotel	Rooms	450	7.67	3,452
Total				46,851

AB 602 Analysis

Assembly Bill (AB) 602 was approved on September 28, 2021, and went into effect on January 1, 2022. This legislation requires that impact fee nexus studies adopted on or after January 1, 2022, must, as appropriate, identify the existing level of service for each public facility, specify the new level of service once an improvement (project) is constructed, and include an explanation of why the new level of service is necessary. It is important to note that AB 602 does not specifically define the basis for the required level of service analyses. Consequently, the methods used to assess the level of service for various public facilities must be tailored to the type of facility being analyzed and the information available.

AB 602 also mandates that studies adopted after July 1, 2022, must calculate fees levied or imposed on housing development projects proportionate to the square footage of the proposed units, or provide specific findings explaining why square footage is not an appropriate metric for fee calculation. In essence, development impact fees must be stratified based on the size of the housing unit or be supported by findings justifying the decision not to stratify the fees. As part of this study, an AB 602 deficiency analysis and fee stratification analysis were conducted.

The AB 602 analysis evaluated 24 of 26 projects, summarized in **Table 1** earlier, which involved improvements to public facilities. The projects identified for the required level of service (LOS) analysis under AB 602 were categorized as either an intersection or roadway improvement. Projects 1 through 15 were analyzed as intersection LOS improvements, Project 16 through 24 were analyzed as roadway LOS improvements and Projects 25 and 26 were analyzed as roadway safety improvements for pedestrians and bicyclists.

Level of Service Analysis Methodology

Table 6 summarizes the methodology and MOE that was used to determine existing and future conditions depending on the type of improvement.

Table 6 – Methodology and Measure of Effectiveness

Improvement Type	Methodology	Measure of Effectiveness
Intersection	HCM	LOS (Delay)
Roadway Capacity	Roadway Volume LOS Threshold	LOS (V/C)
Roadway Ped/Bike	Roadway LTS Threshold	LOS (LTS)

Note: HCM = Highway Capacity Manual, LOS = Level of Service, Volume-to-Capacity Ratio, LTS=Level of Traffic Street

The intersection LOS analysis for AB 602 was conducted for the PM peak-hour which represents the worst traffic conditions, and roadway LOS analysis was conducted for the daily traffic.

Intersection Level of Service

Analysis of intersection level of service (LOS) is based on the Highway Capacity Manual's (HCM) concept of LOS. The HCM defines the LOS of a facility as a qualitative measure used to describe operational conditions. LOS ranges from A (free flow traffic with minimal delay) to F (heavy congestion operating near or over

capacity). LOS was determined using methodologies defined in HCM 7th Edition, the current edition at the time of the analysis. The LOS criteria is summarized in **Table 7**.

Existing condition traffic counts during the AM (7 AM – 9 AM) and PM (4 PM – 6 PM) peak period were collected in September 2023. Future 2045 No Build and 2045 Build volumes were developed by adding travel demand model growth to existing counts. The travel demand model maintained by Association of Monterey Bay Area Governments (AMBAG model) was used to determine future traffic growth.

Table 7 – Methodology and Measure of Effectiveness

Level of Service (LOS)	Signalized Delay (sec/veh)	Unsignalized Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10.0 – 20.0	> 10.0 – 15.0
C	> 20.0 – 35.0	> 15.0 – 25.0
D	> 35.0 – 55.0	> 25.0 – 35.0
E	> 55.0 – 80.0	> 35.0 – 50.0
F	> 80.0	> 50.0

Source: Highway Capacity Manual, 7th Edition

Note: For All-way stop-control intersection (AWSC), LOS is defined based on average intersection delay.

For two-way stop-controlled intersections (TWSC), LOS is defined based on the worst movement delay.

According to the City of Marina General Plan, the City aims to maintain LOS D or better as the standard at all intersections. Therefore, for this analysis intersections calculated to operate at LOS E or LOS F were determined to be deficient.

Roadway Capacity

Roadway improvements were evaluated based on threshold average daily traffic volumes (ADT) for various facility types. The daily volume thresholds are based on the Highway Capacity Manual 2000 and intended for preliminary planning purposes only. Existing condition volumes for the study roadway segments were collected from the Replica Big Data platform. Replica provides travel data by mode as well as by roadway segments. Future 2045 No Build and 2045 Build volumes were developed by adding model growth to existing volumes. Note that while the City aims to maintain an LOS D or better on its roadways, for the purposes of this analysis a deficient roadway is one that operates at LOS E or LOS F.

Roadway Pedestrian and Bicycle

Roadway pedestrian and Bicycle improvements analysis utilized pedestrian level of comfort (LOC) and Bicycle Level of Traffic Stress (LTS) methodology. Both of these methodologies quantify amount of discomfort pedestrian or bicyclist may experience when traveling close to vehicle traffic. The LOC or LTS methodology assigns a numerical ranking between 1-4, where 1 is very comfortable and 4 is undesirable, based on facility attributed such as speed, number of travel lanes, pathway widths, etc. This analysis utilized

modified LOC and LTS methodologies from Montgomery County their methodology accounts for additional factors.

Level of Service Results

This section presents a summary of results for each project. Detailed analysis tables and outputs are included in **Appendix B**.

Intersection

Intersection LOS analysis was completed for Projects 1 through 20. **Table 8** presents a summary of the intersection LOS. Note that as discussed previously, LOS is presented in terms of the PM Peak-hour.

Project 1 evaluated the 2nd Avenue and Inter-Garrison Road intersection. It is estimated that future development will deteriorate the existing PM LOS from A to B. Under With Improvement Future conditions, Project 1 will improve operations to LOS A for PM.

Project 2 evaluated the Imjin Road and 8th Street intersection. This intersection operates at an LOS A in existing PM conditions. Under future conditions, the intersection operates at LOS C under PM conditions. Under With Improvement Future conditions, Project 2 will improve operations to LOS A for PM.

Project 3 evaluated the California Drive/5th Avenue and 8th Street intersection. This intersection operates at LOS A for existing and future PM conditions. Future development will slightly increase delay at this intersection. Project 3 will decrease the delay and keep operations to LOS A for PM.

Project 4 evaluated the Reservation Road and Salinas Avenue intersection. It is estimated that future development will slightly increase delay at this intersection. Under With Improvement Future conditions, Project 4 will improve operations to LOS A from C for PM.

Project 5, Project 6, and Project 7 evaluated all Highway 1 ramps that intersect with Imjin Parkway. It is estimated that future development will deteriorate the existing PM LOS from C to E. Project 5, Project 6, and Project 7 will add geometric improvements to each intersection that will result in no delay.

Project 8 is not considered eligible for the TIF program due to low priority and is not evaluated for the LOS analysis.

Project 9 evaluated the Imjin Parkway and 2nd Avenue intersection. It is estimated that future development will deteriorate the existing PM LOS from B to D. Under With Improvement Future conditions, Project 9 will decrease delay, but operations remain at LOS D for PM.

Project 10 evaluated the Del Monte Boulevard and Reservation Road intersection. It is estimated that future development will slightly increase delay at this intersection. Under With Improvement Future conditions, Project 10 will slightly decrease delay, but operations remain at LOS C for PM.

Project 11 evaluated the California Avenue and Marina Heights Drive intersection. It is estimated that future development will slightly increase delay at this intersection. Under With Improvement Future conditions, Project 11 will improve operations to LOS A for PM.

Project 12 evaluated the Reservation Road and SR1 Southbound Ramp intersection. This intersection operates at an LOS F in PM in existing and future conditions, which would be considered an existing deficiency. Under With Improvement Future conditions, Project 12 will improve operations to LOS C for PM.

Project 13 evaluated the Reservation Road and SR1 Northbound Ramp intersection. It is estimated that future development will deteriorate the existing PM LOS from B to C. Under With Improvement Future conditions, Project 13 will improve operations to LOS B for PM.

Project 14 evaluated the Cardoza Avenue and Reservation Road intersection. It is estimated that future development will remain the same for PM at LOS A. Under With Improvement Future conditions, Project 14 will remain the same as baseline future conditions.

Project 15 evaluated the Del Monte Boulevard and Patton Parkway intersection. This intersection is a future project, and therefore does not have an existing or future no project LOS. Under future with project conditions, the intersection is estimated to have an LOS of A.

Table 8 – Intersection Level of Service Summary

Project #	Existing Control Type	Project Control Type	Existing		2045 No Project		2045 Project	
			Delay sec/veh	LOS	Delay sec/veh	LOS	Delay sec/veh	LOS
1. 2nd Ave. & Inter-Garrison Rd.	AWSC	Signal	9.4	A	11.1	B	7.9	A
2. Imjini Rd. & 8 th St.	AWSC	RAB	9.2	A	17.7	C	6.2	A
3. California Dr./5 th Ave. & 8 th St.	SSSC	RAB	7.2	A	7.2	A	2.9	A
4. Reservation Rd. & Salinas Ave.	SSSC	Signal	15.8	C	20.5	C	6.1	A
5. Imjin Pkwy. Overpass at SR1	Signal	-	22.5	C	63.2	E	New Interchange with Free Flow	
6. SR1 Southbound Off-ramp & Imjin Pkwy.	Signal	-	22.5	C	63.2	E		
7. SR1 Southbound On-ramp & Imjin Pkwy.	Signal	-	22.5	C	63.2	E		
8. Del Monte Blvd. & Beach Rd.	RAB	RAB	-	-	-	-	-	-
9. Imjin Pkwy. & 2nd Ave.	Signal	Signal	16.3	B	54.9	D	54.5	D
10. Del Monte Blvd. & Reservation Rd.	Signal	Signal	24.1	C	37.7	C	36.4	C
11. California Ave. & Marina Heights Dr.	SSSC	Signal	12.1	B	13.0	B	8.4	A
12. SR1 Southbound Ramp & Reservation Rd.	SSSC	Signal	101.3	F	563.4	F	18.9	B
13. SR1 Northbound Ramp & Reservation Rd.	SSSC	Signal	14.2	B	20.6	C	11.8	B
14. Cardoza Ave. & Reservation Rd.	AWSC	Signal	9.4	A	9.5	A	9.5	A
15. Del Monte and Patton Parkway	RAB	RAB	-	-	-	-	-	A

Note:

Intersections that operate at LOS E or F are Bold.

Intersection and All-way stop-control intersection (AWSC) reported as intersection delay/LOS. Side-street stop-controlled intersections (SSSC) is reported as the worst movement's delay/LOS.

Roundabouts (RAB) report overall delay/LOS

Roadway Capacity

Roadway LOS analysis was completed for Projects 16 through 24. **Table 9** presents a summary of the roadway LOS.

Project 16 evaluated Del Monte (2nd Ave) between Reindollar Avenue and Imjin Parkway. This road segment is a future project, and therefore does not have an existing or future no project LOS. Under future with project conditions, the roadway is estimated to have an LOS of A.

Project 17 evaluated 8th Street between 3rd Avenue and Inter-Garrison Road. It is estimated that future development will deteriorate the existing LOS from A to B. Under With Improvement Future conditions, project 17 will improve roadway operations to LOS A.

Project 18 evaluated Salinas Avenue between Reservation Road and Carmel Avenue. This roadway operates at LOS A for Existing, Future, and Future with Improvement conditions.

Project 19 evaluated SR1 Interchange at Imjin Parkway. It is estimated that future development will deteriorate the existing LOS from A to F. Under With Improvement Future conditions, project 19 will improve roadway operations to LOS A.

Project 20 evaluated Del Monte Boulevard between Beach Road to Marina Greens Drive. It is estimated that future development will deteriorate the existing LOS from A to D. Under With Improvement Future conditions, project 20 will improve roadway operations to LOS A.

Project 21 is not considered eligible for the TIF program due to low priority and is not evaluated for the LOS analysis.

Project 22 evaluated Reservation Road between Beach Road to SR1. It is estimated that future development will deteriorate the existing LOS from A to D. Under With Improvement Future conditions, project 22 will improve roadway operations to LOS A.

Project 23 evaluated Reservation Road between Imjin Road to Blanco Road. It is estimated that future development will deteriorate the existing LOS from A to F. Under With Improvement Future conditions, project 23 will improve roadway operations to LOS C.

Project 24 evaluated new Airport Access Road from University Drive between Research Drive and Ramco access roadway. It is estimated that future development will increase the demand near the airport. Under With Improvement Future conditions, project 24 will have roadway operations at LOS A.

Table 9 – Roadway Capacity Level of Service Summary

Project #	Facility Type (# Lanes)		LOS		
	Existing	Project Improvements	Existing	Future No Project	Future With Project
16. Del Monte (2 nd Ave) between Reindollar Ave. & Imjin Pkwy.	-	Collector (2)	-	-	A
17. 8th St. between 3rd Ave. & Inter-Garrison Rd.	Collector (2)	Arterial (4)	A	B	A
18. Salinas Ave. between Reservation Rd. & Carmel Ave	Collector (2)	Arterial (2)	A	A	A
19. SR 1 Interchange at Imjin Pkwy.	Collector (2)	Arterial (8)	A	F	A
20. Del Monte Blvd. between Beach Rd. to Marina Greens Dr.	Expressway (4)	Expressway (4)	A	D	A
21. SR 1 Interchange at Del Monte Blvd.	Arterial (2)	Arterial (4)	-	-	-
22. Reservation Rd. between Beach Rd. to SR 1	Collector (2)	Collector (2)	A	D	A
23. Reservation Rd. between Imjin Rd. to Blanco Rd.	Arterial (4)	Expressway (6)	A	F	C
24. New Airport Access Road between Research Dr and Ramco facility	-	Collector (2)	-	-	A

Note: Roadways that operate at LOS E or F are **Bold**.

Roadway Pedestrian and Bicycle

Roadway pedestrian and bicycle improvement analysis was conducted for Projects 25 and 26. The pedestrian level of comfort (LOC) and bicycle level of street (LTS) is summarized in **Table 10** and Table 11, respectively.

Project 25 evaluated Reservation Road corridor between Del Monte Boulevard and California Avenue. Project 25 will improve the LOC from 2 to 1 and LTS from 2 to 1 at majority of the corridor segments.

Project 26 evaluated Del Monte Boulevard between Reindollar Avenue and Reservation Road. Project 26 will improve the LOC from 2 to 1 and LTS from 2 to 1 at majority of the corridor segments.

Table 10 – Pedestrian Level of Comfort Summary

Project #	Without Project				With Project			
	Min. Pathway Width (ft)	DPL, SBL or 2SBL?	Min. Pathway Buffer (ft)	LOC	Min. Pathway Width (ft)	DPL, SBL or 2SBL?	Min. Pathway Buffer (ft)	LOC
25. Reservation Road Corridor								
Eastbound								
Del Monte Bl to Vista Del Camino Cir	8	SBL	6	2	8	SBL	≥8	1
Vista Del Camino Cir to Crescent Av	10	DPL & SBL	13	1	10	DPL & SBL	≥8	1
Crescent Av to California St	10	DPL & SBL	17	1	10	DPL & SBL	≥8	1
Westbound								
Del Monte Bl to Vista Del Camino Cir	8	DPL & SBL	13	1	8	SBL	≥8	1
Vista Del Camino Cir to Crescent Av	8	EBL	12	1	8	SBL	≥8	1
Crescent Av to California St	10	DPL & SBL	13	1	10	DPL & SBL	≥8	1
26. Del Monte Boulevard Corridor								
Northbound								
Reindollar Av to Palm Av	9	No DPL or SBL	8	2	9	SBL	≥8	1
Palm Av to Reservation Rd	9	No DPL or SBL	9	2	9	SBL	≥8	1
Southbound								
Reindollar Av to Palm Av	7	No DPL or SBL	6	3	7	SBL	≥8	1
Palm Av to Reservation Rd	7	No DPL or SBL	8	2	7	SBL	≥8	1

Note: LOC=Level of Comfort, DPL=Dedicated Parking Lane, SBL=Separated Bike Lane, 2SBL=Two-way Separated Bike Lane.

Table 11 – Bicycle Level of Stress Summary

Project #	Without Project		With Project	
	# through Lanes	LTS	# through Lanes	LTS
25. Reservation Road Corridor				
Eastbound				
Del Monte Bl to Vista Del Camino Cir	2	2	2	2
Vista Del Camino Cir to Crescent Av	2	2	1	2
Crescent Av to California St	2	2	1	2
Westbound				
Del Monte Bl to Vista Del Camino Cir	2	2	2	1
Vista Del Camino Cir to Crescent Av	2	2	1	1
Crescent Av to California St	2	2	1	1
26. Del Monte Boulevard Corridor				
Northbound				
Reindollar Av to Palm Av	2	2	2	2
Palm Av to Reservation Rd	2	2	1	2
Southbound				
Reindollar Av to Palm Av	2	2	2	1
Palm Av to Reservation Rd	2	2	1	1

Note: Assumed Separated bike lane with buffer & many driveways as project improvements.

Housing Analysis

As mentioned previously, AB 602 requires that studies either calculate a fee levied or imposed on housing development projects proportionately to the square footage of the proposed units or make specified findings explaining why square footage is not an appropriate metric to calculate the fees. Simply, development impact fees must be charged on a per square feet basis or provide findings that support per unit fees. In order to guide future analysis requirements and help inform the City of Marina as to how AB 602 may impact the TIF program in regard to the housing fee stratification requirement, an analysis was conducted to evaluate housing fees by housing size.

The analysis relied on cross-tabulation of the following three data sources:

- The average number vehicle trips generated by household size (i.e., number of persons in the household) derived from a Big Data platform (Replica) for a typical weekday (Thursday) in the Spring of 2023 which was the latest available data during this analysis

- The number of single-family housing units in categories of persons per household and square footage of units estimated from the 2021 US Census' American Housing Survey (AHS)
- Building permits by square footage for single family units constructed within the City of Marina and the surrounding areas between 2020 and 2023

The trip generation information was combined with the number of single-family detached units in cross-tabulated categories of persons per household and total household square footage. This resulted in estimates of vehicle trip rates and equivalent dwelling units (EDUs) for each square footage category established as a part of this analysis. This data was combined with the square footage data for single-family housing units built in the City between 2020 and 2023. The housing size data was provided by the City and verified using real estate sales data available online on Zillow. The resultant dataset was used as the basis for evaluating whether future Nexus Study updates should consider square footage in the development of the fee schedule. The major analysis processes are discussed in detail in the following sections.

Replica Data

Replica is a big data platform that provides demographic and travel data based on multiple data collection sources such as mobile location data, merchant transaction data, census data, land use data, and observed “ground-truth” mobility data. Data from Replica’s Spring 2023 typical Thursday dataset for the City of Marina was used to estimate the number of vehicle trips by persons per household. **Table 12** summarizes the trip generation rates for each household category.

Table 12 – City of Marina Trip Generation Data – Replica 2023

Persons per Household	Households	Trips	Daily Home-Based Vehicle Trips
1	6,020	14,886	2.47
2	11,538	42,516	3.68
3	9,142	45,600	4.99
4	9,114	45,436	4.99
5	4,888	24,500	5.01
6	3,599	23,807	6.41
7+	3,589	25,369	7.07
Total	47,890	221,394	
Average			4.62

Source: Replica Spring 2023 Thursday Dataset.

American Housing Survey

The American Housing Survey (AHS), which is conducted by the Bureau of the Census for the U.S. Department of Housing and Urban Development (HUD), collects data on the nation's housing, including data on household characteristics and demographics.

The AHS data is collected in odd numbered years only. The most recent available survey data from 2021 was used. The AHS was designed to include two samples, the National sample, and the independent

Metropolitan sample. The metropolitan areas that are surveyed and the size of the surveys have been reduced over recent years. While these measures have reduced costs, they also limit the localized data available.

As the AB 602 analysis requires trip generation to be defined by square footage, housing units were cross tabulated by three variables: structure type, square footage, and total persons in the household. This cross-tabulation requires an adequate sample size for each category. The closest available metropolitan area for the City of Marina region was the City of San Jose. However, the San Jose metropolitan area sample size limits its ability to provide information for all square-footage categories and may not be representative of housing in the City of Marina. In addition, the tools available from the Census Bureau to create cross-tabulations from the AHS for the purposes of this analysis indicate that the only sample that can provide a statistically relevant sample for the three required variables is the full national sample. Thus, it was decided that the national sample from the 2021 AHS should be used to define the number of single-family housing units by persons per household and by the square footage of the housing unit. This data is summarized in **Table 13**.

Table 13 – No. of Single-Family Unit Detached Structures by AHS Square Foot Category

Persons per Household	Total Units	<500 s.f.	500 to 749 s.f.	750 to 999 s.f.	1,000 to 1,499 s.f.	1,500 to 1,999 s.f.	2,000 to 2,499 s.f.	2,500 to 2,999 s.f.	3,000 to 3,999 s.f.	>4,000 s.f.	Size Unknown
1	16,679	218	409	1,371	4,854	4,017	2,201	1,010	730	325	1,543
2	29,676	123	321	1,435	6,315	7,451	5,237	3,156	2,838	1,320	1,478
3	13,396	0	99	623	2,825	3,241	2,683	1,229	1,254	477	941
4	12,496	0	116	360	2,182	2,906	2,260	1,553	1,565	862	650
5	5,872	0	38	186	957	1,314	1,122	639	832	406	362
6	2,317	0	0	75	436	445	423	257	288	185	182
7+	1,308	0	0	45	234	270	215	122	141	120	131
Average per Household	2.67	1.36	2.04	2.26	2.46	2.62	2.79	2.86	3.05	3.20	2.60

Trip Generation by Categories of Square Footage

The number of trips by household size and persons per household, as well as the estimation of the average trip generation rate for each of the AHS square footage categories, are summarized in **Table 14**. The trip generation rates were estimated using the following steps:

- Multiply the trip generation rate for a category of “persons per household” estimated from Replica’s trip generation data (see **Table 12**) by the number of single-family units in each AHS square footage category for that same number of persons per household (see **Table 13**)
- Sum the number of trips generated by all households in an AHS square footage category and divide by the total number of households in that square footage category.

The differences in trip rates for each household categories shown in **Table 14**, along with data on recent housing square footages built in the City’s surrounding region, were used to establish the EDU for each AHS square footage category.

Table 14 – Daily Vehicle Trips for All Households in Each AHS Square Foot Category

Persons per Household	Total Trips	<500 s.f.	500 to 749 s.f.	750 to 999 s.f.	1,000 to 1,499 s.f.	1,500 to 1,999 s.f.	2,000 to 2,499 s.f.	2,500 to 2,999 s.f.	3,000 to 3,999 s.f.	>4,000 s.f.	Size Unknown
1	30,436	398	746	2,502	8,858	7,330	4,016	1,843	1,332	593	2,816
2	68,631	284	742	3,319	14,605	17,232	12,112	7,299	6,563	3,053	3,418
3	37,258	0	275	1,733	7,857	9,014	7,462	3,418	3,488	1,327	2,617
4	32,401	0	301	933	5,658	7,535	5,860	4,027	4,058	2,235	1,685
5	14,585	0	94	462	2,377	3,264	2,787	1,587	2,066	1,008	899
6	6,535	0	0	212	1,230	1,255	1,193	725	812	522	513
7+	3,565	0	0	123	638	736	586	332	384	327	357
Average per Household	2.37	2.00	2.20	2.27	2.32	2.36	2.41	2.41	2.45	2.45	2.33

Recent Housing Built in Surrounding Region

Table 15 groups available data for 112 “non-age-restricted” single-family dwelling units built in the City of Marina between 2020 and 2023 by their square footage. The data indicates that the average size of the single-family dwelling units built in that three-year period was 2,373 square feet. Based on the analysis completed, an EDU of 1.0 was established for the “middle grouping” of single-family units between 2,000 and 2,499 square feet in size (the group in which the cumulative percentage reaches 50-percent). Setting the 1.0 EDU at this group means that housing units smaller than 2,000 square-feet were given an EDU less than 1.0 and dwelling units that are larger than 2,499 square-feet were given an EDU greater than 1.0.

Table 15 – Single-Family Units Built in City of Marina’s Surrounding Region

Square Feet	Units	Percent
Less than 1,000 SF	0	0%
1,000 – 1,499 SF	5	4%
1,500 – 1,999 SF	3	32%
2,000 – 2,499 SF	28	25%
2,500 – 2,999 SF	22	20%
3,000 – 3,999 SF	21	19%
More than 4,000 SF	0	0%
Total	112	100%
Average Square Footage of Single-Family Units		2,373 SF

Analysis Results

Table 16 summarizes the estimated EDUs for the five recommended single-family dwelling units grouped by their square footage. Note that **Table 16** contains fewer groups than **Table 15** as the trip generation for dwelling units smaller than 1500 square-feet have similar trip generation characteristics resulting in the same EDU value. Similarly, dwelling units larger than 3000 square-feet were also grouped together because of similar EDU values.

The EDU values summarized in **Table 16** were calculated by dividing the average number of trips per household for each group by the average trips per household for the middle (2,000 to 2,499 square feet) group. **Table 16** also summarizes the calculated weighted average EDU for each of the AHS square footage categories, which is estimated by multiplying the EDU for each category by the percentage of households in that category (from the 2020 – 2023 available housing data). This calculation shows that the weighted average EDU for “non-age restricted” single-family dwelling units is 1.00. Based on the analysis completed, there is evidence that daily trips are correlated to the square footage of existing residences within the City of Marina and a stratified fee structure based on square footage can be established as part of the AB 602 compliant Nexus Fee Study.

Table 16 – Estimated EDUs for Single-Family Units by Square Foot Groupings

Recommended Square Footage Categories	Average Trip per Household	EDU ¹	Weighted Average EDU
Less than 1,500 SF		0.94	0.042
1,500 – 1,999 SF		0.99	0.317
2,000 – 2,499 SF		1.00	0.250
2,500 – 2,999 SF		1.01	0.199
More than 3,000 SF		1.02	0.192
Weighted Average of All Groups			1.000

¹ Equals avg. trips per household for each grouping divided by the avg. trips per household for the prominent group (2.41).

Alternatively, the City has established a per-square-foot fee structure using the average household size observed in recent residential developments. Note that for multifamily and other residential units, the fee structure remains on a per-unit basis due to the presence of shared common spaces, which makes it difficult to determine the accurate square footage of individual units.

Nexus Allocation and Fee Calculations

Determining Nexus is a two-step process which establishes the relationship between future needed improvements to the transportation network and future development within the same geography. First the allocation to users must be determined and second the fee based on user type is calculated. These steps identify the highest allowable fee that can be tied to the effects of development with the City.

Allocation to Users

Having previously identified the improvements needed to the transportation network, the cost of those improvements can be proportionally allocated to the users of these facilities. The AMBAG TDM and the citywide growth projections were used in determining the share of project costs that can actually be attributed to growth within the City.

The AMBAG TDM was used to identify traffic patterns within Marina and the surrounding region under both existing baseline conditions and future horizon year conditions. The traffic volume on each link of the model was captured and links associated with TIF projects were identified for further analysis. These two scenario comparisons on TIF Project links in the model allow for isolation of the anticipated growth on each link and the proportion of growth on those links relative to the overall traffic on that link was calculated.

Growth in the model encompasses trips that originate both within the City of Marina and the surrounding County. Therefore, the portion of growth attributable to local trips within the City was also isolated for each project. Local trips are those trips that have either an origin or destination (or both) within the City of Marina. Non-local trips, those trips that are just passing-through, were excluded from the fee calculations. This was done by proportionally reducing the eligible cost for inclusion in the TIF program of each TIF project to the share of trips anticipated to use the projects that are local trips. The results of this reduction in eligible cost associated with the local trips analysis is shown in **Table 17**.

The scope of this analysis is limited to applications within the fee calculation for the Marina TIF and should not be extrapolated to represent the sizing, scope, or policy related to future transportation projects. The size and scope of TIF project is established through nexus and then subsequent allocatable fees are calculated.

Table 17 – Project Costs Eligible for TIF

ID	Project	Total Cost Estimate	% of New Local Trips	Cost Eligible for TIF
1	2nd Avenue & Inter-Garrison Road	\$875,200	100%	\$875,200
2	Imjin Road & 8 th Street	\$1,800,000	30%	\$548,600
3	California Drive & 8 th Street	\$1,750,300	93%	\$1,635,300
4	Reservation Road & Salinas Avenue	\$2,438,600	100%	\$2,438,600
5	Imjin Parkway bridge @ SR 1	\$41,400	27%	\$11,100
6	SR 1 Southbound off-ramp @ Imjin Parkway	\$3,182,400	27%	\$851,700
7	SR 1 Southbound on-ramp @ Imjin Parkway	\$795,600	27%	\$213,000
8	Del Monte Boulevard & Beach Road	-	-	-
9	Imjin Parkway & 2 nd Avenue	\$6,583,200	42%	\$2,779,400
10	Reservation Road & Del Monte Boulevard	\$2,800,000	100%	\$2,800,000
11	California Avenue & Marina Heights Drive	\$1,384,400	100%	\$1,384,400
12	SR1 Southbound Ramp @ Reservation Rd	\$4,000,000	17%	\$684,000
13	SR1 Northbound Ramp @ Reservation Road	\$4,000,000	96%	\$3,822,100
14	Cardoza Avenue & Reservation Road	\$3,500,000	95%	\$3,338,200
15	Del Monte Boulevard & Patton Parkway	\$6,000,000	100%	\$6,000,000
Total Cost for Intersection Projects		\$39,151,100	70%	\$27,381,600
16	Del Monte Boulevard Extension	\$17,000,000	100%	\$17,000,000
17	8 th Street from California Ave to Inter-Garrison Rd	\$9,449,700	53%	\$5,003,300
18	Salinas Ave - Reservation Road to Carmel Ave	\$3,450,000	100%	\$3,450,000
19	Imjin Parkway & SR1 Interchange	\$24,385,300	32%	\$7,734,500
20	Del Monte Blvd - Beach Road to Marina Greens Dr	\$13,411,900	100%	\$13,388,100
21	Del Monte Boulevard & SR 1 Interchange	-	-	-
22	Reservation Road – Beach Road to SR 1	\$6,099,250	96%	\$5,829,100
23	Reservation Road - Imjin Road to Blanco Road	\$13,036,400	47%	\$6,071,100
24	Airport Access Road	\$6,190,000	100%	\$6,190,000
25	Reservation Rd – Del Monte Blvd to California St	\$31,174,100	30%	\$9,352,300
26	Del Monte Blvd – Reindollar Ave to Reservation Rd	\$16,258,700	30%	\$4,877,700
Total Cost for Roadway Projects		\$140,455,350	56%	\$78,896,100
Total Cost for Transportation Projects:		\$179,606,450	59%	\$106,277,700

Fee Calculations

The actual fee per trip were calculated by dividing the total eligible cost for all TIF projects by the total estimated growth in Daily trips on the roadway network at buildout of the City's General Plan and Housing Element Update. These calculations also introduce a three percent (3.0%) administration charge for the fee program. **Table 18** shows this calculation results in a base fee per trip of \$580.91 and \$2,136.56 for intersection and roadway projects, respectively. **Table 19** then uses the adjusted daily trip demand factor to apply this fee across each land use type.

Table 18 – Calculation of Fee per Adjusted Daily Trip

Calculation	Intersections	Roadways	Total
Cost Eligible for TIF	\$27,381,600	\$78,896,100	\$106,277,700
Administrative Fee (3% of total costs)	\$821,448	\$2,366,883	\$3,188,331
Total Impact Fee Revenue Allocated ¹	-\$879,922	-\$4,239,501	-\$5,119,423
Subtotal Impact Fee Program Funding after Contribution from Impact Fee	\$27,323,126	\$77,023,482	\$104,346,608
Growth in Adjusted Daily Trips	46,851	46,851	46,851
Fee per Trip	\$583.19	\$1,644.00	\$2,227.19

¹ Total revenue allocation includes fairshare of fee collected as part of the TIF as of June 30, 2024 for development projects.

Table 19 – Fee per Land Use Category

Land Use Category	Unit	Adjusted Daily Trip Demand Factor	Fee per Unit Intersections	Fee per Unit Roadways	Total Fee per Unit
Residential					
Single Family Detached	KSF	9.15	\$2,134	\$6,015	\$8,149
Single Family Attached(Town Homes)	KSF	6.98	\$1,629	\$4,593	\$6,222
Senior Homes	DU	4.18	\$2,438	\$6,873	\$9,311
Assisted Living – Senior	DU	2.52	\$1,471	\$4,146	\$5,617
Multifamily	DU	6.54	\$3,813	\$10,748	\$14,561
Nonresidential					
Office/Research	KSF	10.41	\$6,069	\$17,108	\$23,177
Retail/Service	KSF	16.61	\$9,688	\$27,309	\$36,997
Industrial	KSF	4.77	\$2,783	\$7,846	\$10,629
Hotel	ROOM	7.67	\$4,473	\$12,610	\$17,083
Church	KSF	6.92	\$4,033	\$11,370	\$15,403
Day Care Center	KSF	40.95	\$23,883	\$67,327	\$91,211
Animal Hospital/Clinic	KSF	21.07	\$12,288	\$34,639	\$46,927
Medical/Dental Office	KSF	35.28	\$20,575	\$58,000	\$78,575

The fees presented here represent the maximum eligible fees attributable to new growth and development within the City of Marina and also serves as a ceiling to the fee schedule eventually adopted by the City Council. As mentioned earlier, as part of the AB 602 compliant Nexus Fee Study the City has established a per-square-foot fee structure using the average household size observed in recent residential developments. Note that for multifamily and other residential units, the fee structure remains on a per-unit basis due to the presence of shared common spaces, which makes it difficult to determine the accurate square footage of individual units.

Table 20 shows the fees for the single-family residential units based on a per-unit fee structure, for the purposes of comparison with the current fees.

Table 20 – Fee for Single Family Residential Land Use by Units

Land Use Category	Unit	Adjusted Daily Trip Demand Factor	Fee per Unit Intersections	Fee per Unit Roadways	Total Fee per Unit
Single Family Detached	DU	9.15	\$5,334	\$15,038	\$20,372
Single Family Attached(Town Homes)	DU	6.98	\$4,073	\$11,482	\$15,555

Fee for Single Family units are shown per Unit basis for a typical home size in Marina with an average size of 2,500 sq.ft.

Required Program Elements

This report has provided a detailed discussion of the elements of the Marina Transportation Impact Fee program and explained the analytical techniques used to develop this nexus study. The report addresses the fee program elements required by Government Code 66000-66025, as summarized below.

1. *Identifying the purpose of the fee*
 - The purpose of the Marina Transportation Impact Fee (TIF) program is to provide funding for public infrastructure improvements that are needed to mitigate the transportation-related impacts of new development in Marina.
2. *Identifying how the fee will be used and the facilities to be funded through the fee*
 - The fee is used to help fund capital improvement projects that will accommodate future transportation needs throughout the City of Marina. **Table 1** identifies the projects to be funded through the TIF fee.
3. *Determining a reasonable relationship between the fee's use and the type of development on which the fee is imposed*
 - As described in this report, different types of development generate traffic with different characteristics. The calculations presented in **Table 5** account for these characteristics by calculating the travel-related characteristics of different land use types. These considerations account for the difference in impacts on the local transportation system generated by different land use types.
4. *Determining a reasonable relationship between the need for the roadway and intersection improvements and the type of development on which the fee is imposed*
 - The need for the facilities listed in **Table 1** has been established through local planning processes prepared by the City of Marina and building upon the adopted General Plan and Housing Element Update.
5. *Determining a reasonable relationship between the amount of the fee and the cost of the public facility (or portion of facility) attributable to new development*
 - Fee Calculation Section of this report describes the calculations completed to determine the cost of the roadway and intersection projects that is attributable to new development in the TIF area. A reasonable effort has been made to quantitatively establish the relationship between the fees charged in the TIF program and the costs of improvements attributable to new development within the City of Marina.

Appendices

Appendix A: Level of Service Analysis Outputs

Intersection	
Intersection Delay, s/veh	35
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	11	128	20	106	695
Future Vol, veh/h	3	11	128	20	106	695
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	12	138	22	114	747
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.1	9	40.3
HCM LOS	A	A	E

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	20	3	11	106	695
LT Vol	0	0	3	0	106	0
Through Vol	128	0	0	0	0	695
RT Vol	0	20	0	11	0	0
Lane Flow Rate	138	22	3	12	114	747
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.202	0.027	0.007	0.02	0.163	0.963
Departure Headway (Hd)	5.29	4.585	7.28	6.066	5.139	4.638
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	681	784	494	592	692	777
Service Time	2.997	2.293	4.994	3.779	2.916	2.415
HCM Lane V/C Ratio	0.203	0.028	0.006	0.02	0.165	0.961
HCM Control Delay	9.3	7.4	10	8.9	8.9	45.1
HCM Lane LOS	A	A	A	A	A	E
HCM 95th-tile Q	0.8	0.1	0	0.1	0.6	14.9

Intersection

Intersection Delay, s/veh41.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	6	0	7	4	42	0	5	21	597	5	2
Future Vol, veh/h	11	6	0	7	4	42	0	5	21	597	5	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	6	0	8	4	45	0	5	23	642	5	2
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	9.7	9.2	8.3	46.2
HCM LOS	A	A	A	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%	99%	0%
Vol Thru, %	19%	0%	100%	0%	9%	1%	0%
Vol Right, %	81%	0%	0%	0%	91%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	11	6	7	46	602	2
LT Vol	0	11	0	7	0	597	0
Through Vol	5	0	6	0	4	5	0
RT Vol	21	0	0	0	42	0	2
Lane Flow Rate	28	12	6	8	49	647	2
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.039	0.023	0.012	0.015	0.08	0.953	0.002
Departure Headway (Hd)	5.079	7.017	6.509	6.951	5.794	5.3	4.103
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	701	508	548	514	616	686	877
Service Time	3.136	4.783	4.274	4.706	3.548	3	1.803
HCM Lane V/C Ratio	0.04	0.024	0.011	0.016	0.08	0.943	0.002
HCM Control Delay	8.3	9.9	9.4	9.8	9.1	46.3	6.8
HCM Lane LOS	A	A	A	A	A	E	A
HCM 95th-tile Q	0.1	0.1	0	0	0.3	13.7	0

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱		↱		↱
Traffic Vol, veh/h	0	0	0	3	1	14	0	2	6	14	0	0
Future Vol, veh/h	0	0	0	3	1	14	0	2	6	14	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	1	18	0	3	8	18	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1	0	0	19	28	1
Stage 1	-	-	-	-	-	-	1	1	-
Stage 2	-	-	-	-	-	-	18	27	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1622	-	-	998	865	1084
Stage 1	0	-	-	-	-	-	1022	895	-
Stage 2	0	-	-	-	-	-	1005	873	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1622	-	-	996	0	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	996	0	-
Stage 1	-	-	-	-	-	-	1022	0	-
Stage 2	-	-	-	-	-	-	1003	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	8.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	1084	-	-	1622	-	-
HCM Lane V/C Ratio	0.01	-	-	0.002	-	-
HCM Control Delay (s)	8.4	-	-	7.2	0	-
HCM Lane LOS	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

5: California Dr/California Ave & Imjin Pkwy

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	732	0	2	872	25	0	0	0	165	0	470
Future Volume (veh/h)	135	732	0	2	872	25	0	0	0	165	0	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	144	779	0	2	928	27	0	0	0	176	0	500
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1439	0	6	1094	32	0	892	0	224	10	544
Arrive On Green	0.10	0.40	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.48	0.00	0.48
Sat Flow, veh/h	1781	3647	0	1781	3526	103	0	1870	0	379	22	1139
Grp Volume(v), veh/h	144	779	0	2	468	487	0	0	0	676	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1852	0	1870	0	1541	0	0
Q Serve(g_s), s	8.3	17.5	0.0	0.1	25.8	25.8	0.0	0.0	0.0	40.2	0.0	0.0
Cycle Q Clear(g_c), s	8.3	17.5	0.0	0.1	25.8	25.8	0.0	0.0	0.0	42.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.06	0.00		0.00	0.26		0.74
Lane Grp Cap(c), veh/h	175	1439	0	6	551	574	0	892	0	778	0	0
V/C Ratio(X)	0.82	0.54	0.00	0.35	0.85	0.85	0.00	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h	238	1596	0	102	662	690	0	1162	0	1000	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.3	23.7	0.0	52.0	33.8	33.8	0.0	0.0	0.0	25.4	0.0	0.0
Incr Delay (d2), s/veh	15.4	0.3	0.0	32.2	8.7	8.4	0.0	0.0	0.0	6.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	7.2	0.0	0.1	12.2	12.7	0.0	0.0	0.0	16.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	24.0	0.0	84.3	42.5	42.2	0.0	0.0	0.0	32.1	0.0	0.0
LnGrp LOS	E	C	A	F	D	D	A	A	A	C	A	A
Approach Vol, veh/h		923			957			0			676	
Approach Delay, s/veh		29.9			42.5			0.0			32.1	
Approach LOS		C			D						C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		53.9	4.3	46.4		53.9	14.3	36.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		65.0	6.0	47.0		65.0	14.0	39.0				
Max Q Clear Time (g_c+l1), s		0.0	2.1	19.5		44.7	10.3	27.8				
Green Ext Time (p_c), s		0.0	0.0	6.0		5.2	0.1	4.7				
Intersection Summary												
HCM 6th Ctrl Delay			35.2									
HCM 6th LOS			D									

Intersection

Intersection Delay, s/veh25.4

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	25	138	158	54	27	49	178	33	11	375	22
Future Vol, veh/h	31	25	138	158	54	27	49	178	33	11	375	22
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	29	160	184	63	31	57	207	38	13	436	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.6	19.3	19.3	37.6
HCM LOS	C	C	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	16%	66%	3%
Vol Thru, %	68%	13%	23%	92%
Vol Right, %	13%	71%	11%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	194	239	408
LT Vol	49	31	158	11
Through Vol	178	25	54	375
RT Vol	33	138	27	22
Lane Flow Rate	302	226	278	474
Geometry Grp	1	1	1	1
Degree of Util (X)	0.582	0.441	0.562	0.86
Departure Headway (Hd)	6.927	7.034	7.278	6.528
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	520	510	495	555
Service Time	4.987	5.099	5.338	4.58
HCM Lane V/C Ratio	0.581	0.443	0.562	0.854
HCM Control Delay	19.3	15.6	19.3	37.6
HCM Lane LOS	C	C	C	E
HCM 95th-tile Q	3.7	2.2	3.4	9.3

Marina DIF - 2023 Update
9: 2nd Ave & Imjin Pkwy

Existing 2023 Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	871	498	392	761	0	120	0	102	0	0	0
Future Volume (veh/h)	0	871	498	392	761	0	120	0	102	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No		No				No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	907	519	408	793	0	125	0	106	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1701	758	588	2563	0	320	251	211	3	6	0
Arrive On Green	0.00	0.48	0.48	0.17	0.72	0.00	0.09	0.00	0.13	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1583	3456	3647	0	3456	1870	1574	1781	3647	0
Grp Volume(v), veh/h	0	907	519	408	793	0	125	0	106	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1583	1728	1777	0	1728	1870	1574	1781	1777	0
Q Serve(g_s), s	0.0	9.9	14.1	6.1	4.4	0.0	1.9	0.0	3.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.9	14.1	6.1	4.4	0.0	1.9	0.0	3.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1701	758	588	2563	0	320	251	211	3	6	0
V/C Ratio(X)	0.00	0.53	0.69	0.69	0.31	0.00	0.39	0.00	0.50	0.00	0.00	0.00
Avail Cap(c_a), veh/h	193	2827	1259	1437	3919	0	562	1387	1167	193	2442	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.1	11.2	21.6	2.8	0.0	23.6	0.0	22.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	1.1	1.5	0.1	0.0	0.8	0.0	1.8	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	4.2	2.4	0.7	0.0	0.7	0.0	1.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.4	12.3	23.1	2.8	0.0	24.4	0.0	24.1	0.0	0.0	0.0
LnGrp LOS	A	B	B	C	A	A	C	A	C	A	A	A
Approach Vol, veh/h	1426				1201		231				0	
Approach Delay, s/veh	11.1				9.7		24.2				0.0	
Approach LOS	B				A		C					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	11.4	13.4	30.5	9.1	2.3	0.0	43.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	41.0	41.0	23.0	44.0	9.0	38.0	6.0	61.0				
Max Q Clear Time (g_c+I1),s	5.5	5.5	8.1	16.1	3.9	0.0	0.0	6.4				
Green Ext Time (p_c), s	0.0	0.3	1.3	10.1	0.1	0.0	0.0	6.8				
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

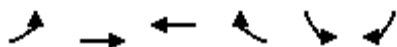
Existing 2023 Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	235	123	338	122	162	95	165	229	225	277	4
Future Volume (veh/h)	15	235	123	338	122	162	95	165	229	225	277	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	270	141	389	140	186	109	190	263	259	318	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	407	222	679	367	304	155	401	589	407	877	14
Arrive On Green	0.19	0.19	0.19	0.20	0.20	0.20	0.09	0.21	0.21	0.12	0.25	0.25
Sat Flow, veh/h	136	2176	1188	3456	1870	1549	1781	1870	2744	3456	3580	56
Grp Volume(v), veh/h	234	0	194	389	140	186	109	190	263	259	158	165
Grp Sat Flow(s),veh/h/ln	1864	0	1636	1728	1870	1549	1781	1870	1372	1728	1777	1859
Q Serve(g_s), s	6.6	0.0	6.2	5.7	3.7	6.2	3.4	5.0	4.7	4.0	4.1	4.2
Cycle Q Clear(g_c), s	6.6	0.0	6.2	5.7	3.7	6.2	3.4	5.0	4.7	4.0	4.1	4.2
Prop In Lane	0.07		0.73	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	349	0	306	679	367	304	155	401	589	407	435	456
V/C Ratio(X)	0.67	0.00	0.63	0.57	0.38	0.61	0.70	0.47	0.45	0.64	0.36	0.36
Avail Cap(c_a), veh/h	662	0	581	1841	997	825	949	997	1462	1227	1262	1321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	21.1	20.5	19.6	20.7	25.0	19.3	19.2	23.7	17.6	17.6
Incr Delay (d2), s/veh	2.2	0.0	2.2	0.8	0.6	2.0	5.7	0.9	0.5	1.7	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.3	2.2	1.5	2.2	1.5	2.0	1.4	1.6	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	23.3	21.2	20.3	22.6	30.6	20.2	19.7	25.4	18.1	18.1
LnGrp LOS	C	A	C	C	C	C	C	C	B	C	B	B
Approach Vol, veh/h	428					715		562		582		
Approach Delay, s/veh	23.4					21.4		22.0		21.3		
Approach LOS	C					C		C		C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.6	16.1	14.5		8.9	17.8	15.1					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (G_max), s	20.0	30.0	20.0		30.0	40.0	30.0					
Max Q Clear Time (g_c+I), s	10.0	7.0	8.6		5.4	6.2	8.2					
Green Ext Time (p_c), s	0.7	2.1	2.0		0.3	1.9	2.9					
Intersection Summary												
HCM 6th Ctrl Delay	21.9											
HCM 6th LOS	C											
Notes												

Marina DIF - 2023 Update
11: Reservation Rd & Blanco Rd

Existing 2023 Conditions
AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↱	↱↱	↰	↰↱	↰↱	↰↱
Traffic Volume (veh/h)	865	248	566	42	30	1327
Future Volume (veh/h)	865	248	566	42	30	1327
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	940	270	615	46	33	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1156	2806	739	626	311	
Arrive On Green	0.33	0.79	0.39	0.39	0.09	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	940	270	615	46	33	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	16.6	1.2	19.7	1.2	0.6	0.0
Cycle Q Clear(g_c), s	16.6	1.2	19.7	1.2	0.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1156	2806	739	626	311	
V/C Ratio(X)	0.81	0.10	0.83	0.07	0.11	
Avail Cap(c_a), veh/h	1973	4697	1292	1095	1765	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.2	1.6	18.2	12.5	27.8	0.0
Incr Delay (d2), s/veh	1.4	0.0	2.5	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.1	8.1	0.4	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.7	1.6	20.7	12.6	28.0	0.0
LnGrp LOS	C	A	C	B	C	
Approach Vol, veh/h		1210	661		33	
Approach Delay, s/veh		17.2	20.1		28.0	
Approach LOS		B	C		C	
Timer - Assigned Phs			4	6	7	8
Phs Duration (G+Y+Rc), s			56.6	10.0	26.3	30.3
Change Period (Y+Rc), s			4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s			88.0	34.0	38.0	46.0
Max Q Clear Time (g_c+l1), s			3.2	2.6	18.6	21.7
Green Ext Time (p_c), s			2.0	0.1	3.7	4.6
Intersection Summary						
HCM 6th Ctrl Delay			18.4			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	115	146	17	61	616
Future Vol, veh/h	38	115	146	17	61	616
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	126	160	19	67	677
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	975	163	0	0	181	0
Stage 1	162	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	279	882	-	-	1394	-
Stage 1	867	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	264	879	-	-	1391	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.6	0	0.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 264 879	1391	-		
HCM Lane V/C Ratio	-	- 0.158 0.144	0.048	-		
HCM Control Delay (s)	-	- 21.2 9.8	7.7	-		
HCM Lane LOS	-	- C A	A	-		
HCM 95th %tile Q(veh)	-	- 0.6 0.5	0.2	-		

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	4	12	16	83	8	19	7	87	15	14	319	0
Future Vol, veh/h	4	12	16	83	8	19	7	87	15	14	319	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	14	19	97	9	22	8	101	17	16	371	0
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.5	9.6	9.1	13.2
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	12%	75%	100%	0%
Vol Thru, %	0%	85%	38%	7%	0%	100%
Vol Right, %	0%	15%	50%	17%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	102	32	110	14	319
LT Vol	7	0	4	83	14	0
Through Vol	0	87	12	8	0	319
RT Vol	0	15	16	19	0	0
Lane Flow Rate	8	119	37	128	16	371
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.013	0.172	0.053	0.188	0.025	0.524
Departure Headway (Hd)	5.838	5.23	5.133	5.304	5.59	5.087
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	610	682	692	673	638	705
Service Time	3.602	2.993	3.207	3.362	3.34	2.837
HCM Lane V/C Ratio	0.013	0.174	0.053	0.19	0.025	0.526
HCM Control Delay	8.7	9.1	8.5	9.6	8.5	13.4
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0	0.6	0.2	0.7	0.1	3.1

Marina DIF - 2023 Update
14: SR 1 Southbound Ramp & Reservation Rd

Existing 2023 Conditions
AM Peak

Intersection												
Int Delay, s/veh	47.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↲	
Traffic Vol, veh/h	0	36	20	328	33	0	0	0	0	193	40	10
Future Vol, veh/h	0	36	20	328	33	0	0	0	0	193	40	10
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	41	23	377	38	0	0	0	0	222	46	11
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	64	0	0				847	856	38
Stage 1	-	-	-	-	-	-				792	792	-
Stage 2	-	-	-	-	-	-				55	64	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1538	-	0				332	295	1034
Stage 1	0	-	-	-	-	0				446	401	-
Stage 2	0	-	-	-	-	0				968	842	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1538	-	-				251	0	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-				251	0	-
Stage 1	-	-	-	-	-	-				446	0	-
Stage 2	-	-	-	-	-	-				731	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			7.4			117.6					
HCM LOS							F					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1538	-	261							
HCM Lane V/C Ratio	-	-	0.245	-	1.07							
HCM Control Delay (s)	-	-	8.1	-	117.6							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q(veh)	-	-	1	-	11.4							

Marina DIF - 2023 Update
15: SR 1 Northbound Ramp & Reservation Rd

Existing 2023 Conditions
AM Peak

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	228	0	0	335	218	11	0	108	0	0	0
Future Vol, veh/h	14	228	0	0	335	218	11	0	108	0	0	0
Conflicting Peds, #/hr	5	0	4	4	0	5	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	245	0	0	360	234	12	0	116	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	599	0	-	-	0	753	874	245	
Stage 1	-	-	-	-	-	275	275	-	
Stage 2	-	-	-	-	-	478	599	-	
Critical Hdwy	4.12	-	-	-	-	6.42	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	5.42	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	5.42	5.52	-	
Follow-up Hdwy	2.218	-	-	-	-	3.518	4.018	3.318	
Pot Cap-1 Maneuver	978	-	0	0	-	377	288	794	
Stage 1	-	-	0	0	-	771	683	-	
Stage 2	-	-	0	0	-	624	490	-	
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	978	-	-	-	-	371	0	794	
Mov Cap-2 Maneuver	-	-	-	-	-	371	0	-	
Stage 1	-	-	-	-	-	759	0	-	
Stage 2	-	-	-	-	-	623	0	-	

Approach	EB	WB	NB
HCM Control Delay, s	0.5	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	371	794	978	-	-	-
HCM Lane V/C Ratio	0.032	0.146	0.015	-	-	-
HCM Control Delay (s)	15	10.3	8.7	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0.5	0	-	-	-

Marina DIF - 2023 Update
16: Salinas Ave/Driveway & Reservation Rd

Existing 2023 Conditions
AM Peak

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑			↕			↕	
Traffic Vol, veh/h	1	689	2	7	797	0	1	0	7	0	0	1
Future Vol, veh/h	1	689	2	7	797	0	1	0	7	0	0	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	811	2	8	938	0	1	0	8	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	938	0	0	815	0	0	1300	1769	408	1362	1771	469
Stage 1	-	-	-	-	-	-	815	815	-	954	954	-
Stage 2	-	-	-	-	-	-	485	954	-	408	817	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	726	-	-	808	-	0	119	83	593	107	82	541
Stage 1	-	-	-	-	-	0	338	389	-	278	335	-
Stage 2	-	-	-	-	-	0	532	335	-	591	388	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	726	-	-	806	-	-	117	82	592	104	81	541
Mov Cap-2 Maneuver	-	-	-	-	-	-	117	82	-	104	81	-
Stage 1	-	-	-	-	-	-	336	387	-	277	332	-
Stage 2	-	-	-	-	-	-	526	332	-	581	386	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			14.4			11.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	393	726	-	-	806	-	541					
HCM Lane V/C Ratio	0.024	0.002	-	-	0.01	-	0.002					
HCM Control Delay (s)	14.4	10	-	-	9.5	-	11.7					
HCM Lane LOS	B	A	-	-	A	-	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0					

18: Driveway/Cardoza Ave & Reservation Rd

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	295	3	10	422	24	6	0	20	70	0	124
Future Volume (veh/h)	38	295	3	10	422	24	6	0	20	70	0	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	314	3	11	449	26	6	0	21	74	0	132
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	1466	638	31	700	591	162	43	253	510	0	325
Arrive On Green	0.06	0.41	0.41	0.02	0.37	0.37	0.21	0.00	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3554	1546	1781	1870	1579	140	210	1225	1385	0	1574
Grp Volume(v), veh/h	40	314	3	11	449	26	27	0	0	74	0	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1870	1579	1574	0	0	1385	0	1574
Q Serve(g_s), s	0.7	1.9	0.0	0.2	6.5	0.3	0.0	0.0	0.0	0.9	0.0	2.4
Cycle Q Clear(g_c), s	0.7	1.9	0.0	0.2	6.5	0.3	0.4	0.0	0.0	1.3	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	0.22		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	99	1466	638	31	700	591	459	0	0	510	0	325
V/C Ratio(X)	0.40	0.21	0.00	0.35	0.64	0.04	0.06	0.00	0.00	0.15	0.00	0.41
Avail Cap(c_a), veh/h	701	7530	3277	485	3737	3154	1911	0	0	1858	0	1858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	6.3	5.7	16.0	8.5	6.6	10.6	0.0	0.0	10.9	0.0	11.3
Incr Delay (d2), s/veh	2.6	0.1	0.0	6.7	1.0	0.0	0.1	0.0	0.0	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.0	0.1	1.9	0.1	0.1	0.0	0.0	0.4	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	6.3	5.7	22.8	9.5	6.6	10.6	0.0	0.0	11.0	0.0	12.2
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	B
Approach Vol, veh/h		357			486			27			206	
Approach Delay, s/veh		7.6			9.6			10.6			11.8	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.8	4.6	17.6		10.8	5.8	16.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	9.0	70.0		39.0	13.0	66.0				
Max Q Clear Time (g_c+l1), s		2.4	2.2	3.9		4.4	2.7	8.5				
Green Ext Time (p_c), s		0.1	0.0	2.3		1.1	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Marina DIF - 2023 Update
4: Highway 1 SB Ramp & Imjin Pkwy

Existing 2023 Conditions
AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	835	0	0	0	437	33
Future Volume (vph)	835	0	0	0	437	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.96
Satd. Flow (prot)	1770					1780
Flt Permitted	0.95					0.96
Satd. Flow (perm)	1770					1780
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	938	0	0	0	491	37
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	938	0	0	0	0	528
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	63.1					37.5
Effective Green, g (s)	63.1					37.5
Actuated g/C Ratio	0.58					0.35
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1028					614
v/s Ratio Prot	c0.53					c0.30
v/s Ratio Perm						
v/c Ratio	0.91					0.86
Uniform Delay, d1	20.3					33.1
Progression Factor	1.00					1.00
Incremental Delay, d2	12.0					11.6
Delay (s)	32.3					44.7
Level of Service	C					D
Approach Delay (s)	32.3		0.0			44.7
Approach LOS	C		A			D
Intersection Summary						
HCM 2000 Control Delay			36.7		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.89			
Actuated Cycle Length (s)			108.6		Sum of lost time (s)	8.0
Intersection Capacity Utilization			49.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	114	46	157	336	0	0
Future Volume (Veh/h)	114	46	157	336	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	121	49	167	357	0	0
Pedestrians	12			2	7	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			177		856	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			177		856	154
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		100	100
cM capacity (veh/h)			1399		286	890
Direction, Lane #	EB 1	WB 1				
Volume Total	170	524				
Volume Left	0	167				
Volume Right	49	0				
cSH	1700	1399				
Volume to Capacity	0.10	0.12				
Queue Length 95th (ft)	0	10				
Control Delay (s)	0.0	3.3				
Lane LOS		A				
Approach Delay (s)	0.0	3.3				
Approach LOS						
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			50.3%	ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↱	↑↑	↱↱	↱
Traffic Volume (vph)	649	241	366	781	29	30
Future Volume (vph)	649	241	366	781	29	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frt	0.96		1.00	1.00	0.96	0.85
Flt Protected	1.00		0.95	1.00	0.97	1.00
Satd. Flow (prot)	3396		1770	3539	3342	1441
Flt Permitted	1.00		0.95	1.00	0.97	1.00
Satd. Flow (perm)	3396		1770	3539	3342	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	690	256	389	831	31	32
RTOR Reduction (vph)	26	0	0	0	11	18
Lane Group Flow (vph)	920	0	389	831	32	2
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	29.3		23.0	56.3	6.8	6.8
Effective Green, g (s)	29.3		23.0	56.3	6.8	6.8
Actuated g/C Ratio	0.41		0.32	0.79	0.10	0.10
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1399		572	2802	319	137
v/s Ratio Prot	c0.27		c0.22	0.23		
v/s Ratio Perm					c0.01	0.00
v/c Ratio	0.66		0.68	0.30	0.10	0.01
Uniform Delay, d1	16.9		20.9	2.0	29.4	29.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		3.3	0.1	0.1	0.0
Delay (s)	18.0		24.2	2.1	29.5	29.2
Level of Service	B		C	A	C	C
Approach Delay (s)	18.0			9.1	29.4	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			13.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			71.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			60.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	ft				mph
South: Del Monte Blvd															
3	L2	All MCs	151	2.0	151	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.0
8	T1	All MCs	227	2.0	227	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.6
18	R2	All MCs	62	2.0	62	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.4
Approach			440	2.0	440	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.4
East: Beach Rd															
1	L2	All MCs	162	2.0	162	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.1
6	T1	All MCs	133	2.0	133	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.7
16	R2	All MCs	66	2.0	66	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.4
Approach			360	2.0	360	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.4
North: Del Monte Blvd															
7	L2	All MCs	77	2.0	77	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.5
4	T1	All MCs	408	2.0	408	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.9
14	R2	All MCs	67	2.0	67	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.7
Approach			552	2.0	552	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.8
West: Beach Rd															
5	L2	All MCs	45	2.0	45	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.2
2	T1	All MCs	82	2.0	82	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.7
12	R2	All MCs	127	2.0	127	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.5
Approach			255	2.0	255	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.5
All Vehicles			1607	2.0	1607	2.0	0.654	10.8	LOS B	7.0	177.8	0.67	0.58	0.87	30.1

SITE LAYOUT

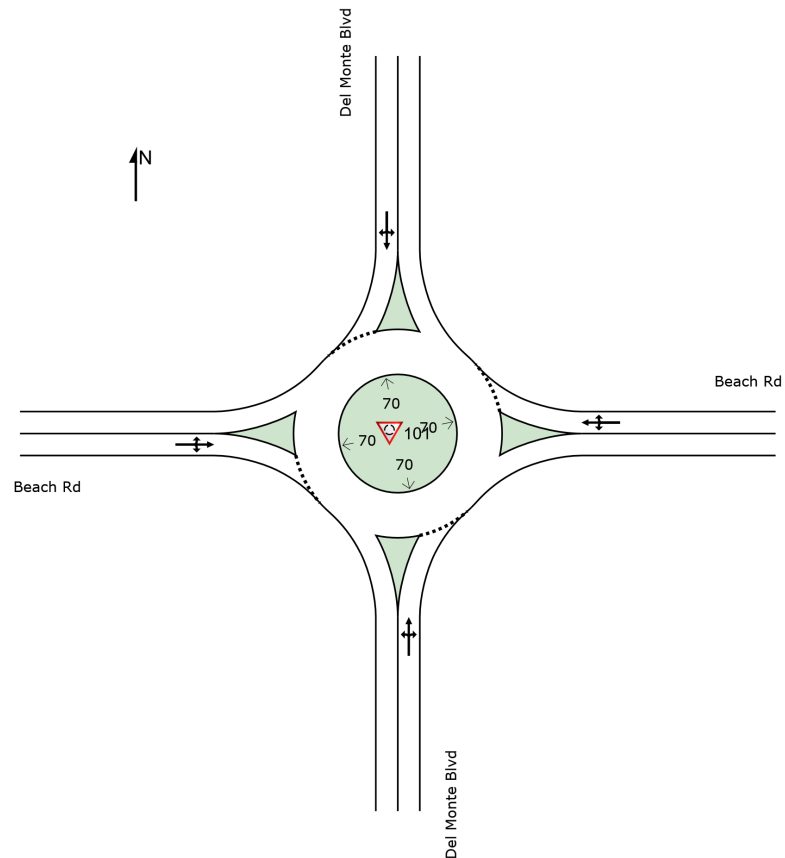
 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 AM)]**

New Site

Site Category: (None)

Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Intersection

Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	66	223	11	52	191
Future Vol, veh/h	19	66	223	11	52	191
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	67	228	11	53	195
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	8.4	9.9	9.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	11	19	66	52	191
LT Vol	0	0	19	0	52	0
Through Vol	223	0	0	0	0	191
RT Vol	0	11	0	66	0	0
Lane Flow Rate	228	11	19	67	53	195
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.315	0.013	0.033	0.093	0.08	0.268
Departure Headway (Hd)	4.977	4.274	6.196	4.989	5.459	4.956
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	724	837	578	718	657	725
Service Time	2.703	2	3.931	2.723	3.185	2.683
HCM Lane V/C Ratio	0.315	0.013	0.033	0.093	0.081	0.269
HCM Control Delay	10	7.1	9.1	8.2	8.7	9.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	1.3	0	0.1	0.3	0.3	1.1

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	1	28	1	194	0	28	32	106	24	3
Future Vol, veh/h	0	9	1	28	1	194	0	28	32	106	24	3
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	1	32	1	223	0	32	37	122	28	3
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	8.2	8.9	8.6	10
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%	82%	0%
Vol Thru, %	47%	100%	90%	0%	1%	18%	0%
Vol Right, %	53%	0%	10%	0%	99%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	0	10	28	195	130	3
LT Vol	0	0	0	28	0	106	0
Through Vol	28	0	9	0	1	24	0
RT Vol	32	0	1	0	194	0	3
Lane Flow Rate	69	0	11	32	224	149	3
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.097	0	0.017	0.051	0.278	0.234	0.004
Departure Headway (Hd)	5.048	5.391	5.321	5.659	4.458	5.632	4.519
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	708	0	672	634	807	637	790
Service Time	3.091	3.133	3.062	3.384	2.182	3.372	2.258
HCM Lane V/C Ratio	0.097	0	0.016	0.05	0.278	0.234	0.004
HCM Control Delay	8.6	8.1	8.2	8.7	8.9	10.1	7.3
HCM Lane LOS	A	N	A	A	A	B	A
HCM 95th-tile Q	0.3	0	0.1	0.2	1.1	0.9	0

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱		↱		↱
Traffic Vol, veh/h	1	0	0	2	0	2	0	1	0	10	1	1
Future Vol, veh/h	1	0	0	2	0	2	0	1	0	10	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	3	0	3	0	1	0	13	1	1

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	3	0	0	0	0	0	11	11	0
Stage 1	-	-	-	-	-	-	2	2	-
Stage 2	-	-	-	-	-	-	9	9	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	-	-	-	1009	884	-
Stage 1	-	-	-	-	-	-	1021	894	-
Stage 2	-	-	-	-	-	-	1014	888	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	-	-	-	1007	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	1007	0	-
Stage 1	-	-	-	-	-	-	1020	0	-
Stage 2	-	-	-	-	-	-	1013	0	-

Approach	EB	WB	NB
HCM Control Delay, s	7.2		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	1619	-	-	-	-	-
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-
HCM Control Delay (s)	-	7.2	-	-	-	-	-
HCM Lane LOS	-	A	-	-	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-

5: California Dr/California Ave & Imjin Pkwy

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	289	1122	0	1	870	60	0	0	0	27	0	210
Future Volume (veh/h)	289	1122	0	1	870	60	0	0	0	27	0	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	1145	0	1	888	61	0	0	0	28	0	214
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	2072	0	3	1281	88	0	392	0	90	17	293
Arrive On Green	0.21	0.58	0.00	0.00	0.38	0.38	0.00	0.00	0.00	0.21	0.00	0.21
Sat Flow, veh/h	1781	3647	0	1781	3373	232	0	1870	0	103	80	1400
Grp Volume(v), veh/h	295	1145	0	1	468	481	0	0	0	242	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1828	0	1870	0	1583	0	0
Q Serve(g_s), s	9.2	11.6	0.0	0.0	12.9	12.9	0.0	0.0	0.0	3.0	0.0	0.0
Cycle Q Clear(g_c), s	9.2	11.6	0.0	0.0	12.9	12.9	0.0	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.13	0.00		0.00	0.12		0.88
Lane Grp Cap(c), veh/h	365	2072	0	3	675	694	0	392	0	401	0	0
V/C Ratio(X)	0.81	0.55	0.00	0.33	0.69	0.69	0.00	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	1038	4505	0	183	1400	1440	0	1218	0	1090	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.1	7.5	0.0	29.1	15.2	15.2	0.0	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.2	0.0	52.9	1.3	1.3	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.3	0.0	0.1	4.8	4.9	0.0	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	7.7	0.0	82.0	16.5	16.5	0.0	0.0	0.0	22.9	0.0	0.0
LnGrp LOS	C	A	A	F	B	B	A	A	A	C	A	A
Approach Vol, veh/h	1440				950				0			
Approach Delay, s/veh	11.5				16.6				0.0			
Approach LOS	B				B				C			
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	16.2		4.1	38.0		16.2		16.0	26.2			
Change Period (Y+Rc), s	4.0		4.0	4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s	38.0		6.0	74.0		38.0		34.0	46.0			
Max Q Clear Time (g_c+l1), s	0.0		2.0	13.6		10.3		11.2	14.9			
Green Ext Time (p_c), s	0.0		0.0	11.8		1.6		0.9	7.2			
Intersection Summary												
HCM 6th Ctrl Delay	14.4											
HCM 6th LOS	B											

Intersection

Intersection Delay, s/veh11.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	43	36	56	19	26	58	185	123	36	164	42
Future Vol, veh/h	32	43	36	56	19	26	58	185	123	36	164	42
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	47	40	62	21	29	64	203	135	40	180	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	10.1	13.4	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	29%	55%	15%
Vol Thru, %	51%	39%	19%	68%
Vol Right, %	34%	32%	26%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	366	111	101	242
LT Vol	58	32	56	36
Through Vol	185	43	19	164
RT Vol	123	36	26	42
Lane Flow Rate	402	122	111	266
Geometry Grp	1	1	1	1
Degree of Util (X)	0.542	0.192	0.178	0.376
Departure Headway (Hd)	4.85	5.661	5.774	5.084
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	633	620	707
Service Time	2.85	3.708	3.823	3.117
HCM Lane V/C Ratio	0.537	0.193	0.179	0.376
HCM Control Delay	13.4	10.1	10.1	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.3	0.7	0.6	1.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1138	400	240	877	0	418	0	283	0	0	0
Future Volume (veh/h)	0	1138	400	240	877	0	418	0	283	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1185	417	250	914	0	435	0	295	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1697	755	357	2272	0	572	455	384	3	67	0
Arrive On Green	0.00	0.48	0.48	0.10	0.64	0.00	0.17	0.00	0.24	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1582	3456	3647	0	3456	1870	1577	1781	3647	0
Grp Volume(v), veh/h	0	1185	417	250	914	0	435	0	295	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	0	1728	1870	1577	1781	1777	0
Q Serve(g_s), s	0.0	17.8	12.7	4.8	8.5	0.0	8.2	0.0	11.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	17.8	12.7	4.8	8.5	0.0	8.2	0.0	11.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1697	755	357	2272	0	572	455	384	3	67	0
V/C Ratio(X)	0.00	0.70	0.55	0.70	0.40	0.00	0.76	0.00	0.77	0.00	0.00	0.00
Avail Cap(c_a), veh/h	157	2453	1092	558	2713	0	964	1373	1158	157	1931	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	13.9	12.6	29.5	6.0	0.0	27.1	0.0	24.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	2.5	0.1	0.0	2.1	0.0	3.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.3	4.1	2.0	2.5	0.0	3.4	0.0	4.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.5	13.3	32.0	6.1	0.0	29.2	0.0	27.3	0.0	0.0	0.0
LnGrp LOS	A	B	B	C	A	A	C	A	C	A	A	A
Approach Vol, veh/h	1602		1164			730			0			
Approach Delay, s/veh	14.2		11.7			28.4			0.0			
Approach LOS	B		B			C						
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	20.6	11.0	36.5	15.3	5.3	0.0	47.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	50.0	50.0	11.0	47.0	19.0	37.0	6.0	52.0				
Max Q Clear Time (g_c+I), s	13.9	13.9	6.8	19.8	10.2	0.0	0.0	10.5				
Green Ext Time (p_c), s	0.0	1.1	0.3	12.4	1.1	0.0	0.0	8.1				

Intersection Summary

HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Existing 2023 Conditions

PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	189	83	303	222	209	112	226	566	224	119	3
Future Volume (veh/h)	15	189	83	303	222	209	112	226	566	224	119	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.95	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	199	87	319	234	220	118	238	596	236	125	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	311	139	749	405	328	157	543	780	364	1090	26
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.09	0.29	0.29	0.11	0.31	0.31
Sat Flow, veh/h	182	2285	1024	3456	1870	1512	1781	1870	2689	3456	3544	85
Grp Volume(v), veh/h	164	0	138	319	234	220	118	238	596	236	62	66
Grp Sat Flow(s),veh/h/ln	1861	0	1630	1728	1870	1512	1781	1870	1344	1728	1777	1852
Q Serve(g_s), s	5.3	0.0	5.1	5.1	7.1	8.5	4.1	6.6	12.8	4.2	1.6	1.6
Cycle Q Clear(g_c), s	5.3	0.0	5.1	5.1	7.1	8.5	4.1	6.6	12.8	4.2	1.6	1.6
Prop In Lane	0.10		0.63	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	253	0	222	749	405	328	157	543	780	364	546	569
V/C Ratio(X)	0.65	0.00	0.62	0.43	0.58	0.67	0.75	0.44	0.76	0.65	0.11	0.12
Avail Cap(c_a), veh/h	586	0	513	1631	883	714	841	883	1269	1088	1118	1166
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	25.9	21.5	22.3	22.8	28.3	18.3	20.6	27.3	15.8	15.8
Incr Delay (d2), s/veh	2.8	0.0	2.9	0.4	1.3	2.4	7.1	0.6	1.6	1.9	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	2.1	2.0	3.1	3.0	2.0	2.7	3.8	1.7	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	28.8	21.9	23.6	25.2	35.4	18.9	22.2	29.2	15.9	15.9
LnGrp LOS	C	A	C	C	C	C	D	B	C	C	B	B
Approach Vol, veh/h	302					773		952		364		
Approach Delay, s/veh	28.8					23.3		23.0		24.5		
Approach LOS	C					C		C		C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.7	22.4	12.6		9.6	23.5	17.8					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	20.0	30.0	20.0		30.0	40.0	30.0					
Max Q Clear Time (g_c+I), s	10.2	14.8	7.3		6.1	3.6	10.5					
Green Ext Time (p_c), s	0.6	3.6	1.4		0.3	0.7	3.3					

Intersection Summary

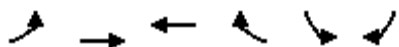
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Marina DIF - 2023 Update
11: Reservation Rd & Blanco Rd

Existing 2023 Conditions
PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↱	↑↑	↑	↰	↰↱	↰↱
Traffic Volume (veh/h)	1101	538	323	28	38	956
Future Volume (veh/h)	1101	538	323	28	38	956
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1159	566	340	29	40	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1459	2638	461	391	382	
Arrive On Green	0.42	0.74	0.25	0.25	0.11	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1159	566	340	29	40	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	15.8	2.7	9.1	0.8	0.6	0.0
Cycle Q Clear(g_c), s	15.8	2.7	9.1	0.8	0.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1459	2638	461	391	382	
V/C Ratio(X)	0.79	0.21	0.74	0.07	0.10	
Avail Cap(c_a), veh/h	2609	5758	1481	1255	2163	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.6	2.1	18.8	15.7	21.7	0.0
Incr Delay (d2), s/veh	1.0	0.0	2.3	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.3	3.8	0.3	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.7	2.2	21.2	15.8	21.9	0.0
LnGrp LOS	B	A	C	B	C	
Approach Vol, veh/h		1725	369		40	
Approach Delay, s/veh		10.6	20.7		21.9	
Approach LOS		B	C		C	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			44.3		10.0	26.9 17.4
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	41.0 43.0
Max Q Clear Time (g_c+l1), s			4.7		2.6	17.8 11.1
Green Ext Time (p_c), s			4.5		0.1	5.1 2.3
Intersection Summary						
HCM 6th Ctrl Delay			12.5			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	63	318	33	64	197
Future Vol, veh/h	29	63	318	33	64	197
Conflicting Peds, #/hr	3	1	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	67	338	35	68	210
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	690	342	0	0	376	0
Stage 1	341	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	411	701	-	-	1182	-
Stage 1	720	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	385	698	-	-	1179	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.1	0	2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 385 698	1179	-		
HCM Lane V/C Ratio	-	- 0.08 0.096	0.058	-		
HCM Control Delay (s)	-	- 15.2 10.7	8.2	-		
HCM Lane LOS	-	- C B	A	-		
HCM 95th %tile Q(veh)	-	- 0.3 0.3	0.2	-		

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	11	4	53	23	100	11	144	26	9	102	4
Future Vol, veh/h	3	11	4	53	23	100	11	144	26	9	102	4
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	14	5	66	29	125	14	180	33	11	128	5
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.3	9.5	10.1	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	17%	30%	100%	0%
Vol Thru, %	0%	85%	61%	13%	0%	96%
Vol Right, %	0%	15%	22%	57%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	170	18	176	9	106
LT Vol	11	0	3	53	9	0
Through Vol	0	144	11	23	0	102
RT Vol	0	26	4	100	0	4
Lane Flow Rate	14	212	22	220	11	132
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.022	0.304	0.032	0.282	0.018	0.196
Departure Headway (Hd)	5.762	5.15	5.062	4.618	5.843	5.312
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	619	695	702	777	610	672
Service Time	3.519	2.907	3.127	2.66	3.605	3.074
HCM Lane V/C Ratio	0.023	0.305	0.031	0.283	0.018	0.196
HCM Control Delay	8.6	10.2	8.3	9.5	8.7	9.4
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.3	0.1	1.2	0.1	0.7

Marina DIF - 2023 Update
14: SR 1 Southbound Ramp & Reservation Rd

Existing 2023 Conditions
PM Peak

Intersection												
Int Delay, s/veh	42.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	85	35	214	94	0	0	0	0	244	0	40
Future Vol, veh/h	0	85	35	214	94	0	0	0	0	244	0	40
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	105	43	264	116	0	0	0	0	301	0	49
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	149	0	0				772	793	116
Stage 1	-	-	-	-	-	-				644	644	-
Stage 2	-	-	-	-	-	-				128	149	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1432	-	0				368	321	936
Stage 1	0	-	-	-	-	0				523	468	-
Stage 2	0	-	-	-	-	0				898	774	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1432	-	-				~ 300	0	936
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 300	0	-
Stage 1	-	-	-	-	-	-				523	0	-
Stage 2	-	-	-	-	-	-				733	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			5.6			101.3					
HCM LOS	F											
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1432	-	332							
HCM Lane V/C Ratio	-	-	0.184	-	1.056							
HCM Control Delay (s)	-	-	8.1	-	101.3							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q(veh)	-	-	0.7	-	12.7							
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Marina DIF - 2023 Update
15: SR 1 Northbound Ramp & Reservation Rd

Existing 2023 Conditions
PM Peak

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↰		↰	↰			
Traffic Vol, veh/h	27	296	0	0	304	253	39	0	331	0	0	0
Future Vol, veh/h	27	296	0	0	304	253	39	0	331	0	0	0
Conflicting Peds, #/hr	2	0	10	10	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	302	0	0	310	258	40	0	338	0	0	0

Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	570	0	-	-	-	0	797 928 302
Stage 1	-	-	-	-	-	-	358 358 -
Stage 2	-	-	-	-	-	-	439 570 -
Critical Hdwy	4.12	-	-	-	-	-	6.42 6.52 6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42 5.52 -
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42 5.52 -
Follow-up Hdwy	2.218	-	-	-	-	-	3.518 4.018 3.318
Pot Cap-1 Maneuver	1002	-	0	0	-	-	356 268 738
Stage 1	-	-	0	0	-	-	707 628 -
Stage 2	-	-	0	0	-	-	650 505 -
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1002	-	-	-	-	-	346 0 738
Mov Cap-2 Maneuver	-	-	-	-	-	-	346 0 -
Stage 1	-	-	-	-	-	-	687 0 -
Stage 2	-	-	-	-	-	-	650 0 -

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	346	738	1002	-	-	-
HCM Lane V/C Ratio	0.115	0.458	0.027	-	-	-
HCM Control Delay (s)	16.8	13.9	8.7	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	0.4	2.4	0.1	-	-	-

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑			↕			↕	
Traffic Vol, veh/h	1	770	8	8	678	0	3	0	10	0	0	5
Future Vol, veh/h	1	770	8	8	678	0	3	0	10	0	0	5
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	802	8	8	706	0	3	0	10	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	811	0	0	1174	1527	402	1125	1535	353
Stage 1	-	-	-	-	-	-	805	805	-	722	722	-
Stage 2	-	-	-	-	-	-	369	722	-	403	813	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	888	-	-	811	-	0	147	116	598	160	115	643
Stage 1	-	-	-	-	-	0	342	393	-	384	429	-
Stage 2	-	-	-	-	-	0	623	429	-	595	390	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	888	-	-	810	-	-	144	114	597	156	114	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	114	-	156	114	-
Stage 1	-	-	-	-	-	-	341	392	-	383	425	-
Stage 2	-	-	-	-	-	-	612	425	-	583	389	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			15.8			10.6		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	346	888	-	-	810	-	643					
HCM Lane V/C Ratio	0.039	0.001	-	-	0.01	-	0.008					
HCM Control Delay (s)	15.8	9.1	-	-	9.5	-	10.6					
HCM Lane LOS	C	A	-	-	A	-	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0					

18: Driveway/Cardoza Ave & Reservation Rd

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	498	15	17	480	79	10	1	11	58	1	66
Future Volume (veh/h)	104	498	15	17	480	79	10	1	11	58	1	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	503	15	17	485	80	10	1	11	59	1	67
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	1753	772	46	773	646	212	54	128	425	4	259
Arrive On Green	0.11	0.49	0.49	0.03	0.41	0.41	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1566	1781	1870	1562	451	323	773	1400	23	1561
Grp Volume(v), veh/h	105	503	15	17	485	80	22	0	0	59	0	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1566	1781	1870	1562	1546	0	0	1400	0	1584
Q Serve(g_s), s	2.1	3.2	0.2	0.4	7.8	1.2	0.0	0.0	0.0	0.9	0.0	1.4
Cycle Q Clear(g_c), s	2.1	3.2	0.2	0.4	7.8	1.2	0.4	0.0	0.0	1.3	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	188	1753	772	46	773	646	394	0	0	425	0	263
V/C Ratio(X)	0.56	0.29	0.02	0.37	0.63	0.12	0.06	0.00	0.00	0.14	0.00	0.26
Avail Cap(c_a), veh/h	888	6622	2918	374	2945	2460	1651	0	0	1626	0	1621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	5.7	4.9	18.3	8.8	6.9	13.4	0.0	0.0	13.8	0.0	13.8
Incr Delay (d2), s/veh	2.6	0.1	0.0	4.8	0.8	0.1	0.1	0.0	0.0	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.7	0.0	0.2	2.4	0.3	0.1	0.0	0.0	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	5.8	5.0	23.1	9.7	7.0	13.5	0.0	0.0	13.9	0.0	14.4
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	B
Approach Vol, veh/h		623			582			22			127	
Approach Delay, s/veh		8.0			9.7			13.5			14.2	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	5.0	22.8		10.3	8.0	19.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	8.0	71.0		39.0	19.0	60.0				
Max Q Clear Time (g_c+l1), s		2.4	2.4	5.2		3.4	4.1	9.8				
Green Ext Time (p_c), s		0.1	0.0	3.9		0.6	0.2	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Marina DIF - 2023 Update
4: Highway 1 SB Ramp & Imjin Pkwy

Existing 2023 Conditions

PM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	865	0	0	0	318	1
Future Volume (vph)	865	0	0	0	318	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.95
Satd. Flow (prot)	1770					1774
Flt Permitted	0.95					0.95
Satd. Flow (perm)	1770					1774
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	940	0	0	0	346	1
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	940	0	0	0	0	347
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	52.6					23.7
Effective Green, g (s)	52.6					23.7
Actuated g/C Ratio	0.62					0.28
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1104					498
v/s Ratio Prot	c0.53					
v/s Ratio Perm						0.20
v/c Ratio	0.85					0.70
Uniform Delay, d1	12.7					27.1
Progression Factor	1.00					1.00
Incremental Delay, d2	6.5					4.2
Delay (s)	19.2					31.3
Level of Service	B					C
Approach Delay (s)	19.2		0.0			31.3
Approach LOS	B		A			C
Intersection Summary						
HCM 2000 Control Delay			22.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.80			
Actuated Cycle Length (s)			84.3		Sum of lost time (s)	8.0
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	240	41	75	139	0	0
Future Volume (Veh/h)	240	41	75	139	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	267	46	83	154	0	0
Pedestrians	19			5	21	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			334		650	316
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			334		650	316
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	100
cM capacity (veh/h)			1225		397	721
Direction, Lane #	EB 1	WB 1				
Volume Total	313	237				
Volume Left	0	83				
Volume Right	46	0				
cSH	1700	1225				
Volume to Capacity	0.18	0.07				
Queue Length 95th (ft)	0	5				
Control Delay (s)	0.0	3.2				
Lane LOS		A				
Approach Delay (s)	0.0	3.2				
Approach LOS						
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			41.7%	ICU Level of Service		A
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘↘	↗
Traffic Volume (vph)	1009	60	54	747	128	80
Future Volume (vph)	1009	60	54	747	128	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	0.98	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	3509		1770	3539	3399	1441
Flt Permitted	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	3509		1770	3539	3399	1441
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1085	65	58	803	138	86
RTOR Reduction (vph)	3	0	0	0	8	57
Lane Group Flow (vph)	1147	0	58	803	146	13
Confl. Peds. (#/hr)					2	
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	32.2		4.7	41.4	12.0	12.0
Effective Green, g (s)	32.2		4.7	41.4	12.0	12.0
Actuated g/C Ratio	0.52		0.08	0.66	0.19	0.19
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1810		133	2347	653	277
v/s Ratio Prot	c0.33		0.03	c0.23		
v/s Ratio Perm					c0.04	0.01
v/c Ratio	0.63		0.44	0.34	0.22	0.05
Uniform Delay, d1	10.9		27.6	4.6	21.3	20.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		2.3	0.1	0.2	0.1
Delay (s)	11.6		29.9	4.7	21.4	20.6
Level of Service	B		C	A	C	C
Approach Delay (s)	11.6			6.4	21.2	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			10.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			62.4		Sum of lost time (s)	13.5
Intersection Capacity Utilization			51.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	ft				mph
South: Del Monte Blvd															
3	L2	All MCs	173	2.0	173	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	30.9
8	T1	All MCs	230	2.0	230	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	31.4
18	R2	All MCs	57	2.0	57	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	31.2
Approach			460	2.0	460	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	31.2
East: Beach Rd															
1	L2	All MCs	21	2.0	21	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.0
6	T1	All MCs	68	2.0	68	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.6
16	R2	All MCs	40	2.0	40	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.4
Approach			129	2.0	129	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.5
North: Del Monte Blvd															
7	L2	All MCs	44	2.0	44	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.0
4	T1	All MCs	167	2.0	167	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.6
14	R2	All MCs	59	2.0	59	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.3
Approach			270	2.0	270	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.4
West: Beach Rd															
5	L2	All MCs	67	2.0	67	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	31.9
2	T1	All MCs	85	2.0	85	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	32.4
12	R2	All MCs	145	2.0	145	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	32.2
Approach			297	2.0	297	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	32.2
All Vehicles			1156	2.0	1156	2.0	0.418	6.6	LOS A	2.5	64.1	0.48	0.30	0.48	31.9

SITE LAYOUT

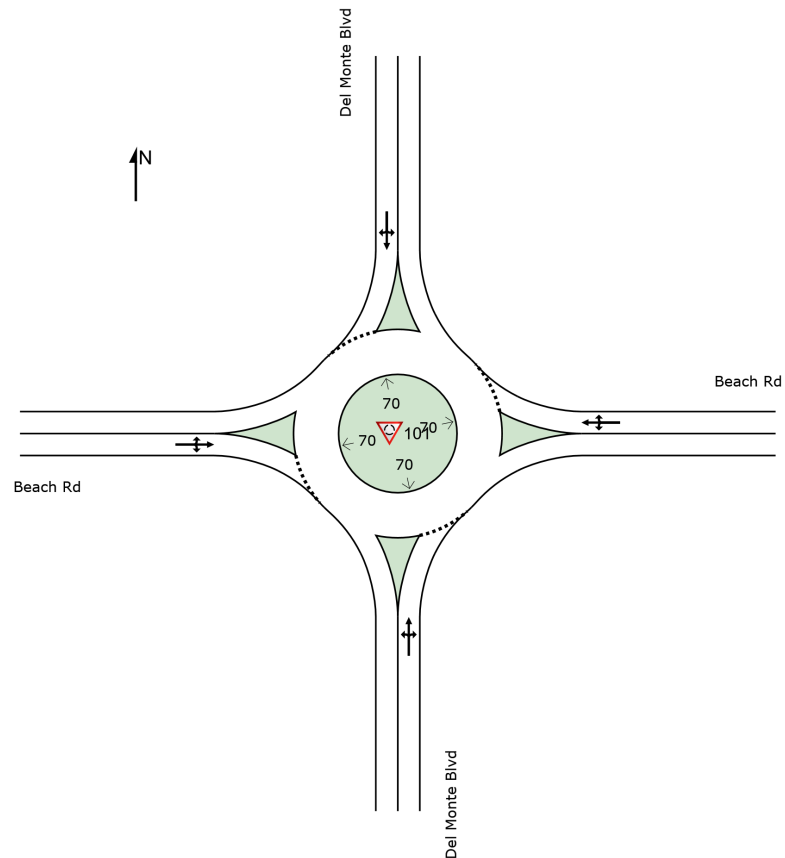
 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 PM)]**

New Site

Site Category: (None)

Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Intersection

Intersection Delay, s/veh 129.9

Intersection LOS F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	15	161	95	180	939
Future Vol, veh/h	12	15	161	95	180	939
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	16	173	102	194	1010
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	10.3	9.9	160.2
HCM LOS	B	A	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	95	12	15	180	939
LT Vol	0	0	12	0	180	0
Through Vol	161	0	0	0	0	939
RT Vol	0	95	0	15	0	0
Lane Flow Rate	173	102	13	16	194	1010
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.263	0.136	0.027	0.028	0.289	1.366
Departure Headway (Hd)	5.804	5.098	8.119	6.896	5.373	4.872
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	623	708	444	522	672	747
Service Time	3.504	2.798	5.819	4.596	3.089	2.587
HCM Lane V/C Ratio	0.278	0.144	0.029	0.031	0.289	1.352
HCM Control Delay, s/veh	10.6	8.6	11	9.8	10.3	188.9
HCM Lane LOS	B	A	B	A	B	F
HCM 95th-tile Q	1.1	0.5	0.1	0.1	1.2	42.6

Intersection

Intersection Delay, s/veh 2.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
Future Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	9	0	1	39	26	0	20	10	654	12	567
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	2.5	10.8	9.4	47.3
HCM LOS	B	B	A	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%	98%	0%
Vol Thru, %	68%	0%	100%	0%	60%	2%	0%
Vol Right, %	32%	0%	0%	0%	40%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	97	8	1	60	619	527
LT Vol	0	97	0	1	0	608	0
Through Vol	19	0	8	0	36	11	0
RT Vol	9	0	0	0	24	0	527
Lane Flow Rate	30	104	9	1	65	666	567
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.05	0.222	0.017	0.002	0.125	1.049	0.705
Departure Headway (Hd)	6.054	7.78	7.271	7.885	7.088	5.674	4.478
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	464	495	457	509	639	799
Service Time	4.054	5.48	4.971	5.585	4.788	3.446	2.249
HCM Lane V/C Ratio	0.05	0.224	0.018	0.002	0.128	1.042	0.71
HCM Control Delay, s/veh	9.4	12.7	10.1	10.6	10.8	72.7	17.4
HCM Lane LOS	A	B	B	B	B	F	C
HCM 95th-tile Q	0.2	0.8	0.1	0	0.4	17.7	6

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Future Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	268	22	0	0	10	16	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1	0	0	288	299	1
Stage 1	-	-	-	-	-	-	1	1	-
Stage 2	-	-	-	-	-	-	287	298	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1622	-	-	702	613	1084
Stage 1	0	-	-	-	-	-	1022	895	-
Stage 2	0	-	-	-	-	-	762	667	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	-	-	-	1622	-	-	700	0	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	700	0	-
Stage 1	-	-	-	-	-	-	1022	0	-
Stage 2	-	-	-	-	-	-	760	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.1	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	1084	-	-	1622	-	-
HCM Lane V/C Ratio	0.01	-	-	0.002	-	-
HCM Control Delay (s/veh)	8.4	-	-	7.2	0	-
HCM Lane LOS	A	-	-	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	-	-

5: California Dr/California Ave & Imjin Pkwy

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Future Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	881	0	2	1743	57	0	0	0	210	0	467
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1496	0	6	1172	38	0	885	0	260	5	499
Arrive On Green	0.09	0.42	0.00	0.00	0.33	0.33	0.00	0.00	0.00	0.47	0.00	0.47
Sat Flow, veh/h	1781	3647	0	1781	3512	114	0	1870	0	464	10	1055
Grp Volume(v), veh/h	134	881	0	2	878	922	0	0	0	677	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1850	0	1870	0	1529	0	0
Q Serve(g_s), s	8.6	22.3	0.0	0.1	39.0	39.0	0.0	0.0	0.0	47.8	0.0	0.0
Cycle Q Clear(g_c), s	8.6	22.3	0.0	0.1	39.0	39.0	0.0	0.0	0.0	48.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.06	0.00		0.00	0.31		0.69
Lane Grp Cap(c), veh/h	162	1496	0	6	593	617	0	885	0	764	0	0
V/C Ratio(X)	0.83	0.59	0.00	0.35	1.48	1.49	0.00	0.00	0.00	0.89	0.00	0.00
Avail Cap(c_a), veh/h	213	1496	0	91	593	617	0	1040	0	890	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.3	26.0	0.0	58.1	39.0	39.0	0.0	0.0	0.0	29.1	0.0	0.0
Incr Delay (d2), s/veh	18.3	0.6	0.0	32.5	225.8	230.7	0.0	0.0	0.0	9.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	9.4	0.0	0.1	53.9	56.9	0.0	0.0	0.0	19.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.5	26.7	0.0	90.6	264.7	269.6	0.0	0.0	0.0	38.8	0.0	0.0
LnGrp LOS	E	C		F	F	F				D		
Approach Vol, veh/h		1015			1802			0			677	
Approach Delay, s/veh		32.4			267.0			0.0			38.8	
Approach LOS		C			F						D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		59.3	4.4	53.2		59.3	14.6	43.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		65.0	6.0	47.0		65.0	14.0	39.0				
Max Q Clear Time (g_c+I1), s		0.0	2.1	24.3		50.9	10.6	41.0				
Green Ext Time (p_c), s		0.0	0.0	6.6		4.4	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			154.7									
HCM 6th LOS			F									

Intersection

Intersection Delay, s/veh 26.3

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	32	25	137	162	56	29	50	177	34	13	372	24
Future Vol, veh/h	32	25	137	162	56	29	50	177	34	13	372	24
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	29	159	188	65	34	58	206	40	15	433	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15.8	20.2	19.7	39.3
HCM LOS	C	C	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	16%	66%	3%
Vol Thru, %	68%	13%	23%	91%
Vol Right, %	13%	71%	12%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	261	194	247	409
LT Vol	50	32	162	13
Through Vol	177	25	56	372
RT Vol	34	137	29	24
Lane Flow Rate	303	226	287	476
Geometry Grp	1	1	1	1
Degree of Util (X)	0.59	0.446	0.584	0.871
Departure Headway (Hd)	7	7.116	7.317	6.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	513	505	491	547
Service Time	5.067	5.186	5.382	4.648
HCM Lane V/C Ratio	0.591	0.448	0.585	0.87
HCM Control Delay, s/veh	19.7	15.8	20.2	39.3
HCM Lane LOS	C	C	C	E
HCM 95th-tile Q	3.8	2.3	3.7	9.6



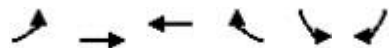
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑		↰	↑	↱	↰	↑↑	
Traffic Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Future Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1719	766	675	2624	0	315	268	225	3	5	0
Arrive On Green	0.00	0.48	0.48	0.20	0.74	0.00	0.09	0.00	0.14	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1583	3456	3647	0	3456	1870	1575	1781	3647	0
Grp Volume(v), veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1583	1728	1777	0	1728	1870	1575	1781	1777	0
Q Serve(g_s), s	0.0	13.4	20.3	9.6	10.4	0.0	4.1	0.0	5.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.4	20.3	9.6	10.4	0.0	4.1	0.0	5.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1719	766	675	2624	0	315	268	225	3	5	0
V/C Ratio(X)	0.00	0.57	0.76	0.77	0.50	0.00	0.68	0.00	0.62	0.00	0.00	0.00
Avail Cap(c_a), veh/h	158	2316	1032	1177	3211	0	461	1136	957	158	2001	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	14.2	25.7	3.7	0.0	29.7	0.0	27.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	2.3	1.9	0.1	0.0	2.6	0.0	2.7	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	6.8	3.9	2.2	0.0	1.7	0.0	2.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.8	16.6	27.6	3.8	0.0	32.3	0.0	29.9	0.0	0.0	0.0
LnGrp LOS	B		B	C	A	C		C				
Approach Vol, veh/h	1569		1841			354			0			
Approach Delay, s/veh	14.2		10.6			31.4			0.0			
Approach LOS	B		B			C						
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	13.7	17.2	36.7	10.2	3.5	0.0	53.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	41.0	23.0	44.0	9.0	38.0	6.0	61.0					
Max Q Clear Time (g_c+I), s	7.6	11.6	22.3	6.1	0.0	0.0	12.4					
Green Ext Time (p_c), s	0.0	0.4	1.5	10.2	0.2	0.0	14.4					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.0									
HCM 6th LOS			B									

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Future 2045 No Improvement Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		2T	1T	1T	2T	1T	1T	2T	1T	1T
Traffic Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Future Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	272	122	257	191	267	168	308	237	666	684	24
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	360	169	754	408	339	211	390	573	756	1083	38
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h	272	2211	1037	3456	1870	1552	1781	1870	2743	3456	3501	123
Grp Volume(v), veh/h	232	0	196	257	191	267	168	308	237	666	347	361
Grp Sat Flow(s), veh/h/ln	1870	0	1663	1728	1870	1552	1781	1870	1371	1728	1777	1847
Q Serve(g_s), s	10.0	0.0	9.3	5.2	7.4	13.6	7.7	13.0	6.3	15.6	14.0	14.0
Cycle Q Clear(g_c), s	10.0	0.0	9.3	5.2	7.4	13.6	7.7	13.0	6.3	15.6	14.0	14.0
Prop In Lane	0.15		0.62	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	302	0	271	754	408	339	211	390	573	756	550	571
V/C Ratio(X)	0.77	0.00	0.72	0.34	0.47	0.79	0.80	0.79	0.41	0.88	0.63	0.63
Avail Cap(c_a), veh/h	444	0	398	1240	671	557	639	671	984	827	850	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	83.5	0.0	33.2	27.6	28.4	30.8	35.9	31.3	28.6	31.6	24.8	24.8
Incr Delay (d2), s/veh	4.8	0.0	3.6	0.3	0.8	4.1	6.8	3.6	0.5	10.2	1.2	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.9	2.1	3.3	5.3	3.6	6.0	2.0	7.3	5.8	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.3	0.0	36.9	27.9	29.3	34.9	42.6	34.9	29.1	41.8	26.0	25.9
LnGrp LOS	D		D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h	428			715			713			1374		
Approach Delay, s/veh	37.6			30.9			34.8			33.7		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.3	21.4		17.6	13.9	29.9		22.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c-1), s	15.0	15.0		12.0	9.7	16.0		15.6				
Green Ext Time (p_c), s	0.7	2.4		1.6	0.4	4.4		2.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				33.8								
HCM 6th LOS				C								



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↖↗	↖	↗	↖↗	↖↗
Traffic Volume (veh/h)	1156	251	1788	127	27	1502
Future Volume (veh/h)	1156	251	1788	127	27	1502
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1257	273	1943	138	29	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1287	3066	843	715	203	
Arrive On Green	0.37	0.86	0.45	0.45	0.06	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1257	273	1943	138	29	0
Grp Sat Flow(s), veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	36.6	1.2	46.0	5.3	0.8	0.0
Cycle Q Clear(g_c), s	36.6	1.2	46.0	5.3	0.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1287	3066	843	715	203	
V/C Ratio(X)	0.98	0.09	2.30	0.19	0.14	
Avail Cap(c_a), veh/h	1287	3066	843	715	1152	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	81.6	1.0	28.0	16.8	45.6	0.0
Incr Delay (d2), s/veh	19.6	0.0	590.3	0.1	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	157.8	1.9	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.1	1.1	618.3	17.0	45.9	0.0
LnGrp LOS	D	A	F	B	D	
Approach Vol, veh/h		1530	2081		29	
Approach Delay, s/veh		42.2	578.4		45.9	
Approach LOS		D	F		D	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			92.0		10.0	42.0 50.0
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	38.0 46.0
Max Q Clear Time (g_c+l1), s			3.2		2.8	38.6 48.0
Green Ext Time (p_c), s			2.0		0.1	0.0 0.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			348.8			
HCM 6th LOS			F			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection

Int Delay, s/veh 3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	127	145	27	57	620
Future Vol, veh/h	61	127	145	27	57	620
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	140	159	30	63	681

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	970	162	0
Stage 1	161	-	-
Stage 2	809	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	281	883	-
Stage 1	868	-	-
Stage 2	438	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	267	880	-
Mov Cap-2 Maneuver	267	-	-
Stage 1	866	-	-
Stage 2	417	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v14.1		0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	267	880
HCM Lane V/C Ratio	-	-	0.251	0.159
HCM Control Delay (s/veh)	-	-	22.9	9.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q (veh)	-	-	1	0.6

Intersection

Intersection Delay, s/veh 130.4

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	9	18	175	12	58	4	98	10	22	730	0
Future Vol, veh/h	6	9	18	175	12	58	4	98	10	22	730	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	10	21	203	14	67	5	114	12	26	849	0
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.9	16.3	11.5	190.6
HCM LOS	B	C	B	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	18%	71%	100%	0%
Vol Thru, %	0%	91%	27%	5%	0%	100%
Vol Right, %	0%	9%	55%	24%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	108	33	245	22	730
LT Vol	4	0	6	175	22	0
Through Vol	0	98	9	12	0	730
RT Vol	0	10	18	58	0	0
Lane Flow Rate	5	126	38	285	26	849
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.009	0.224	0.07	0.486	0.045	1.374
Departure Headway (Hd)	7.459	6.879	7.386	6.909	6.335	5.828
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	525	488	524	568	628
Service Time	5.159	4.579	5.386	4.909	4.042	3.535
HCM Lane V/C Ratio	0.01	0.24	0.078	0.544	0.046	1.352
HCM Control Delay, s/veh	10.2	11.6	10.9	16.3	9.3	196.1
HCM Lane LOS	B	B	B	C	A	F
HCM 95th-tile Q	0	0.9	0.2	2.6	0.1	37.4

Intersection

Int Delay, s/veh 43.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰		↰	↰						↰	
Traffic Vol, veh/h	0	45	28	319	41	0	0	0	0	184	43	16
Future Vol, veh/h	0	45	28	319	41	0	0	0	0	184	43	16
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	52	32	367	47	0	0	0	0	211	49	18

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	84	0	0	851	865	47
Stage 1	-	-	-	-	-	-	781	781	-
Stage 2	-	-	-	-	-	-	70	84	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1513	-	0	330	292	1022
Stage 1	0	-	-	-	-	0	451	405	-
Stage 2	0	-	-	-	-	0	953	825	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1513	-	-	250	0	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	0	-
Stage 1	-	-	-	-	-	-	451	0	-
Stage 2	-	-	-	-	-	-	721	0	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	7.2	110.6
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1513	-	266
HCM Lane V/C Ratio	-	-	0.242	-	1.05
HCM Control Delay (s/veh)	-	-	8.1	-	110.6
HCM Lane LOS	-	-	A	-	F
HCM 95th %tile Q (veh)	-	-	1	-	11.1

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	180	0	0	289	340	57	0	156	0	0	0
Future Vol, veh/h	73	180	0	0	289	340	57	0	156	0	0	0
Conflicting Peds, #/hr	5	0	4	4	0	5	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	194	0	0	311	366	61	0	168	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	682	0	-	-	-	0	845	1032	194			
Stage 1	-	-	-	-	-	-	350	350	-			
Stage 2	-	-	-	-	-	-	495	682	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	911	-	0	0	-	-	333	233	847			
Stage 1	-	-	0	0	-	-	713	633	-			
Stage 2	-	-	0	0	-	-	613	450	-			
Platoon blocked, %	-						-					
Mov Cap-1 Maneuver	911	-	-	-	-	-	304	0	847			
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	0	-			
Stage 1	-	-	-	-	-	-	652	0	-			
Stage 2	-	-	-	-	-	-	612	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s/v	2.7			0			12.8					
HCM LOS							B					
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	304 847		911	-	-	-						
HCM Lane V/C Ratio	0.202 0.198		0.086	-	-	-						
HCM Control Delay (s/veh)	19.8 10.3		9.3	-	-	-						
HCM Lane LOS	C B		A	-	-	-						
HCM 95th %tile O (veh)	0.7 0.7		0.3	-	-	-						

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑			↑			↑	
Traffic Vol, veh/h	1	971	11	25	795	0	3	0	20	0	0	1
Future Vol, veh/h	1	971	11	25	795	0	3	0	20	0	0	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1142	13	29	935	0	4	0	24	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	935	0	0	1157	0	0	1672	2139	573	1566	2152	468
Stage 1	-	-	-	-	-	-	1146	1146	-	993	993	-
Stage 2	-	-	-	-	-	-	526	993	-	573	1159	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	728	-	-	600	-	0	63	48	463	75	47	542
Stage 1	-	-	-	-	-	0	212	272	-	263	322	-
Stage 2	-	-	-	-	-	0	503	322	-	472	268	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	728	-	-	599	-	-	60	45	462	68	44	542
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	45	-	68	44	-
Stage 1	-	-	-	-	-	-	211	270	-	262	307	-
Stage 2	-	-	-	-	-	-	478	307	-	446	266	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.3	21.4	11.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	247	728	-	-	599	-	542
HCM Lane V/C Ratio	0.11	0.002	-	-	0.049	-	0.002
HCM Control Delay (s/veh)	21.4	10	-	-	11.3	-	11.7
HCM Lane LOS	C	A	-	-	B	-	B
HCM 95th %tile Q (veh)	0.4	0	-	-	0.2	-	0

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Future Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	307	7	6	460	24	7	0	20	82	0	169
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1507	656	17	705	595	172	48	247	513	0	337
Arrive On Green	0.06	0.42	0.42	0.01	0.38	0.38	0.21	0.00	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3554	1546	1781	1870	1579	181	222	1154	1387	0	1574
Grp Volume(v), veh/h	41	307	7	6	460	24	27	0	0	82	0	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1870	1579	1558	0	0	1387	0	1574
Q Serve(g_s), s	0.8	1.9	0.1	0.1	6.9	0.3	0.0	0.0	0.0	1.1	0.0	3.2
Cycle Q Clear(g_c), s	0.8	1.9	0.1	0.1	6.9	0.3	0.4	0.0	0.0	1.6	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	101	1507	656	17	705	595	466	0	0	513	0	337
V/C Ratio(X)	0.41	0.20	0.01	0.35	0.65	0.04	0.06	0.00	0.00	0.16	0.00	0.50
Avail Cap(c_a), veh/h	680	7304	3179	471	3625	3059	1829	0	0	1804	0	1802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	6.2	5.7	16.8	8.8	6.7	10.7	0.0	0.0	11.1	0.0	11.8
Incr Delay (d2), s/veh	2.6	0.1	0.0	11.5	1.0	0.0	0.1	0.0	0.0	0.1	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.0	0.1	2.0	0.1	0.1	0.0	0.0	0.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.1	6.2	5.7	28.2	9.8	6.7	10.8	0.0	0.0	11.2	0.0	13.0
LnGrp LOS	B	A	A	C	A	A	B			B		B
Approach Vol, veh/h		355			490			27			251	
Approach Delay, s/veh		7.6			9.9			10.8			12.4	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	4.3	18.4		11.3	5.9	16.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	9.0	70.0		39.0	13.0	66.0				
Max Q Clear Time (g_c+l1), s		2.4	2.1	3.9		5.2	2.8	8.9				
Green Ext Time (p_c), s		0.1	0.0	2.3		1.4	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.7									
HCM 6th LOS			A									

Marina DIF - 2023 Update
4: Highway 1 SB Ramp & Imjin Pkwy

Future 2045 No Improvement Conditions
AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1356	0	0	0	437	33
Future Volume (vph)	1356	0	0	0	437	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.96
Satd. Flow (prot)	1770					1780
Flt Permitted	0.95					0.96
Satd. Flow (perm)	1770					1780
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1524	0	0	0	491	37
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1524	0	0	0	0	528
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	77.2					40.4
Effective Green, g (s)	77.2					40.4
Actuated g/C Ratio	0.61					0.32
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1087					572
v/s Ratio Prot	c0.86					c0.30
v/s Ratio Perm						
v/c Ratio	1.40					0.92
Uniform Delay, d1	24.2					41.1
Progression Factor	1.00					1.00
Incremental Delay, d2	186.5					20.6
Delay (s)	210.7					61.7
Level of Service	F					E
Approach Delay (s/veh)	210.7		0.0			61.7
Approach LOS	F		A			E
Intersection Summary						
HCM 2000 Control Delay (s/veh)		172.4		HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio		1.24				
Actuated Cycle Length (s)		125.6		Sum of lost time (s)		8.0
Intersection Capacity Utilization		49.1%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (veh/h)	148	57	146	691	0	0
Future Volume (Veh/h)	148	57	146	691	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	157	61	155	735	0	0
Pedestrians	12			2	7	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			225		1252	197
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			225		1252	197
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		100	100
cM capacity (veh/h)			1344		166	843
Direction, Lane #	EB 1	WB 1				
Volume Total	218	890				
Volume Left	0	155				
Volume Right	61	0				
cSH	1700	1344				
Volume to Capacity	0.13	0.12				
Queue Length 95th (ft)	0	10				
Control Delay (s/veh)	0.0	2.7				
Lane LOS		A				
Approach Delay (s/veh)	0.0	2.7				
Approach LOS						
Intersection Summary						
Average Delay		2.2				
Intersection Capacity Utilization		70.3%		ICU Level of Service		C
Analysis Period (min)		15				

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘↘	↗
Traffic Volume (vph)	742	213	1263	1524	56	121
Future Volume (vph)	742	213	1263	1524	56	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frt	0.97		1.00	1.00	0.92	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3421		1770	3539	3254	1441
Flt Permitted	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	3421		1770	3539	3254	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	227	1344	1621	60	129
RTOR Reduction (vph)	19	0	0	0	60	59
Lane Group Flow (vph)	997	0	1344	1621	65	5
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	35.9		40.3	80.2	7.5	7.5
Effective Green, g (s)	35.9		40.3	80.2	7.5	7.5
Actuated g/C Ratio	0.38		0.42	0.84	0.08	0.08
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1283		745	2965	255	112
v/s Ratio Prot	c0.29		c0.76	0.46		
v/s Ratio Perm					c0.02	0.00
v/c Ratio	0.78		1.80	0.55	0.26	0.04
Uniform Delay, d1	26.4		27.7	2.3	41.5	40.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0		367.2	0.2	0.5	0.2
Delay (s)	29.4		394.9	2.5	42.0	41.0
Level of Service	C		F	A	D	D
Approach Delay (s/veh)	29.4			180.4	41.6	
Approach LOS	C			F	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			137.3		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.22			
Actuated Cycle Length (s)			95.7		Sum of lost time (s)	12.0
Intersection Capacity Utilization			112.3%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 No Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: Del Monte Blvd															
3	L2	All MCs	165	2.0	165	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	30.5
8	T1	All MCs	308	2.0	308	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	31.1
18	R2	All MCs	67	2.0	67	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	30.8
Approach			540	2.0	540	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	30.9
East: Beach Rd															
1	L2	All MCs	180	2.0	180	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	29.7
6	T1	All MCs	79	2.0	79	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	30.2
16	R2	All MCs	52	2.0	52	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	30.0
Approach			311	2.0	311	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	29.8
North: Del Monte Blvd															
7	L2	All MCs	96	2.0	96	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
4	T1	All MCs	998	2.0	998	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
14	R2	All MCs	87	2.0	87	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
Approach			1181	2.0	1181	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
West: Beach Rd															
5	L2	All MCs	62	2.0	62	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.1
2	T1	All MCs	81	2.0	81	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.4
12	R2	All MCs	249	2.0	249	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.2
Approach			393	2.0	393	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.2
All Vehicles			2425	2.0	2425	2.0	1.367	99.1	LOS F	117.1	2975.0	0.85	2.48	5.20	13.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Intersection

Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	101	259	27	73	294
Future Vol, veh/h	63	101	259	27	73	294
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	103	264	28	74	300
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	9.6	11.3	11.6
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	259	27	63	101	73	294
LT Vol	0	0	63	0	73	0
Through Vol	259	0	0	0	0	294
RT Vol	0	27	0	101	0	0
Lane Flow Rate	264	28	64	103	74	300
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.396	0.036	0.118	0.155	0.12	0.441
Departure Headway (Hd)	5.388	4.682	6.628	5.416	5.794	5.29
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	663	757	537	655	615	675
Service Time	3.162	2.455	4.418	3.205	3.565	3.06
HCM Lane V/C Ratio	0.398	0.037	0.119	0.157	0.12	0.444
HCM Control Delay, s/veh	11.7	7.6	10.3	9.2	9.4	12.2
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	1.9	0.1	0.4	0.5	0.4	2.3

Intersection

Intersection Delay, s/veh 17.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Future Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	166	51	0	0	559	0	149	0	11	10	92
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	11.9	22.9	12.6	10.1
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	53%	0%
Vol Thru, %	100%	100%	77%	100%	0%	47%	0%
Vol Right, %	0%	0%	23%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	0	188	0	486	19	80
LT Vol	0	0	0	0	0	10	0
Through Vol	130	0	144	0	0	9	0
RT Vol	0	0	44	0	486	0	80
Lane Flow Rate	149	0	216	0	559	22	92
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.284	0	0.355	0	0.776	0.044	0.158
Departure Headway (Hd)	6.832	6.078	5.912	5.709	5.002	7.172	6.188
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	524	0	605	0	721	497	577
Service Time	4.9	3.839	3.672	3.456	2.748	4.944	3.959
HCM Lane V/C Ratio	0.284	0	0.357	0	0.775	0.044	0.159
HCM Control Delay, s/veh	12.6	8.8	11.9	8.5	22.9	10.3	10.1
HCM Lane LOS	B	N	B	N	C	B	B
HCM 95th-tile Q	1.2	0	1.6	0	7.5	0.1	0.6

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Future Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	0	16	0	1	0	12	0	28	5	12

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1	0	0	0	0	0	52	51	0
Stage 1	-	-	-	-	-	-	18	18	-
Stage 2	-	-	-	-	-	-	34	33	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	-	-	-	957	840	-
Stage 1	-	-	-	-	-	-	1005	880	-
Stage 2	-	-	-	-	-	-	988	868	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	-	-	-	950	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	950	0	-
Stage 1	-	-	-	-	-	-	999	0	-
Stage 2	-	-	-	-	-	-	987	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v	7.2		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	0.006	-	-	-	-	-
HCM Control Delay (s/veh)	-	7.2	-	-	-	-	-
HCM Lane LOS	-	A	-	-	-	-	-
HCM 95th %tile Q (veh)	-	0	-	-	-	-	-

5: California Dr/California Ave & Imjin Pkwy

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Future Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	1905	0	13	1294	63	0	0	0	31	0	228
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	2326	0	33	1594	77	0	373	0	67	14	277
Arrive On Green	0.21	0.65	0.00	0.02	0.46	0.46	0.00	0.00	0.00	0.20	0.00	0.20
Sat Flow, veh/h	1781	3647	0	1781	3449	168	0	1870	0	119	70	1390
Grp Volume(v), veh/h	331	1905	0	13	666	691	0	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1840	0	1870	0	1579	0	0
Q Serve(g_s), s	16.9	37.5	0.0	0.7	30.3	30.4	0.0	0.0	0.0	7.9	0.0	0.0
Cycle Q Clear(g_c), s	16.9	37.5	0.0	0.7	30.3	30.4	0.0	0.0	0.0	14.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.09	0.00		0.00	0.12		0.88
Lane Grp Cap(c), veh/h	375	2326	0	33	821	850	0	373	0	358	0	0
V/C Ratio(X)	0.88	0.82	0.00	0.40	0.81	0.81	0.00	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	645	2801	0	114	871	901	0	757	0	678	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.9	12.1	0.0	45.6	21.7	21.8	0.0	0.0	0.0	35.9	0.0	0.0
Incr Delay (d2), s/veh	7.4	1.7	0.0	7.6	5.6	5.5	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	13.1	0.0	0.4	13.1	13.6	0.0	0.0	0.0	5.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	13.8	0.0	53.2	27.3	27.2	0.0	0.0	0.0	38.7	0.0	0.0
LnGrp LOS	D	B		D	C	C				D		
Approach Vol, veh/h		2236			1370			0			259	
Approach Delay, s/veh		18.2			27.5			0.0			38.7	
Approach LOS		B			C						D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	5.7	65.4		22.7	23.8	47.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		38.0	6.0	74.0		38.0	34.0	46.0				
Max Q Clear Time (g_c+I1), s		0.0	2.7	39.5		16.7	18.9	32.4				
Green Ext Time (p_c), s		0.0	0.0	22.0		1.6	0.9	7.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			22.9									
HCM 6th LOS			C									

Intersection

Intersection Delay, s/veh 12

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	32	44	36	58	21	28	60	183	126	40	162	40
Future Vol, veh/h	32	44	36	58	21	28	60	183	126	40	162	40
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	48	40	64	23	31	66	201	138	44	178	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	10.2	13.6	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	29%	54%	17%
Vol Thru, %	50%	39%	20%	67%
Vol Right, %	34%	32%	26%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	369	112	107	242
LT Vol	60	32	58	40
Through Vol	183	44	21	162
RT Vol	126	36	28	40
Lane Flow Rate	405	123	118	266
Geometry Grp	1	1	1	1
Degree of Util (X)	0.546	0.195	0.189	0.379
Departure Headway (Hd)	4.85	5.694	5.792	5.127
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	742	629	618	702
Service Time	2.88	3.738	3.835	3.16
HCM Lane V/C Ratio	0.546	0.196	0.191	0.379
HCM Control Delay, s/veh	13.6	10.1	10.2	11.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.3	0.7	0.7	1.8

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Future Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	1669	743	380	2202	0	519	562	474	2	393	0
Arrive On Green	0.00	0.47	0.47	0.11	0.62	0.00	0.15	0.00	0.30	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1582	3456	3647	0	3456	1870	1579	1781	3647	0
Grp Volume(v), veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	0	1728	1870	1579	1781	1777	0
Q Serve(g_s), s	0.0	47.0	22.8	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	47.0	22.8	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	1669	743	380	2202	0	519	562	474	2	393	0
V/C Ratio(X)	0.00	1.13	0.64	0.94	0.58	0.00	0.84	0.00	0.89	0.00	0.00	0.00
Avail Cap(c_a), veh/h	107	1669	743	380	2202	0	656	935	789	107	1314	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	26.5	20.1	44.2	11.3	0.0	41.4	0.0	33.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	66.5	1.9	31.2	0.4	0.0	7.8	0.0	7.6	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.1	8.4	6.0	7.7	0.0	5.7	0.0	10.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	93.0	22.0	75.4	11.6	0.0	49.2	0.0	41.1	0.0	0.0	0.0
LnGrp LOS		F	C	E	B		D		D			
Approach Vol, veh/h	2361			1625			860			0		
Approach Delay, s/veh	78.7			25.6			45.2			0.0		
Approach LOS	E			C			D					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.1	15.0	51.0	19.0	15.1	0.0	66.0					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
Max Green Setting (Gmax), s	50.0	11.0	47.0	19.0	37.0	6.0	52.0					
Max Q Clear Time (g_c+I), s	27.7	12.3	49.0	14.3	0.0	0.0	23.1					
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.7	0.0	11.5					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	54.9											
HCM 6th LOS	D											

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Future 2045 No Improvement Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		2T	1T	1T	2T	1T	1T	2T	1T	1T
Traffic Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Future Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	243	171	405	311	374	163	414	484	304	261	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	301	221	977	529	432	202	493	706	397	927	32
Arrive On Green	0.17	0.17	0.17	0.28	0.28	0.28	0.11	0.26	0.26	0.11	0.26	0.26
Sat Flow, veh/h	315	1795	1320	3456	1870	1529	1781	1870	2679	3456	3500	120
Grp Volume(v), veh/h	253	0	204	405	311	374	163	414	484	304	132	138
Grp Sat Flow(s), veh/h/ln	1855	0	1575	1728	1870	1529	1781	1870	1339	1728	1777	1843
Q Serve(g_s), s	12.3	0.0	11.6	8.9	13.4	21.7	8.3	19.5	15.2	8.0	5.5	5.6
Cycle Q Clear(g_c), s	12.3	0.0	11.6	8.9	13.4	21.7	8.3	19.5	15.2	8.0	5.5	5.6
Prop In Lane	0.17		0.84	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	311	0	264	977	529	432	202	493	706	397	471	488
V/C Ratio(X)	0.81	0.00	0.77	0.41	0.59	0.87	0.81	0.84	0.69	0.77	0.28	0.28
Avail Cap(c_a), veh/h	397	0	337	1110	601	491	572	601	861	740	761	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	87.4	0.0	37.2	27.2	28.8	31.8	40.4	32.5	30.9	40.1	27.2	27.3
Incr Delay (d2), s/veh	9.7	0.0	8.2	0.3	1.2	13.6	7.5	8.8	1.7	3.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.0	3.6	6.0	9.4	4.0	9.7	4.9	3.5	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.2	0.0	45.3	27.5	30.0	45.4	47.9	41.3	32.6	43.2	27.6	27.6
LnGrp LOS	D		D	C	C	D	D	D	C	D	C	C
Approach Vol, veh/h	457			1090			1061			574		
Approach Delay, s/veh	46.4			34.4			38.3			35.9		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	28.6		19.7	14.6	28.7		30.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c+1.0), s	21.5	21.5		14.3	10.3	7.6		23.7				
Green Ext Time (p_c), s	0.7	3.1		1.4	0.4	1.5		2.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				37.7								
HCM 6th LOS				D								



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↰↰	↰↰	↰	↰	↰↰	↰↰	
Traffic Volume (veh/h)	1200	1431	761	55	86	1129	
Future Volume (veh/h)	1200	1431	761	55	86	1129	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	1263	1506	801	58	91	0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	1352	3057	803	680	207		
Arrive On Green	0.39	0.86	0.43	0.43	0.06	0.00	
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790	
Grp Volume(v), veh/h	1263	1506	801	58	91	0	
Grp Sat Flow(s),veh/h/ln	1728	1777	1870	1585	1728	1395	
Q Serve(g_s), s	35.1	10.3	42.8	2.2	2.5	0.0	
Cycle Q Clear(g_c), s	35.1	10.3	42.8	2.2	2.5	0.0	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	1352	3057	803	680	207		
V/C Ratio(X)	0.93	0.49	1.00	0.09	0.44		
Avail Cap(c_a), veh/h	1414	3121	803	680	1173		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	29.3	1.7	28.6	16.9	45.5	0.0	
Incr Delay (d2), s/veh	11.4	0.1	31.2	0.1	1.5	0.0	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	16.2	1.3	25.2	0.8	1.1	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	40.6	1.8	59.8	17.0	46.9	0.0	
LnGrp LOS	D	A	E	B	D		
Approach Vol, veh/h		2769	859		91		
Approach Delay, s/veh		19.5	56.9		46.9		
Approach LOS		B	E		D		
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			90.2		10.0	43.2	47.0
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			88.0		34.0	41.0	43.0
Max Q Clear Time (g_c+l1), s			12.3		4.5	37.1	44.8
Green Ext Time (p_c), s			19.9		0.3	2.1	0.0
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			28.8				
HCM 6th LOS			C				

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection

Int Delay, s/veh 2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	59	332	56	62	199
Future Vol, veh/h	46	59	332	56	62	199
Conflicting Peds, #/hr	3	1	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	63	353	60	66	212

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	703	357	0
Stage 1	356	-	-
Stage 2	347	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	404	687	-
Stage 1	709	-	-
Stage 2	716	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	378	684	-
Mov Cap-2 Maneuver	378	-	-
Stage 1	707	-	-
Stage 2	672	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	13	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	378	684
HCM Lane V/C Ratio	-	-	0.129	0.092
HCM Control Delay (s/veh)	-	-	15.9	10.8
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q (veh)	-	-	0.4	0.3

Intersection

Intersection Delay, s/veh 25.6

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	12	10	33	15	131	18	439	23	12	116	10
Future Vol, veh/h	13	12	10	33	15	131	18	439	23	12	116	10
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	15	13	41	19	164	23	549	29	15	145	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.1	11.9	36.1	10.9
HCM LOS	B	B	E	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	37%	18%	100%	0%
Vol Thru, %	0%	95%	34%	8%	0%	92%
Vol Right, %	0%	5%	29%	73%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	462	35	179	12	126
LT Vol	18	0	13	33	12	0
Through Vol	0	439	12	15	0	116
RT Vol	0	23	10	131	0	10
Lane Flow Rate	23	578	44	224	15	158
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.038	0.891	0.078	0.354	0.028	0.265
Departure Headway (Hd)	6.098	5.557	6.438	5.699	6.626	6.061
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	653	553	629	540	592
Service Time	3.829	3.288	4.51	3.753	4.374	3.808
HCM Lane V/C Ratio	0.039	0.885	0.08	0.356	0.028	0.267
HCM Control Delay, s/veh	9.1	37.1	10.1	11.9	9.6	11
HCM Lane LOS	A	E	B	B	A	B
HCM 95th-tile Q	0.1	10.9	0.3	1.6	0.1	1.1

Intersection												
Int Delay, s/veh	298.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰		↰	↰						↰	
Traffic Vol, veh/h	0	103	32	231	95	0	0	0	0	457	0	55
Future Vol, veh/h	0	103	32	231	95	0	0	0	0	457	0	55
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	127	40	285	117	0	0	0	0	564	0	68
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	168	0	0				835	855	117
Stage 1	-	-	-	-	-	-				687	687	-
Stage 2	-	-	-	-	-	-				148	168	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1410	-	0				~ 338	296	935
Stage 1	0	-	-	-	-	0				~ 499	447	-
Stage 2	0	-	-	-	-	0				880	759	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1410	-	-				~ 270	0	935
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 270	0	-
Stage 1	-	-	-	-	-	-				~ 499	0	-
Stage 2	-	-	-	-	-	-				702	0	-
Approach	EB			WB			SB					
HCM Control Delay, s/v	0			5.8			\$ 563.4					
HCM LOS							F					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1410	-	292							
HCM Lane V/C Ratio	-	-	0.202	-	2.165							
HCM Control Delay (s/veh)	-	-	8.2		\$ 563.4							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q (veh)	-	-	0.8	-	47.5							
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↱		↰	↱			
Traffic Vol, veh/h	67	485	0	0	337	387	44	0	326	0	0	0
Future Vol, veh/h	67	485	0	0	337	387	44	0	326	0	0	0
Conflicting Peds, #/hr	2	0	10	10	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	495	0	0	344	395	45	0	333	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	741	0	-	-	-	-	0	1173	1372	495		
Stage 1	-	-	-	-	-	-	-	631	631	-		
Stage 2	-	-	-	-	-	-	-	542	741	-		
Critical Hdwy	4.12	-	-	-	-	-	-	6.42	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.42	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.42	5.52	-		
Follow-up Hdwy	2.218	-	-	-	-	-	-	3.518	4.018	3.318		
Pot Cap-1 Maneuver	866	-	0	0	-	-	-	212	146	575		
Stage 1	-	-	0	0	-	-	-	530	474	-		
Stage 2	-	-	0	0	-	-	-	583	423	-		
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	866	-	-	-	-	-	-	195	0	575		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	195	0	-		
Stage 1	-	-	-	-	-	-	-	488	0	-		
Stage 2	-	-	-	-	-	-	-	583	0	-		
Approach	EB			WB			NB					
HCM Control Delay, s/v	1.2			0			20.6					
HCM LOS							C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	195	575	866	-	-	-						
HCM Lane V/C Ratio	0.23	0.579	0.079	-	-	-						
HCM Control Delay (s/veh)	28.9	19.5	9.5	-	-	-						
HCM Lane LOS	D	C	A	-	-	-						
HCM 95th %tile Q (veh)	0.9	3.7	0.3	-	-	-						

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑			↑			↑	
Traffic Vol, veh/h	1	808	13	20	999	0	8	0	27	0	0	5
Future Vol, veh/h	1	808	13	20	999	0	8	0	27	0	0	5
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	842	14	21	1041	0	8	0	28	0	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1041	0	0	857	0	0	1408	1928	422	1506	1942	521
Stage 1	-	-	-	-	-	-	845	845	-	1083	1083	-
Stage 2	-	-	-	-	-	-	563	1083	-	423	859	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	664	-	-	779	-	0	99	66	580	83	64	500
Stage 1	-	-	-	-	-	0	324	377	-	232	292	-
Stage 2	-	-	-	-	-	0	478	292	-	579	371	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	664	-	-	778	-	-	96	64	579	77	62	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	64	-	77	62	-
Stage 1	-	-	-	-	-	-	323	375	-	231	284	-
Stage 2	-	-	-	-	-	-	460	284	-	549	370	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.2	20.5	12.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	269	664	-	-	778	-	500
HCM Lane V/C Ratio	0.136	0.002	-	-	0.027	-	0.01
HCM Control Delay (s/veh)	20.5	10.4	-	-	9.8	-	12.3
HCM Lane LOS	C	B	-	-	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0.1	-	0

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Future Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	653	17	16	653	82	10	1	11	59	1	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1985	876	43	907	759	184	46	112	370	3	226
Arrive On Green	0.10	0.56	0.56	0.02	0.49	0.49	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1568	1781	1870	1565	451	321	773	1400	23	1560
Grp Volume(v), veh/h	103	653	17	16	653	82	22	0	0	59	0	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1870	1565	1545	0	0	1400	0	1583
Q Serve(g_s), s	2.4	4.4	0.2	0.4	12.2	1.3	0.0	0.0	0.0	1.0	0.0	1.7
Cycle Q Clear(g_c), s	2.4	4.4	0.2	0.4	12.2	1.3	0.5	0.0	0.0	1.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	174	1985	876	43	907	759	343	0	0	370	0	229
V/C Ratio(X)	0.59	0.33	0.02	0.37	0.72	0.11	0.06	0.00	0.00	0.16	0.00	0.30
Avail Cap(c_a), veh/h	769	5731	2529	324	2549	2133	1428	0	0	1408	0	1402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	5.3	4.3	21.1	9.0	6.2	16.3	0.0	0.0	16.7	0.0	16.8
Incr Delay (d2), s/veh	3.2	0.1	0.0	5.2	1.1	0.1	0.1	0.0	0.0	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.0	0.2	3.7	0.3	0.2	0.0	0.0	0.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.2	5.4	4.3	26.4	10.1	6.2	16.4	0.0	0.0	16.9	0.0	17.6
LnGrp LOS	C	A	A	C	B	A	B			B		B
Approach Vol, veh/h		773			751			22			128	
Approach Delay, s/veh		7.6			10.0			16.4			17.3	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	5.1	28.6		10.4	8.3	25.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	8.0	71.0		39.0	19.0	60.0				
Max Q Clear Time (g_c+l1), s		2.5	2.4	6.4		3.7	4.4	14.2				
Green Ext Time (p_c), s		0.1	0.0	5.4		0.6	0.2	5.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.5									
HCM 6th LOS			A									

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1222	0	0	0	318	1
Future Volume (vph)	1222	0	0	0	318	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.95
Satd. Flow (prot)	1770					1774
Flt Permitted	0.95					0.95
Satd. Flow (perm)	1770					1774
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1328	0	0	0	346	1
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1328	0	0	0	0	347
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	85.2					28.2
Effective Green, g (s)	85.2					28.2
Actuated g/C Ratio	0.70					0.23
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1242					412
v/s Ratio Prot	c0.75					
v/s Ratio Perm						0.20
v/c Ratio	1.07					0.84
Uniform Delay, d1	18.1					44.5
Progression Factor	1.00					1.00
Incremental Delay, d2	46.2					14.4
Delay (s)	64.3					58.9
Level of Service	E					E
Approach Delay (s/veh)	64.3		0.0			58.9
Approach LOS	E		A			E
Intersection Summary						
HCM 2000 Control Delay (s/veh)			63.2		HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.01			
Actuated Cycle Length (s)			121.4		Sum of lost time (s)	8.0
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	644	56	60	165	0	0
Future Volume (Veh/h)	644	56	60	165	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	716	62	67	183	0	0
Pedestrians	19			5	21	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			799		1104	773
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			799		1104	773
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	100
cM capacity (veh/h)			824		211	397
Direction, Lane #	EB 1	WB 1				
Volume Total	778	250				
Volume Left	0	67				
Volume Right	62	0				
cSH	1700	824				
Volume to Capacity	0.46	0.08				
Queue Length 95th (ft)	0	7				
Control Delay (s/veh)	0.0	3.3				
Lane LOS		A				
Approach Delay (s/veh)	0.0	3.3				
Approach LOS						
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			64.3%	ICU Level of Service	C	
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑↑	↑
Traffic Volume (vph)	1810	62	166	1090	187	442
Future Volume (vph)	1810	62	166	1090	187	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	0.92	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3522		1770	3539	3241	1441
Flt Permitted	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	3522		1770	3539	3241	1441
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1946	67	178	1172	201	475
RTOR Reduction (vph)	2	0	0	0	150	150
Lane Group Flow (vph)	2011	0	178	1172	289	87
Confl. Peds. (#/hr)					2	
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	66.9		12.6	84.0	16.8	16.8
Effective Green, g (s)	66.9		12.6	84.0	16.8	16.8
Actuated g/C Ratio	0.61		0.11	0.77	0.15	0.15
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2145		203	2707	495	220
v/s Ratio Prot	c0.57		c0.10	0.33		
v/s Ratio Perm					c0.09	0.06
v/c Ratio	0.94		0.88	0.43	0.58	0.40
Uniform Delay, d1	19.6		47.8	4.5	43.2	41.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.6		31.8	0.1	1.8	1.2
Delay (s)	28.1		79.6	4.6	45.0	43.1
Level of Service	C		E	A	D	D
Approach Delay (s/veh)	28.1			14.5	44.3	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			26.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			109.8		Sum of lost time (s)	13.5
Intersection Capacity Utilization			82.4%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 No Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]				
			veh/h	%	veh/h	%	v/c	sec			ft				mph
South: Del Monte Blvd															
3	L2	All MCs	262	2.0	262	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.4
8	T1	All MCs	441	2.0	441	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.8
18	R2	All MCs	105	2.0	105	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.6
Approach			808	2.0	808	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.6
East: Beach Rd															
1	L2	All MCs	42	2.0	42	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.2
6	T1	All MCs	78	2.0	78	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.7
16	R2	All MCs	62	2.0	62	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.5
Approach			182	2.0	182	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.5
North: Del Monte Blvd															
7	L2	All MCs	58	2.0	58	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.4
4	T1	All MCs	313	2.0	313	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.9
14	R2	All MCs	67	2.0	67	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.7
Approach			438	2.0	438	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.8
West: Beach Rd															
5	L2	All MCs	60	2.0	60	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.1
2	T1	All MCs	69	2.0	69	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.6
12	R2	All MCs	171	2.0	171	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.4
Approach			300	2.0	300	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.4
All Vehicles			1729	2.0	1729	2.0	0.727	11.7	LOS B	12.2	309.8	0.71	0.56	0.88	29.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Marina DIF - 2023 Update
1: 2nd Ave & Inter-Garrison Rd

Plus Project Conditions
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	12	0	15	0	161	95	180	939	0
Future Volume (veh/h)	0	0	0	12	0	15	0	161	95	180	939	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	13	0	16	0	173	102	194	1010	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	39	33	76	0	301	6	598	332	277	1978	0
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.19	0.00	0.27	0.27	0.16	0.56	0.00
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	1781	2178	1209	1781	3647	0
Grp Volume(v), veh/h	0	0	0	13	0	16	0	139	136	194	1010	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1777	1611	1781	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.3	0.0	1.9	2.1	3.3	5.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.2	0.0	0.3	0.0	1.9	2.1	3.3	5.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.00
Lane Grp Cap(c), veh/h	6	39	33	76	0	301	6	488	442	277	1978	0
V/C Ratio(X)	0.00	0.00	0.00	0.17	0.00	0.05	0.00	0.29	0.31	0.70	0.51	0.00
Avail Cap(c_a), veh/h	339	1659	1406	564	0	1607	339	2533	2296	1749	7880	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.6	0.0	10.5	0.0	9.0	9.1	12.6	4.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.1	0.0	0.1	0.0	0.3	0.4	3.2	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.6	1.2	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	15.6	0.0	10.5	0.0	9.3	9.5	15.9	4.5	0.0
LnGrp LOS				B				B	A	A	B	A
Approach Vol, veh/h	0			29			275			1204		
Approach Delay, s/veh	0.0			12.8			9.4			6.4		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	12.7	5.3	4.7	0.0	21.6	0.0	10.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	31.0	45.0	10.0	28.0	6.0	70.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s	5.3	4.1	2.2	0.0	0.0	7.6	0.0	2.3				
Green Ext Time (p_c), s	0.5	1.8	0.0	0.0	0.0	9.7	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				7.0								
HCM 7th LOS				A								

Intersection

Intersection Delay, s/veh 42.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
Future Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	9	0	1	39	26	0	20	10	654	12	567
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh 12.5		10.8	9.4	47.3
HCM LOS	B	B	A	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%	98%	0%
Vol Thru, %	68%	0%	100%	0%	60%	2%	0%
Vol Right, %	32%	0%	0%	0%	40%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	97	8	1	60	619	527
LT Vol	0	97	0	1	0	608	0
Through Vol	19	0	8	0	36	11	0
RT Vol	9	0	0	0	24	0	527
Lane Flow Rate	30	104	9	1	65	666	567
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.05	0.222	0.017	0.002	0.125	1.049	0.705
Departure Headway (Hd)	6.054	7.78	7.271	7.885	7.088	5.674	4.478
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	464	495	457	509	639	799
Service Time	4.054	5.48	4.971	5.585	4.788	3.446	2.249
HCM Lane V/C Ratio	0.05	0.224	0.018	0.002	0.128	1.042	0.71
HCM Control Delay, s/veh	9.4	12.7	10.1	10.6	10.8	72.7	17.4
HCM Lane LOS	A	B	B	B	B	F	C
HCM 95th-tile Q	0.2	0.8	0.1	0	0.4	17.7	6

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Future Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	268	22	0	0	10	16	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1	0	0	277	299	1
Stage 1	-	-	-	-	-	-	1	1	-
Stage 2	-	-	-	-	-	-	275	297	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1621	-	-	713	613	1083
Stage 1	0	-	-	-	-	-	1022	895	-
Stage 2	0	-	-	-	-	-	771	667	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	-	-	-	1621	-	-	711	0	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	711	0	-
Stage 1	-	-	-	-	-	-	1022	0	-
Stage 2	-	-	-	-	-	-	769	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.1	8.36
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	1083	-	-	24	-	-
HCM Lane V/C Ratio	0.01	-	-	0.002	-	-
HCM Control Delay (s/veh)	8.4	-	-	7.2	0	-
HCM Lane LOS	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Marina DIF - 2023 Update
5: California Dr/California Ave & Imjin Pkwy

Plus Project Conditions
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Future Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	881	0	2	1743	57	0	0	0	210	0	467
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	1926	859	6	1604	714	2	268	0	248	609	515
Arrive On Green	0.09	0.54	0.00	0.00	0.45	0.45	0.00	0.00	0.00	0.14	0.00	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	0	1781	1870	1581
Grp Volume(v), veh/h	134	881	0	2	1743	57	0	0	0	210	0	467
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	0	1781	1870	1581
Q Serve(g_s), s	6.9	14.1	0.0	0.1	42.0	1.9	0.0	0.0	0.0	10.7	0.0	26.3
Cycle Q Clear(g_c), s	6.9	14.1	0.0	0.1	42.0	1.9	0.0	0.0	0.0	10.7	0.0	26.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	1926	859	6	1604	714	2	268	0	248	609	515
V/C Ratio(X)	0.80	0.46	0.00	0.35	1.09	0.08	0.00	0.00	0.00	0.85	0.00	0.91
Avail Cap(c_a), veh/h	306	1985	886	115	1604	714	124	723	0	383	995	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	13.0	0.0	46.3	25.5	14.5	0.0	0.0	0.0	39.1	0.0	30.0
Incr Delay (d2), s/veh	8.5	0.2	0.0	32.0	50.1	0.0	0.0	0.0	0.0	10.1	0.0	8.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	5.3	0.0	0.1	27.7	0.7	0.0	0.0	0.0	5.3	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	13.1	0.0	78.3	75.6	14.6	0.0	0.0	0.0	49.2	0.0	38.6
LnGrp LOS	D	B		E	F	B				D		D
Approach Vol, veh/h		1015			1802			0			677	
Approach Delay, s/veh		18.0			73.7			0.0			41.9	
Approach LOS		B			E						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	17.3	4.3	54.4	0.0	34.3	12.8	46.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	20.0	36.0	6.0	52.0	6.5	49.5	16.0	42.0				
Max Q Clear Time (g_c+I1), s	12.7	0.0	2.1	16.1	0.0	28.3	8.9	44.0				
Green Ext Time (p_c), s	0.3	0.0	0.0	7.5	0.0	1.7	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			51.3									
HCM 7th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	32	25	137	162	56	29	50	177	34	13	372	24
Future Volume (veh/h)	32	25	137	162	56	29	50	177	34	13	372	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	29	159	188	65	34	58	206	40	15	433	28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	109	372	480	153	58	214	516	89	132	684	43
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	135	328	1114	844	460	175	178	1289	222	21	1707	108
Grp Volume(v), veh/h	225	0	0	287	0	0	304	0	0	476	0	0
Grp Sat Flow(s), veh/h/ln	1577	0	0	1479	0	0	1689	0	0	1836	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.1	0.0	0.0	3.6	0.0	0.0	6.3	0.0	0.0
Prop In Lane	0.16		0.71	0.66		0.12	0.19		0.13	0.03		0.06
Lane Grp Cap(c), veh/h	665	0	0	691	0	0	819	0	0	859	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.42	0.00	0.00	0.37	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	3253	0	0	2937	0	0	3316	0	0	3806	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	8.0	0.0	0.0	6.5	0.0	0.0	7.3	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.0	0.0	0.0	0.8	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	0.0	0.0	8.4	0.0	0.0	6.8	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	225			287			304			476		
Approach Delay, s/veh	8.1			8.4			6.8			7.8		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	16.1			14.0			16.1			14.0		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	61.0			61.0			61.0			61.0		
Max Q Clear Time (g_c+l1), s	5.6			5.2			8.3			6.1		
Green Ext Time (p_c), s	2.3			1.6			3.5			2.2		
Intersection Summary												
HCM 7th Control Delay, s/veh				7.7								
HCM 7th LOS				A								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↗	↰	↗	↗	↰	↗	↗	↰	↗	↗
Traffic Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Future Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1597	1251	698	2552	1138	337	277	233	3	6	0
Arrive On Green	0.00	0.45	0.45	0.20	0.72	0.00	0.10	0.00	0.15	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	2783	3456	3554	1585	3456	1870	1575	1781	3647	0
Grp Volume(v), veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1392	1728	1777	1585	1728	1870	1575	1781	1777	0
Q Serve(g_s), s	0.0	12.6	8.7	8.5	10.0	0.0	3.6	0.0	4.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.6	8.7	8.5	10.0	0.0	3.6	0.0	4.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1597	1251	698	2552	1138	337	277	233	3	6	0
V/C Ratio(X)	0.00	0.62	0.47	0.75	0.52	0.00	0.64	0.00	0.60	0.00	0.00	0.00
Avail Cap(c_a), veh/h	179	2615	2048	1329	3625	1617	520	1282	1080	179	2258	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.5	11.5	22.4	3.8	0.0	26.0	0.0	23.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.3	1.6	0.2	0.0	2.0	0.0	2.4	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	2.3	3.3	1.9	0.0	1.5	0.0	1.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.9	11.7	24.0	3.9	0.0	28.0	0.0	26.2	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C		C			
Approach Vol, veh/h	1569			1841			354			0		
Approach Delay, s/veh	12.5			9.6			27.3			0.0		
Approach LOS	B			A			C					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	16.1	30.9	9.8	3.0	0.0	47.0					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
Max Green Setting (Gmax), s	41.0	23.0	44.0	9.0	38.0	6.0	61.0					
Max Q Clear Time (g_c+I), s	6.9	10.5	14.6	5.6	0.0	0.0	12.0					
Green Ext Time (p_c), s	0.0	0.5	1.6	11.9	0.2	0.0	0.0	14.5				
Intersection Summary												
HCM 7th Control Delay, s/veh	12.5											
HCM 7th LOS	B											

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→	↱	↰	→	↱	↰	→	↱	↰	→	↱
Traffic Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Future Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	272	122	257	191	267	168	308	237	666	684	24
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	374	163	758	410	341	211	392	575	760	1089	38
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h	1781	2395	1043	3456	1870	1553	1781	1870	2743	3456	3501	123
Grp Volume(v), veh/h	34	200	194	257	191	267	168	308	237	666	347	361
Grp Sat Flow(s),veh/h/ln	1781	1777	1661	1728	1870	1553	1781	1870	1372	1728	1777	1847
Q Serve(g_s), s	1.3	8.8	9.2	5.1	7.3	13.3	7.5	12.8	6.1	15.3	13.7	13.7
Cycle Q Clear(g_c), s	1.3	8.8	9.2	5.1	7.3	13.3	7.5	12.8	6.1	15.3	13.7	13.7
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	278	277	259	758	410	341	211	392	575	760	553	575
V/C Ratio(X)	0.12	0.72	0.75	0.34	0.47	0.78	0.80	0.79	0.41	0.88	0.63	0.63
Avail Cap(c_a), veh/h	434	433	405	1263	684	567	651	684	1003	842	866	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	32.9	33.1	27.0	27.9	30.2	35.2	30.7	28.1	30.9	24.2	24.2
Incr Delay (d2), s/veh	0.2	3.5	4.3	0.3	0.8	4.0	6.7	3.5	0.5	9.6	1.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.9	3.9	2.1	3.3	5.2	3.5	5.9	2.0	7.1	5.6	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.0	36.5	37.4	27.3	28.7	34.2	41.9	34.2	28.5	40.5	25.4	25.3
LnGrp LOS	C	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h	428			715			713			1374		
Approach Delay, s/veh	36.4			30.2			34.1			32.7		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),s	28.1	21.2		16.8	13.7	29.5		22.0				
Change Period (Y+Rc),s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax),s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c-1),s	14.8	14.8		11.2	9.5	15.7		15.3				
Green Ext Time (p_c), s	0.8	2.4		1.6	0.4	4.4		2.7				
Intersection Summary												
HCM 7th Control Delay, s/veh	33.0											
HCM 7th LOS	C											



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↰	↰↰	↰	↰	↰↰	↰↰
Traffic Volume (veh/h)	1156	251	1788	127	27	1502
Future Volume (veh/h)	1156	251	1788	127	27	1502
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1257	273	1943	138	29	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1287	3066	843	715	203	
Arrive On Green	0.37	0.86	0.45	0.45	0.06	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1257	273	1943	138	29	0
Grp Sat Flow(s), veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	36.6	1.2	46.0	5.3	0.8	0.0
Cycle Q Clear(g_c), s	36.6	1.2	46.0	5.3	0.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1287	3066	843	715	203	
V/C Ratio(X)	0.98	0.09	2.30	0.19	0.14	
Avail Cap(c_a), veh/h	1287	3066	843	715	1152	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	81.6	1.0	28.0	16.8	45.6	0.0
Incr Delay (d2), s/veh	19.6	0.0	590.3	0.1	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.1	157.8	1.9	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.1	1.1	618.3	17.0	45.9	0.0
LnGrp LOS	D	A	F	B	D	
Approach Vol, veh/h		1530	2081		29	
Approach Delay, s/veh		42.2	578.4		45.9	
Approach LOS		D	F		D	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			92.0		10.0	42.0 50.0
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	38.0 46.0
Max Q Clear Time (g_c+l1), s			3.2		2.8	38.6 48.0
Green Ext Time (p_c), s			2.0		0.1	0.0 0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			348.8			
HCM 7th LOS			F			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	61	127	145	27	57	620
Future Volume (veh/h)	61	127	145	27	57	620
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach No			No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	140	159	30	63	681
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	359	319	587	496	146	991
Arrive On Green	0.20	0.20	0.31	0.31	0.08	0.53
Sat Flow, veh/h	1781	1585	1870	1580	1781	1870
Grp Volume(v), veh/h	67	140	159	30	63	681
Grp Sat Flow(s), veh/h/ln	1781	1585	1870	1580	1781	1870
Q Serve(g_s), s	0.9	2.3	1.9	0.4	1.0	8.0
Cycle Q Clear(g_c), s	0.9	2.3	1.9	0.4	1.0	8.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	359	319	587	496	146	991
V/C Ratio(X)	0.19	0.44	0.27	0.06	0.43	0.69
Avail Cap(c_a), veh/h	1914	1703	4521	3819	837	5651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	10.4	7.7	7.1	13.0	5.2
Incr Delay (d2), s/veh	0.2	0.9	0.2	0.1	2.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	0.5	0.1	0.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.1	11.4	7.9	7.2	15.0	6.0
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	207		189			744
Approach Delay, s/veh	11.0		7.8			6.8
Approach LOS	B		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.4	13.4			19.8	10.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (G_max), s	72.0				90.0	32.0
Max Q Clear Time (g_c+1), s	3.9				10.0	4.3
Green Ext Time (p_c), s	0.1	1.1			5.8	0.6
Intersection Summary						
HCM 7th Control Delay, s/veh			7.7			
HCM 7th LOS			A			

Marina DIF - 2023 Update
13: General Jim Moore Blvd/4th Ave & Divarty St

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	6	9	18	175	12	58	4	98	10	22	730	0
Future Volume (veh/h)	6	9	18	175	12	58	4	98	10	22	730	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	10	21	203	14	67	5	114	12	26	849	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	155	254	363	30	93	14	844	89	61	1001	0
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.01	0.51	0.51	0.03	0.54	0.00
Sat Flow, veh/h	182	557	913	975	108	334	1781	1659	175	1781	1870	0
Grp Volume(v), veh/h	38	0	0	284	0	0	5	0	126	26	849	0
Grp Sat Flow(s), veh/h/ln	1870	0	0	1870	0	0	1781	0	1870	1781	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	10.9	0.0	0.0	0.2	0.0	2.4	1.0	25.9	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	12.0	0.0	0.0	0.2	0.0	2.4	1.0	25.9	0.0
Prop In Lane	0.18		0.55	0.71		0.24	1.00		0.10	1.00		0.00
Lane Grp Cap(c), veh/h	523	0	0	486	0	0	14	0	933	61	1001	0
V/C Ratio(X)	0.07	0.00	0.00	0.58	0.00	0.00	0.35	0.00	0.14	0.43	0.85	0.00
Avail Cap(c_a), veh/h	1034	0	0	949	0	0	265	0	1803	292	1866	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	21.7	0.0	0.0	33.1	0.0	8.7	31.8	13.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.0	14.3	0.0	0.1	4.6	2.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	3.9	0.0	0.0	0.1	0.0	0.9	0.5	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.0	0.0	0.0	22.8	0.0	0.0	47.4	0.0	8.8	36.4	15.4	0.0
LnGrp LOS	B			C			D		A	D	B	
Approach Vol, veh/h	38			284			131		875			
Approach Delay, s/veh	18.0			22.8			10.2		16.0			
Approach LOS	B			C			B		B			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	38.2		22.7	4.5	39.9		22.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	66.0			41.0	10.0	67.0		41.0				
Max Q Clear Time (g_c+I), s	4.4			3.1	2.2	27.9		14.0				
Green Ext Time (p_c), s	0.0	0.8		0.2	0.0	8.0		1.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			17.0									
HCM 7th LOS			B									

Marina DIF - 2023 Update
14: SR 1 Southbound Ramp & Reservation Rd

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	45	28	319	41	0	0	0	0	184	43	16
Future Volume (veh/h)	0	45	28	319	41	0	0	0	0	184	43	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	52	32	367	47	0				211	49	18
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	174	107	479	1007	0				333	77	28
Arrive On Green	0.00	0.16	0.16	0.27	0.54	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	1073	660	1781	1870	0				1352	314	115
Grp Volume(v), veh/h	0	0	84	367	47	0				278	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1734	1781	1870	0				1781	0	0
Q Serve(g_s), s	0.0	0.0	1.6	7.0	0.4	0.0				5.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.6	7.0	0.4	0.0				5.2	0.0	0.0
Prop In Lane	0.00		0.38	1.00		0.00				0.76		0.06
Lane Grp Cap(c), veh/h	0	0	280	479	1007	0				438	0	0
V/C Ratio(X)	0.00	0.00	0.30	0.77	0.05	0.00				0.63	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1448	2304	4183	0				1872	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	13.7	12.5	4.1	0.0				12.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	2.6	0.0	0.0				1.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.6	2.5	0.1	0.0				1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	14.3	15.1	4.1	0.0				14.0	0.0	0.0
LnGrp LOS			B	B	A					B		
Approach Vol, veh/h	84		414			278						
Approach Delay, s/veh	14.3		13.8			14.0						
Approach LOS	B		B			B						
Timer - Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			14.0	10.0	13.1		24.0					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			48.0	31.0	39.0		83.0					
Max Q Clear Time (g_c+l1), s			9.0	3.6	7.2		2.4					
Green Ext Time (p_c), s			1.2	0.4	1.8		0.3					
Intersection Summary												
HCM 7th Control Delay, s/veh			14.0									
HCM 7th LOS			B									

15: SR 1 Northbound Ramp & Reservation Rd

AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	180	0	0	289	340	57	0	156	0	0	0
Future Volume (veh/h)	73	180	0	0	289	340	57	0	156	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	78	194	0	0	311	366	61	0	168			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	159	1059	0	0	689	580	388	0	345			
Arrive On Green	0.09	0.57	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	1781	1870	0	0	1870	1574	1781	0	1583			
Grp Volume(v), veh/h	78	194	0	0	311	366	61	0	168			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1574	1781	0	1583			
Q Serve(g_s), s	1.5	1.9	0.0	0.0	4.7	7.1	1.0	0.0	3.4			
Cycle Q Clear(g_c), s	1.5	1.9	0.0	0.0	4.7	7.1	1.0	0.0	3.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	159	1059	0	0	689	580	388	0	345			
V/C Ratio(X)	0.49	0.18	0.00	0.00	0.45	0.63	0.16	0.00	0.49			
Avail Cap(c_a), veh/h	577	4241	0	0	3433	2890	1827	0	1624			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.1	3.9	0.0	0.0	8.9	9.6	11.7	0.0	12.7			
Incr Delay (d2), s/veh	2.3	0.1	0.0	0.0	0.5	1.1	0.2	0.0	1.1			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.0	0.0	1.4	1.9	0.3	0.0	1.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.4	4.0	0.0	0.0	9.3	10.8	11.9	0.0	13.7			
LnGrp LOS	B	A			A	B	B		B			
Approach Vol, veh/h	272					677		229				
Approach Delay, s/veh	8.1					10.1		13.2				
Approach LOS	A					B		B				
Timer - Assigned Phs	2		4			7		8				
Phs Duration (G+Y+Rc), s	12.1		25.0			7.3		17.7				
Change Period (Y+Rc), s	4.0		4.0			4.0		4.0				
Max Green Setting (Gmax), s	38.0		84.0			12.0		68.0				
Max Q Clear Time (g_c+l1), s	5.4		3.9			3.5		9.1				
Green Ext Time (p_c), s	0.9		1.2			0.1		3.5				
Intersection Summary												
HCM 7th Control Delay, s/veh		10.3										
HCM 7th LOS		B										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↔↔			↕			↕	
Traffic Volume (veh/h)	1	971	11	25	795	0	3	0	20	0	0	1
Future Volume (veh/h)	1	971	11	25	795	0	3	0	20	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1142	13	29	935	0	4	0	24	0	0	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1841	835	73	2363	0	113	18	196	0	0	228
Arrive On Green	0.53	0.53	0.53	0.04	0.66	0.00	0.14	0.00	0.14	0.00	0.00	0.14
Sat Flow, veh/h	0	3486	1582	1781	3647	0	100	127	1365	0	0	1585
Grp Volume(v), veh/h	613	530	13	29	935	0	28	0	0	0	0	1
Grp Sat Flow(s), veh/h/ln	1870	1617	1582	1781	1777	0	1592	0	0	0	0	1585
Q Serve(g_s), s	0.0	9.6	0.2	0.7	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.6	9.6	0.2	0.7	5.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	0.14		0.86	0.00		1.00
Lane Grp Cap(c), veh/h	1074	854	835	73	2363	0	327	0	0	0	0	228
V/C Ratio(X)	0.57	0.62	0.02	0.40	0.40	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	3302	2787	2727	384	7230	0	1484	0	0	0	0	1404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	6.9	4.7	19.5	3.2	0.0	15.6	0.0	0.0	0.0	0.0	15.3
Incr Delay (d2), s/veh	0.5	0.7	0.0	3.5	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.2	0.0	0.3	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.4	7.7	4.7	23.0	3.3	0.0	15.7	0.0	0.0	0.0	0.0	15.3
LnGrp LOS	A	A	A	C	A		B					B
Approach Vol, veh/h	1156			964			28			1		
Approach Delay, s/veh	7.5			3.9			15.7			15.3		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2	3	4		6		8					
Phs Duration (G+Y+Rc), s	10.0	5.7	26.1		10.0		31.8					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0		4.0					
Max Green Setting (Gmax), s	37.0	9.0	72.0		37.0		85.0					
Max Q Clear Time (g_c+l1), s	2.6	2.7	11.6		2.0		7.0					
Green Ext Time (p_c), s	0.1	0.0	10.4		0.0		8.7					
Intersection Summary												
HCM 7th Control Delay, s/veh			6.0									
HCM 7th LOS			A									

Marina DIF - 2023 Update
18: Driveway/Cardoza Ave & Reservation Rd

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶	↷	↰	↶	↷		↶		↰	↷	
Traffic Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Future Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	307	7	6	460	24	7	0	20	82	0	169
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1507	656	17	706	596	172	48	247	513	0	337
Arrive On Green	0.06	0.42	0.42	0.01	0.38	0.38	0.21	0.00	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3554	1546	1781	1870	1579	181	223	1154	1387	0	1578
Grp Volume(v), veh/h	41	307	7	6	460	24	27	0	0	82	0	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1870	1579	1558	0	0	1387	0	1578
Q Serve(g_s), s	0.8	1.9	0.1	0.1	6.9	0.3	0.0	0.0	0.0	1.1	0.0	3.2
Cycle Q Clear(g_c), s	0.8	1.9	0.1	0.1	6.9	0.3	0.4	0.0	0.0	1.5	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	101	1507	656	17	706	596	466	0	0	513	0	337
V/C Ratio(X)	0.41	0.20	0.01	0.35	0.65	0.04	0.06	0.00	0.00	0.16	0.00	0.50
Avail Cap(c_a), veh/h	680	7308	3180	471	3627	3061	1831	0	0	1805	0	1808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	6.2	5.7	16.7	8.8	6.7	10.7	0.0	0.0	11.1	0.0	11.8
Incr Delay (d2), s/veh	2.6	0.1	0.0	11.5	1.0	0.0	0.1	0.0	0.0	0.1	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.0	0.1	2.0	0.1	0.1	0.0	0.0	0.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.1	6.2	5.7	28.2	9.8	6.7	10.8	0.0	0.0	11.2	0.0	12.9
LnGrp LOS	B	A	A	C	A	A	B			B		B
Approach Vol, veh/h	355				490		27				251	
Approach Delay, s/veh	7.6				9.9		10.8				12.4	
Approach LOS	A				A		B				B	
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	11.3		4.3	18.4	11.3		5.9	16.8				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	39.0		9.0	70.0	39.0		13.0	66.0				
Max Q Clear Time (g_c+l1), s	2.4		2.1	3.9	5.2		2.8	8.9				
Green Ext Time (p_c), s	0.1		0.0	2.3	1.4		0.0	3.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			9.7									
HCM 7th LOS			A									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (vph)	148	57	146	691	0	0
Future Volume (vph)	148	57	146	691	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	1.00			1.00		
Frpb, ped/bikes	0.99			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	0.96			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	1779			1845		
Flt Permitted	1.00			0.90		
Satd. Flow (perm)	1779			1681		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	157	61	155	735	0	0
RTOR Reduction (vph)	15	0	0	0	0	0
Lane Group Flow (vph)	203	0	0	890	0	0
Confl. Peds. (#/hr)		7	7		12	2
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	29.0			29.0		
Effective Green, g (s)	29.0			29.0		
Actuated g/C Ratio	0.67			0.67		
Clearance Time (s)	4.0			4.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1194			1128		
v/s Ratio Prot	0.11					
v/s Ratio Perm				0.53		
v/c Ratio	0.17			0.79		
Uniform Delay, d1	2.6			5.0		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.1			3.7		
Delay (s)	2.7			8.7		
Level of Service	A			A		
Approach Delay (s/veh)	2.7			8.7	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			7.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.65			
Actuated Cycle Length (s)			43.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			71.0%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↖↖	↗
Traffic Volume (vph)	742	213	1263	1524	56	121
Future Volume (vph)	742	213	1263	1524	56	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.91
Frt	1.00	0.85	1.00	1.00	0.92	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3254	1441
Flt Permitted	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3254	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	227	1344	1621	60	129
RTOR Reduction (vph)	0	133	0	0	60	59
Lane Group Flow (vph)	789	94	1344	1621	65	5
Turn Type	NA	Perm	Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases		4			2	2
Actuated Green, G (s)	29.5	29.5	46.3	79.8	7.5	7.5
Effective Green, g (s)	29.5	29.5	46.3	79.8	7.5	7.5
Actuated g/C Ratio	0.31	0.31	0.49	0.84	0.08	0.08
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1095	490	859	2963	256	113
v/s Ratio Prot	c0.22		c0.76	0.46		
v/s Ratio Perm		0.06			c0.02	0.00
v/c Ratio	0.72	0.19	1.56	0.55	0.25	0.04
Uniform Delay, d1	29.2	24.1	24.5	2.3	41.3	40.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.2	259.8	0.2	0.5	0.2
Delay (s)	31.6	24.3	284.3	2.5	41.8	40.8
Level of Service	C	C	F	A	D	D
Approach Delay (s/veh)	30.0			130.2	41.4	
Approach LOS	C			F	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			101.8		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.15			
Actuated Cycle Length (s)			95.3		Sum of lost time (s)	12.0
Intersection Capacity Utilization			105.5%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [California Dr/5th Ave & 8th St (Site Folder: Future 2045 With Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: 5th Ave															
3	L2	All MCs	1	2.0	1	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	33.7
8	T1	All MCs	1	2.0	1	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	34.4
18	R2	All MCs	10	2.0	10	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	34.1
Approach			13	2.0	13	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	34.1
East: 8th St															
1	L2	All MCs	4	2.0	4	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	33.3
6	T1	All MCs	268	2.0	268	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	34.0
16	R2	All MCs	22	2.0	22	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	33.7
Approach			294	2.0	294	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	33.9
North: California Dr															
7	L2	All MCs	16	2.0	16	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	31.6
4	T1	All MCs	1	2.0	1	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	32.2
14	R2	All MCs	1	2.0	1	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	32.0
Approach			18	2.0	18	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	31.7
West: 8th St															
5	L2	All MCs	1	2.0	1	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.2
2	T1	All MCs	1	2.0	1	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.8
12	R2	All MCs	1	2.0	1	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.6
Approach			4	2.0	4	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.5
All Vehicles			329	2.0	329	2.0	0.217	3.8	LOS A	1.1	29.0	0.06	0.02	0.06	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: \\kimley-horn.com\ca_pls1\Project\SJC_TPTO\City of Marina\097789003- Marina DIF\2025 Update\05 Design & Analysis\Sidra\Marina DIF 2025_v2.sip9

MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 With Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist]				
			veh/h		veh/h					ft					mph
South: Del Monte Blvd															
3	L2	All MCs	165	2.0	165	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	31.4
8	T1	All MCs	308	2.0	308	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	32.7
18	R2	All MCs	67	2.0	67	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	32.8
Approach			540	2.0	540	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	32.3
East: Beach Rd															
1	L2	All MCs	180	2.0	180	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.2
6	T1	All MCs	79	2.0	79	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.8
16	R2	All MCs	52	2.0	52	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.5
Approach			311	2.0	311	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.4
North: Del Monte Blvd															
7	L2	All MCs	96	2.0	96	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.0
4	T1	All MCs	998	2.0	998	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.6
14	R2	All MCs	87	2.0	87	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.5
Approach			1181	2.0	1181	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.5
West: Beach Rd															
5	L2	All MCs	62	2.0	62	2.0	0.373	16.6	LOS C	1.4	35.4	0.79	0.84	0.99	27.4
2	T1	All MCs	81	2.0	81	2.0	0.373	16.6	LOS C	1.4	35.4	0.79	0.84	0.99	27.9
12	R2	All MCs	249	2.0	249	2.0	0.570	21.2	LOS C	2.6	65.9	0.82	0.94	1.26	26.6
Approach			393	2.0	393	2.0	0.570	19.5	LOS C	2.6	65.9	0.81	0.91	1.16	27.0
All Vehicles			2425	2.0	2425	2.0	0.636	12.0	LOS B	6.6	167.4	0.67	0.63	0.95	29.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: 101 [Imjin Rd & 8th St (Site Folder: Future 2045 With Improvements AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist]				mph
			veh/h		veh/h		v/c	sec			ft				
South: Driveway															
3	L2	All MCs	1	2.0	1	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.0
8	T1	All MCs	20	2.0	20	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.6
18	R2	All MCs	10	2.0	10	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.4
Approach			31	2.0	31	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.5
East: 8th St															
1	L2	All MCs	1	2.0	1	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	33.6
6	T1	All MCs	39	2.0	39	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	34.2
16	R2	All MCs	26	2.0	26	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	33.9
Approach			66	2.0	66	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	34.1
North: Imjin Rd															
7	L2	All MCs	654	2.0	654	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.0
4	T1	All MCs	12	2.0	12	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.4
14	R2	All MCs	567	2.0	567	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.2
Approach			1232	2.0	1232	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.1
West: 8th St															
5	L2	All MCs	104	2.0	104	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.0
2	T1	All MCs	9	2.0	9	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.5
12	R2	All MCs	1	2.0	1	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.3
Approach			114	2.0	114	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.1
All Vehicles			1443	2.0	1443	2.0	0.950	18.6	LOS C	43.2	1097.6	0.93	0.46	0.93	26.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Marina DIF - 2023 Update
1: 2nd Ave & Inter-Garrison Rd

Plus Project Conditions
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	63	0	101	0	259	27	73	294	0
Future Volume (veh/h)	0	0	0	63	0	101	0	259	27	73	294	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	64	0	103	0	264	28	74	300	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	6	5	268	0	346	6	932	98	164	1825	0
Arrive On Green	0.00	0.00	0.00	0.15	0.00	0.22	0.00	0.29	0.29	0.09	0.51	0.00
Sat Flow, veh/h	1781	1870	1585	1781	0	1579	1781	3242	341	1781	3647	0
Grp Volume(v), veh/h	0	0	0	64	0	103	0	144	148	74	300	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1579	1781	1777	1806	1781	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	1.6	0.0	1.9	1.9	1.2	1.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.9	0.0	1.6	0.0	1.9	1.9	1.2	1.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	6	6	5	268	0	346	6	511	519	164	1825	0
V/C Ratio(X)	0.00	0.00	0.00	0.24	0.00	0.30	0.00	0.28	0.29	0.45	0.16	0.00
Avail Cap(c_a), veh/h	357	1751	1484	953	0	2006	357	2674	2718	1489	7605	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	11.2	0.0	9.8	0.0	8.3	8.3	12.9	3.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.3	0.3	1.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.3	0.0	0.4	0.0	0.5	0.5	0.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	11.6	0.0	10.2	0.0	8.6	8.6	14.8	3.9	0.0
LnGrp LOS				B		B		A	A	B	A	
Approach Vol, veh/h		0			167			292			374	
Approach Delay, s/veh		0.0			10.8			8.6			6.1	
Approach LOS					B			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	12.6	8.5	2.1	0.0	19.4	0.0	10.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	25.0	45.0	16.0	28.0	6.0	64.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	3.2	3.9	2.9	0.0	0.0	3.3	0.0	3.6				
Green Ext Time (p_c), s	0.2	1.8	0.1	0.0	0.0	2.2	0.0	0.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			7.9									
HCM 7th LOS			A									

Intersection

Intersection Delay, s/veh 17.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Future Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	166	51	0	0	559	0	149	0	11	10	92
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	11.9	22.9	12.6	10.1
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	53%	0%
Vol Thru, %	100%	100%	77%	100%	0%	47%	0%
Vol Right, %	0%	0%	23%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	0	188	0	486	19	80
LT Vol	0	0	0	0	0	10	0
Through Vol	130	0	144	0	0	9	0
RT Vol	0	0	44	0	486	0	80
Lane Flow Rate	149	0	216	0	559	22	92
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.284	0	0.355	0	0.776	0.044	0.158
Departure Headway (Hd)	6.832	6.078	5.912	5.709	5.002	7.172	6.188
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	524	0	605	0	721	497	577
Service Time	4.9	3.839	3.672	3.456	2.748	4.944	3.959
HCM Lane V/C Ratio	0.284	0	0.357	0	0.775	0.044	0.159
HCM Control Delay, s/veh	12.6	8.8	11.9	8.5	22.9	10.3	10.1
HCM Lane LOS	B	N	B	N	C	B	B
HCM 95th-tile Q	1.2	0	1.6	0	7.5	0.1	0.6

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Future Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	0	16	0	1	0	12	0	28	5	12

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1	0	0	0	0	0	52	52	0
Stage 1	-	-	-	-	-	-	19	19	-
Stage 2	-	-	-	-	-	-	33	33	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1621	-	-	-	-	-	957	839	-
Stage 1	-	-	-	-	-	-	1004	880	-
Stage 2	-	-	-	-	-	-	989	867	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1621	-	-	-	-	-	951	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	951	0	-
Stage 1	-	-	-	-	-	-	998	0	-
Stage 2	-	-	-	-	-	-	989	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v7.23			
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	1621	-	-	-	-	-
HCM Lane V/C Ratio	-	0.006	-	-	-	-	-
HCM Control Delay (s/veh)	-	7.2	-	-	-	-	-
HCM Lane LOS	-	A	-	-	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-

Marina DIF - 2023 Update
5: California Dr/California Ave & Imjin Pkwy

Plus Project Conditions
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Future Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	1905	0	13	1294	63	0	0	0	31	0	228
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	2359	1052	33	1667	741	2	173	0	65	329	279
Arrive On Green	0.21	0.66	0.00	0.02	0.47	0.47	0.00	0.00	0.00	0.04	0.00	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1580	1781	1870	0	1781	1870	1582
Grp Volume(v), veh/h	331	1905	0	13	1294	63	0	0	0	31	0	228
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1580	1781	1870	0	1781	1870	1582
Q Serve(g_s), s	15.2	33.0	0.0	0.6	25.8	1.9	0.0	0.0	0.0	1.4	0.0	11.8
Cycle Q Clear(g_c), s	15.2	33.0	0.0	0.6	25.8	1.9	0.0	0.0	0.0	1.4	0.0	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	2359	1052	33	1667	741	2	173	0	65	329	279
V/C Ratio(X)	0.87	0.81	0.00	0.39	0.78	0.08	0.00	0.00	0.00	0.47	0.00	0.82
Avail Cap(c_a), veh/h	672	2849	1271	126	1760	782	126	750	0	126	750	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	10.3	0.0	41.1	18.8	12.5	0.0	0.0	0.0	40.1	0.0	33.6
Incr Delay (d2), s/veh	6.2	1.5	0.0	7.3	2.1	0.0	0.0	0.0	0.0	5.3	0.0	5.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	10.9	0.0	0.3	10.3	0.6	0.0	0.0	0.0	0.7	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.5	11.8	0.0	48.5	20.9	12.5	0.0	0.0	0.0	45.3	0.0	39.5
LnGrp LOS	D	B		D	C	B				D		D
Approach Vol, veh/h		2236			1370			0			259	
Approach Delay, s/veh		15.8			20.8			0.0			40.2	
Approach LOS		B			C						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	11.8	5.6	60.3	0.0	18.9	22.1	43.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	6.0	34.0	6.0	68.0	6.0	34.0	32.0	42.0				
Max Q Clear Time (g_c+I1), s	3.4	0.0	2.6	35.0	0.0	13.8	17.2	27.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	21.4	0.0	0.7	0.9	8.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			19.2									
HCM 7th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	32	44	36	58	21	28	60	183	126	40	162	40
Future Volume (veh/h)	32	44	36	58	21	28	60	183	126	40	162	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	48	40	64	23	31	66	201	138	44	178	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	226	144	385	141	107	234	384	232	228	524	115
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	271	848	540	601	527	402	158	939	567	141	1281	282
Grp Volume(v), veh/h	123	0	0	118	0	0	405	0	0	266	0	0
Grp Sat Flow(s), veh/h/ln	1660	0	0	1529	0	0	1665	0	0	1704	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.3	0.0	0.0	4.4	0.0	0.0	2.5	0.0	0.0
Prop In Lane	0.28		0.33	0.54		0.26	0.16		0.34	0.17		0.17
Lane Grp Cap(c), veh/h	630	0	0	633	0	0	851	0	0	867	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.19	0.00	0.00	0.48	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	2656	0	0	2481	0	0	5656	0	0	5679	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	7.1	0.0	0.0	5.6	0.0	0.0	5.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.3	0.0	0.0	0.7	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.3	0.0	0.0	7.2	0.0	0.0	6.0	0.0	0.0	5.2	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	123			118			405			266		
Approach Delay, s/veh	7.3			7.2			6.0			5.2		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	14.1			10.6			14.1			10.6		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	84.0			38.0			84.0			38.0		
Max Q Clear Time (g_c+l1), s	6.4			3.4			4.5			3.3		
Green Ext Time (p_c), s	3.1			0.7			1.9			0.7		
Intersection Summary												
HCM 7th Control Delay, s/veh				6.1								
HCM 7th LOS				A								

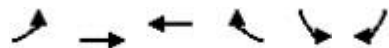
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Future Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	1669	1306	380	2202	982	519	562	474	2	393	0
Arrive On Green	0.00	0.47	0.47	0.11	0.62	0.00	0.15	0.00	0.30	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	2781	3456	3554	1585	3456	1870	1579	1781	3647	0
Grp Volume(v), veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1390	1728	1777	1585	1728	1870	1579	1781	1777	0
Q Serve(g_s), s	0.0	47.0	11.0	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	47.0	11.0	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	1669	1306	380	2202	982	519	562	474	2	393	0
V/C Ratio(X)	0.00	1.13	0.36	0.94	0.58	0.00	0.84	0.00	0.89	0.00	0.00	0.00
Avail Cap(c_a), veh/h	107	1669	1306	380	2202	982	656	935	789	107	1314	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	26.5	17.0	44.2	11.3	0.0	41.4	0.0	33.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	66.5	0.2	31.2	0.4	0.0	7.8	0.0	7.6	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.1	3.4	6.0	7.7	0.0	5.7	0.0	10.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	93.0	17.1	75.4	11.6	0.0	49.2	0.0	41.1	0.0	0.0	0.0
LnGrp LOS		F	B	E	B		D		D			
Approach Vol, veh/h	2361			1625			860			0		
Approach Delay, s/veh	77.7			25.6			45.2			0.0		
Approach LOS	E			C			D					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.1	15.0	51.0	19.0	15.1	0.0	66.0					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
Max Green Setting (Gmax), s	50.0	11.0	47.0	19.0	37.0	6.0	52.0					
Max Q Clear Time (g_c+I), s	27.7	12.3	49.0	14.3	0.0	0.0	23.1					
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.7	0.0	11.5					
Intersection Summary												
HCM 7th Control Delay, s/veh	54.5											
HCM 7th LOS	D											

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↷	↷	↰	↷	↷	↰	↷	↷	↰	↷	↷
Traffic Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Future Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	243	171	405	311	374	163	414	484	304	261	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	321	215	983	532	435	202	496	710	398	933	32
Arrive On Green	0.16	0.16	0.16	0.28	0.28	0.28	0.11	0.27	0.27	0.12	0.27	0.27
Sat Flow, veh/h	1781	2002	1342	3456	1870	1529	1781	1870	2679	3456	3500	120
Grp Volume(v), veh/h	43	214	200	405	311	374	163	414	484	304	132	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1567	1728	1870	1529	1781	1870	1340	1728	1777	1843
Q Serve(g_s), s	1.9	10.6	11.2	8.7	13.1	21.2	8.2	19.1	14.9	7.8	5.4	5.4
Cycle Q Clear(g_c), s	1.9	10.6	11.2	8.7	13.1	21.2	8.2	19.1	14.9	7.8	5.4	5.4
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	286	285	252	983	532	435	202	496	710	398	474	492
V/C Ratio(X)	0.15	0.75	0.79	0.41	0.58	0.86	0.81	0.84	0.68	0.76	0.28	0.28
Avail Cap(c_a), veh/h	389	388	342	1131	612	501	583	612	877	754	776	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	83.1	36.7	37.0	26.6	28.1	31.0	39.6	31.8	30.2	39.3	26.6	26.6
Incr Delay (d2), s/veh	0.2	5.4	8.7	0.3	1.1	12.7	7.3	8.2	1.6	3.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.9	4.8	3.6	5.9	9.1	3.9	9.4	4.8	3.4	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.3	42.1	45.7	26.8	29.2	43.8	47.0	40.0	31.8	42.4	26.9	26.9
LnGrp LOS	C	D	D	C	C	D	D	D	C	D	C	C
Approach Vol, veh/h	457			1090			1061			574		
Approach Delay, s/veh	42.9			33.3			37.3			35.1		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.6	28.3		18.7	14.4	28.4		30.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c+I), s	21.1	21.1		13.2	10.2	7.4		23.2				
Green Ext Time (p_c), s	0.8	3.1		1.5	0.4	1.5		2.9				
Intersection Summary												
HCM 7th Control Delay, s/veh				36.4								
HCM 7th LOS				D								



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↰↱	↰↱	↰	↰	↰↱	↰↱	
Traffic Volume (veh/h)	1200	1431	761	55	86	1129	
Future Volume (veh/h)	1200	1431	761	55	86	1129	
Initial Q (Qb), veh	0	0	0	0	0	0	
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	1263	1506	801	58	91	0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	1352	3057	803	680	207		
Arrive On Green	0.39	0.86	0.43	0.43	0.06	0.00	
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790	
Grp Volume(v), veh/h	1263	1506	801	58	91	0	
Grp Sat Flow(s),veh/h/ln	1728	1777	1870	1585	1728	1395	
Q Serve(g_s), s	35.1	10.3	42.8	2.2	2.5	0.0	
Cycle Q Clear(g_c), s	35.1	10.3	42.8	2.2	2.5	0.0	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	1352	3057	803	680	207		
V/C Ratio(X)	0.93	0.49	1.00	0.09	0.44		
Avail Cap(c_a), veh/h	1414	3121	803	680	1173		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	29.3	1.7	28.6	16.9	45.5	0.0	
Incr Delay (d2), s/veh	11.4	0.1	31.2	0.1	1.5	0.0	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.2	1.3	25.2	0.8	1.1	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	40.6	1.8	59.8	17.0	46.9	0.0	
LnGrp LOS	D	A	E	B	D		
Approach Vol, veh/h		2769	859		91		
Approach Delay, s/veh		19.5	56.9		46.9		
Approach LOS		B	E		D		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				90.2	10.0	43.2	47.0
Change Period (Y+Rc), s				4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s				88.0	34.0	41.0	43.0
Max Q Clear Time (g_c+l1), s				12.3	4.5	37.1	44.8
Green Ext Time (p_c), s				19.9	0.3	2.1	0.0
Intersection Summary							
HCM 7th Control Delay, s/veh			28.8				
HCM 7th LOS			C				
Notes							
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.							



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑	↱	↰	↑
Traffic Volume (veh/h)	46	59	332	56	62	199
Future Volume (veh/h)	46	59	332	56	62	199
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach No			No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	63	353	60	66	212
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	352	313	605	499	150	1009
Arrive On Green	0.20	0.20	0.32	0.32	0.08	0.54
Sat Flow, veh/h	1781	1585	1870	1543	1781	1870
Grp Volume(v), veh/h	49	63	353	60	66	212
Grp Sat Flow(s), veh/h/ln	1781	1585	1870	1543	1781	1870
Q Serve(g_s), s	0.7	1.0	4.8	0.8	1.1	1.8
Cycle Q Clear(g_c), s	0.7	1.0	4.8	0.8	1.1	1.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	352	313	605	499	150	1009
V/C Ratio(X)	0.14	0.20	0.58	0.12	0.44	0.21
Avail Cap(c_a), veh/h	1875	1668	4060	3348	1172	5537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	10.2	8.6	7.2	13.2	3.6
Incr Delay (d2), s/veh	0.2	0.3	0.9	0.1	2.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	1.4	0.2	0.4	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.3	10.5	9.5	7.3	15.2	3.7
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	112		413			278
Approach Delay, s/veh	10.4		9.2			6.5
Approach LOS	B		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.6	13.8			20.4	10.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gm), s	66.0				90.0	32.0
Max Q Clear Time (g_c+I), s	6.8				3.8	3.0
Green Ext Time (p_c), s	0.1	2.6			1.4	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			8.4			
HCM 7th LOS			A			

Marina DIF - 2023 Update
13: General Jim Moore Blvd/4th Ave & Divarty St

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↖	↗		↖	↗	
Traffic Volume (veh/h)	13	12	10	33	15	131	18	439	23	12	116	10
Future Volume (veh/h)	13	12	10	33	15	131	18	439	23	12	116	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	15	12	41	19	164	22	549	29	15	145	12
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	193	114	148	62	284	58	754	40	41	713	59
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.03	0.43	0.43	0.02	0.42	0.42
Sat Flow, veh/h	408	768	455	168	246	1133	1781	1758	93	1781	1700	141
Grp Volume(v), veh/h	43	0	0	224	0	0	22	0	578	15	0	157
Grp Sat Flow(s), veh/h/ln	1632	0	0	1548	0	0	1781	0	1851	1781	0	1840
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	10.5	0.3	0.0	2.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	5.0	0.0	0.0	0.5	0.0	10.5	0.3	0.0	2.2
Prop In Lane	0.37		0.28	0.18		0.73	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	532	0	0	494	0	0	58	0	794	41	0	772
V/C Ratio(X)	0.08	0.00	0.00	0.45	0.00	0.00	0.38	0.00	0.73	0.37	0.00	0.20
Avail Cap(c_a), veh/h	2206	0	0	2212	0	0	573	0	2383	441	0	2233
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	0.0	13.2	0.0	0.0	19.1	0.0	9.6	19.4	0.0	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.7	0.0	0.0	4.1	0.0	1.3	5.4	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.5	0.0	0.0	0.2	0.0	3.2	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.7	0.0	0.0	13.8	0.0	0.0	23.2	0.0	10.9	24.8	0.0	7.6
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h	43			224			600			172		
Approach Delay, s/veh	11.7			13.8			11.3			9.1		
Approach LOS	B			B			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	21.3		14.1	5.3	20.9		14.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (G_max), s	52.0			56.0	13.0	49.0		56.0				
Max Q Clear Time (g_c+I), s	12.5			2.8	2.5	4.2		7.0				
Green Ext Time (p_c), s	0.0	4.5		0.2	0.0	1.0		1.6				
Intersection Summary												
HCM 7th Control Delay, s/veh	11.5											
HCM 7th LOS	B											

14: SR 1 Southbound Ramp & Reservation Rd

PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕						↕	
Traffic Volume (veh/h)	0	103	32	231	95	0	0	0	0	457	0	55
Future Volume (veh/h)	0	103	32	231	95	0	0	0	0	457	0	55
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	127	40	285	117	0				564	0	68
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81				0.81	0.81	0.81
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	200	63	358	783	0				688	0	83
Arrive On Green	0.00	0.15	0.15	0.20	0.42	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	1362	429	1781	1870	0				1569	0	189
Grp Volume(v), veh/h	0	0	167	285	117	0				632	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1791	1781	1870	0				1758	0	0
Q Serve(g_s), s	0.0	0.0	4.9	8.5	2.2	0.0				17.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.9	8.5	2.2	0.0				17.7	0.0	0.0
Prop In Lane	0.00		0.24	1.00		0.00				0.89		0.11
Lane Grp Cap(c), veh/h	0	0	263	358	783	0				771	0	0
V/C Ratio(X)	0.00	0.00	0.64	0.80	0.15	0.00				0.82	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1087	1208	2536	0				1442	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	22.5	21.3	10.1	0.0				13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.5	4.1	0.1	0.0				2.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.1	3.7	0.8	0.0				6.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	25.0	25.4	10.2	0.0				16.0	0.0	0.0
LnGrp LOS			C	C	B					B		
Approach Vol, veh/h	167				402						632	
Approach Delay, s/veh	25.0				21.0						16.0	
Approach LOS	C				C						B	
Timer - Assigned Phs			3	4	6			8				
Phs Duration (G+Y+Rc), s			15.3	12.2	28.6			27.5				
Change Period (Y+Rc), s			4.0	4.0	4.0			4.0				
Max Green Setting (Gmax), s			38.0	34.0	46.0			76.0				
Max Q Clear Time (g_c+l1), s			10.5	6.9	19.7			4.2				
Green Ext Time (p_c), s			0.9	0.9	4.9			0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh			18.9									
HCM 7th LOS			B									

Marina DIF - 2023 Update
15: SR 1 Northbound Ramp & Reservation Rd

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↰		↰	↰			
Traffic Volume (veh/h)	67	485	0	0	337	387	44	0	326	0	0	0
Future Volume (veh/h)	67	485	0	0	337	387	44	0	326	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	68	495	0	0	344	395	45	0	333			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	139	1001	0	0	678	573	491	0	437			
Arrive On Green	0.08	0.54	0.00	0.00	0.36	0.36	0.28	0.00	0.28			
Sat Flow, veh/h	1781	1870	0	0	1870	1581	1781	0	1585			
Grp Volume(v), veh/h	68	495	0	0	344	395	45	0	333			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1581	1781	0	1585			
Q Serve(g_s), s	1.5	7.1	0.0	0.0	6.1	9.0	0.8	0.0	8.1			
Cycle Q Clear(g_c), s	1.5	7.1	0.0	0.0	6.1	9.0	0.8	0.0	8.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	139	1001	0	0	678	573	491	0	437			
V/C Ratio(X)	0.49	0.49	0.00	0.00	0.51	0.69	0.09	0.00	0.76			
Avail Cap(c_a), veh/h	464	3010	0	0	2346	1983	2276	0	2026			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.7	6.2	0.0	0.0	10.5	11.4	11.4	0.0	14.0			
Incr Delay (d2), s/veh	2.6	0.4	0.0	0.0	0.6	1.5	0.1	0.0	2.8			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7	1.8	0.0	0.0	2.1	2.7	0.3	0.0	2.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	6.6	0.0	0.0	11.1	12.9	11.5	0.0	16.8			
LnGrp LOS	C	A			B	B	B		B			
Approach Vol, veh/h	563				739				378			
Approach Delay, s/veh	8.4				12.1				16.2			
Approach LOS	A				B				B			
Timer - Assigned Phs	2		4				7		8			
Phs Duration (G+Y+Rc), s	15.6		26.6				7.3		19.3			
Change Period (Y+Rc), s	4.0		4.0				4.0		4.0			
Max Green Setting (Gmax), s	54.0		68.0				11.0		53.0			
Max Q Clear Time (g_c+I1), s	10.1		9.1				3.5		11.0			
Green Ext Time (p_c), s	1.5		3.7				0.1		3.9			
Intersection Summary												
HCM 7th Control Delay, s/veh		11.8										
HCM 7th LOS		B										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↔↔			↕			↕	
Traffic Volume (veh/h)	1	808	13	20	999	0	8	0	27	0	0	5
Future Volume (veh/h)	1	808	13	20	999	0	8	0	27	0	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	842	14	21	1041	0	8	0	28	0	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	1517	689	57	2081	0	160	33	220	0	0	282
Arrive On Green	0.44	0.44	0.44	0.03	0.59	0.00	0.18	0.00	0.18	0.00	0.00	0.18
Sat Flow, veh/h	1	3485	1583	1781	3647	0	168	186	1239	0	0	1585
Grp Volume(v), veh/h	452	391	14	21	1041	0	36	0	0	0	0	5
Grp Sat Flow(s), veh/h/ln	1869	1617	1583	1781	1777	0	1593	0	0	0	0	1585
Q Serve(g_s), s	0.0	6.1	0.2	0.4	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	6.1	6.1	0.2	0.4	5.8	0.0	0.6	0.0	0.0	0.0	0.0	0.1
Prop In Lane	0.00		1.00	1.00		0.00	0.22		0.78	0.00		1.00
Lane Grp Cap(c), veh/h	920	704	689	57	2081	0	413	0	0	0	0	282
V/C Ratio(X)	0.49	0.56	0.02	0.37	0.50	0.00	0.09	0.00	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h	4075	3446	3375	475	8942	0	1829	0	0	0	0	1736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.1	7.1	5.4	16.0	4.1	0.0	11.7	0.0	0.0	0.0	0.0	11.5
Incr Delay (d2), s/veh	0.4	0.7	0.0	4.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5	1.4	0.0	0.2	0.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.5	7.8	5.4	20.0	4.3	0.0	11.8	0.0	0.0	0.0	0.0	11.5
LnGrp LOS	A	A	A	C	A		B					B
Approach Vol, veh/h		857			1062			36			5	
Approach Delay, s/veh		7.6			4.6			11.8			11.5	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		10.0	5.1	18.7		10.0		23.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		37.0	9.0	72.0		37.0		85.0				
Max Q Clear Time (g_c+l1), s		2.6	2.4	8.1		2.1		7.8				
Green Ext Time (p_c), s		0.2	0.0	6.6		0.0		10.3				
Intersection Summary												
HCM 7th Control Delay, s/veh			6.1									
HCM 7th LOS			A									

Marina DIF - 2023 Update
18: Driveway/Cardoza Ave & Reservation Rd

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶	↷	↰	↶	↷		↶		↰	↷	
Traffic Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Future Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	653	17	16	653	82	10	1	11	59	1	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1985	876	43	907	759	184	46	112	370	3	226
Arrive On Green	0.10	0.56	0.56	0.02	0.49	0.49	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1568	1781	1870	1565	452	321	773	1400	23	1562
Grp Volume(v), veh/h	103	653	17	16	653	82	22	0	0	59	0	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1870	1565	1546	0	0	1400	0	1585
Q Serve(g_s), s	2.4	4.4	0.2	0.4	12.2	1.3	0.0	0.0	0.0	1.0	0.0	1.7
Cycle Q Clear(g_c), s	2.4	4.4	0.2	0.4	12.2	1.3	0.5	0.0	0.0	1.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	174	1985	876	43	907	759	343	0	0	370	0	229
V/C Ratio(X)	0.59	0.33	0.02	0.37	0.72	0.11	0.06	0.00	0.00	0.16	0.00	0.30
Avail Cap(c_a), veh/h	769	5731	2529	324	2549	2133	1429	0	0	1408	0	1404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	5.3	4.3	21.1	9.0	6.2	16.3	0.0	0.0	16.7	0.0	16.8
Incr Delay (d2), s/veh	3.2	0.1	0.0	5.2	1.1	0.1	0.1	0.0	0.0	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0	1.0	0.0	0.2	3.7	0.3	0.2	0.0	0.0	0.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.2	5.4	4.3	26.4	10.1	6.2	16.4	0.0	0.0	16.9	0.0	17.6
LnGrp LOS	C	A	A	C	B	A	B			B		B
Approach Vol, veh/h	773				751		22				128	
Approach Delay, s/veh	7.6				10.0		16.4				17.3	
Approach LOS	A				A		B				B	
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	10.4		5.1	28.6	10.4		8.3	25.4				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	39.0		8.0	71.0	39.0		19.0	60.0				
Max Q Clear Time (g_c+l1), s	2.5		2.4	6.4	3.7		4.4	14.2				
Green Ext Time (p_c), s	0.1		0.0	5.4	0.6		0.2	5.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			9.5									
HCM 7th LOS			A									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (vph)	644	56	60	165	0	0
Future Volume (vph)	644	56	60	165	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	1.00			1.00		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	0.99			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	1837			1836		
Flt Permitted	1.00			0.76		
Satd. Flow (perm)	1837			1412		
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	716	62	67	183	0	0
RTOR Reduction (vph)	4	0	0	0	0	0
Lane Group Flow (vph)	774	0	0	250	0	0
Confl. Peds. (#/hr)		21	21		19	5
Confl. Bikes (#/hr)		1				
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	20.3			20.3		
Effective Green, g (s)	20.3			20.3		
Actuated g/C Ratio	0.59			0.59		
Clearance Time (s)	4.0			4.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1084			833		
v/s Ratio Prot	c0.42					
v/s Ratio Perm				0.18		
v/c Ratio	0.71			0.30		
Uniform Delay, d1	5.0			3.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	2.3			0.2		
Delay (s)	7.2			3.7		
Level of Service	A			A		
Approach Delay (s/veh)	7.2			3.7	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		6.4		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.55				
Actuated Cycle Length (s)		34.4		Sum of lost time (s)		8.0
Intersection Capacity Utilization		64.3%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	1810	62	166	1090	187	442
Future Volume (vph)	1810	62	166	1090	187	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	0.92	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3241	1441
Flt Permitted	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3241	1441
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1946	67	178	1172	201	475
RTOR Reduction (vph)	0	13	0	0	161	161
Lane Group Flow (vph)	1946	54	178	1172	278	76
Confl. Peds. (#/hr)	2					
Turn Type	NA	Perm	Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases		4			2	2
Actuated Green, G (s)	66.9	66.9	13.6	85.0	16.5	16.5
Effective Green, g (s)	66.9	66.9	13.6	85.0	16.5	16.5
Actuated g/C Ratio	0.61	0.61	0.12	0.77	0.15	0.15
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2142	958	217	2722	483	215
v/s Ratio Prot	c0.55		c0.10	0.33		
v/s Ratio Perm		0.03			c0.09	0.05
v/c Ratio	0.91	0.06	0.82	0.43	0.58	0.35
Uniform Delay, d1	19.1	8.9	47.3	4.4	43.7	42.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	0.0	21.3	0.1	1.7	1.0
Delay (s)	25.2	8.9	68.6	4.5	45.4	43.2
Level of Service	C	A	E	A	D	D
Approach Delay (s/veh)	24.7			13.0	44.6	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			24.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84			
Actuated Cycle Length (s)			110.5		Sum of lost time (s)	13.5
Intersection Capacity Utilization			80.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [California Dr/5th Ave & 8th St (Site Folder: Future 2045 With Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: 5th Ave															
3	L2	All MCs	1	2.0	1	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	33.7
8	T1	All MCs	12	2.0	12	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	34.3
18	R2	All MCs	1	2.0	1	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	34.1
Approach			15	2.0	15	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	34.2
East: 8th St															
1	L2	All MCs	16	2.0	16	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.0
6	T1	All MCs	1	2.0	1	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.6
16	R2	All MCs	1	2.0	1	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.4
Approach			19	2.0	19	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.1
North: California Dr															
7	L2	All MCs	28	2.0	28	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	32.5
4	T1	All MCs	5	2.0	5	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	33.1
14	R2	All MCs	12	2.0	12	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	32.8
Approach			45	2.0	45	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	32.6
West: 8th St															
5	L2	All MCs	9	2.0	9	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.2
2	T1	All MCs	1	2.0	1	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.7
12	R2	All MCs	1	2.0	1	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.5
Approach			12	2.0	12	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.3
All Vehicles			91	2.0	91	2.0	0.034	2.9	LOS A	0.1	3.7	0.10	0.02	0.10	32.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 With Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]				
			veh/h	%	veh/h	%	v/c	sec			ft				mph
South: Del Monte Blvd															
3	L2	All MCs	262	2.0	262	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	30.9
8	T1	All MCs	441	2.0	441	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	32.3
18	R2	All MCs	105	2.0	105	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	32.4
Approach			808	2.0	808	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	31.8
East: Beach Rd															
1	L2	All MCs	42	2.0	42	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	30.9
6	T1	All MCs	78	2.0	78	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	31.4
16	R2	All MCs	62	2.0	62	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	31.2
Approach			182	2.0	182	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	31.2
North: Del Monte Blvd															
7	L2	All MCs	58	2.0	58	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	31.8
4	T1	All MCs	313	2.0	313	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	32.7
14	R2	All MCs	67	2.0	67	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	32.6
Approach			438	2.0	438	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	32.6
West: Beach Rd															
5	L2	All MCs	60	2.0	60	2.0	0.145	5.4	LOS A	0.6	14.1	0.47	0.36	0.47	31.7
2	T1	All MCs	69	2.0	69	2.0	0.145	5.4	LOS A	0.6	14.1	0.47	0.36	0.47	32.2
12	R2	All MCs	171	2.0	171	2.0	0.178	5.4	LOS A	0.7	17.4	0.46	0.34	0.46	32.8
Approach			300	2.0	300	2.0	0.178	5.4	LOS A	0.7	17.4	0.46	0.35	0.46	32.4
All Vehicles			1729	2.0	1729	2.0	0.347	6.3	LOS A	1.8	45.8	0.46	0.31	0.46	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglach M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: 101 [Imjin Rd & 8th St (Site Folder: Future 2045 With Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist]				
			veh/h		veh/h		v/c	sec			ft				mph
South: Driveway															
3	L2	All MCs	1	2.0	1	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.1
8	T1	All MCs	149	2.0	149	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.7
18	R2	All MCs	1	2.0	1	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.5
Approach			152	2.0	152	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.7
East: 8th St															
1	L2	All MCs	1	2.0	1	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.3
6	T1	All MCs	1	2.0	1	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.9
16	R2	All MCs	559	2.0	559	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.7
Approach			561	2.0	561	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.7
North: Imjin Rd															
7	L2	All MCs	11	2.0	11	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	33.6
4	T1	All MCs	10	2.0	10	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	34.2
14	R2	All MCs	92	2.0	92	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	33.9
Approach			114	2.0	114	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	33.9
West: 8th St															
5	L2	All MCs	1	2.0	1	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	33.4
2	T1	All MCs	166	2.0	166	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	34.0
12	R2	All MCs	51	2.0	51	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	33.7
Approach			217	2.0	217	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	33.9
All Vehicles			1044	2.0	1044	2.0	0.486	6.2	LOS A	3.3	84.8	0.33	0.17	0.33	32.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Roadway Segment		Description	ADT Volume	LOS
<i>Existing</i>				
16	Del Monte(2nd Ave)/Patton Parkway Extension	2-Lane Collector	3,733	A
17	8th Street - 3rd Ave to Intergarrison	2-Lane Collector	4,290	A
18	Salinas Avenue - Reservation Road to Carmel Avenue	2-Lane Collector	830	A
19	Imjin Parkway (12th) & SR1 Interchange	2-Lane Collector	4,480	A
20	Del Monte Blvd. - Beach Road to Marina Greens Drive	2-Lane Collector	2,460	A
21	Del Monte & SR 1 Interchange	4-Lane Expressway	24,610	B
22	Reservation Road - Beach to SR1	2-Lane Arterial (w/ left-turn lane)	8,080	A
23	Reservation Road - Imjin Road to Blanco Road	4-Lane Divided Arterial (w/ left-turn lane)	17,890	A
24	Airport Access Road	-	-	-

Roadway Segment		Description	ADT Volume	LOS
<i>Future No Project</i>				
16	Del Monte(2nd Ave)/Patton Parkway Extension	2-Lane Collector	4,075	A
17	8th Street - 3rd Ave to Intergarrison	2-Lane Collector	7,466	B
18	Salinas Avenue - Reservation Road to Carmel Avenue	2-Lane Collector	722	A
19	Imjin Parkway (12th) & SR1 Interchange	2-Lane Collector	20,078	F
20	Del Monte Blvd. - Beach Road to Marina Greens Drive	2-Lane Collector	10,073	D
21	Del Monte & SR 1 Interchange	4-Lane Expressway	20,673	B
22	Reservation Road - Beach to SR1	2-Lane Arterial (w/ left-turn lane)	15,360	D
23	Reservation Road - Imjin Road to Blanco Road	4-Lane Divided Arterial (w/ left-turn lane)	42,173	F
24	Airport Access Road	-	-	-

Roadway Segment		Description	ADT Volume	LOS
<i>Future With Project</i>				
16	Del Monte(2nd Ave)/Patton Parkway Extension	2-Lane Collector	4,075	A
17	8th Street - 3rd Ave to Intergarrison	2-Lane Arterial (w/ left-turn lane)	7,466	A
18	Salinas Avenue - Reservation Road to Carmel Avenue	2-Lane Collector	722	A
19	Imjin Parkway (12th) & SR1 Interchange	4-Lane Freeway	20,078	A
20	Del Monte Blvd. - Beach Road to Marina Greens Drive	4-Lane Undivided Arterial (no left-turn lane)	10,073	A
21	Del Monte & SR 1 Interchange	4-Lane Expressway	20,673	B
22	Reservation Road - Beach to SR1	4-Lane Divided Arterial (w/ left-turn lane)	15,360	A
23	Reservation Road - Imjin Road to Blanco Road	6-Lane Expressway	42,173	C
24	Airport Access Road	2-Lane Collector	5,000	A