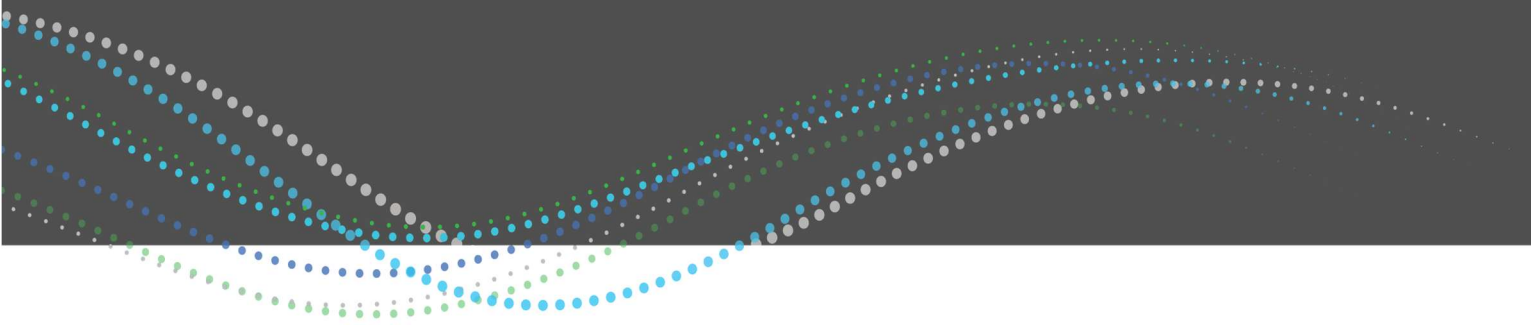




Seal Beach Traffic Impact Fee Nexus Study Update



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Submitted to:



City of Seal Beach



TABLE OF CONTENTS

Summary	1
1.0 Methodology	2
1.1 California Mitigation Fee Act.....	2
2.0 Travel Demand Forecasting.....	3
3.0 Traffic Operations Analysis.....	5
3.1 Traffic Volumes.....	5
3.2 Existing Conditions	6
3.3 Future Year Conditions.....	9
4.0 Traffic Impact Fee Project List	13
5.0 Improvement Project Cost Estimates.....	16
5.1 Unit Costs	16
5.2 Intersection Improvement Cost Estimates.....	16
5.3 Improvement Cost Summary	18
6.0 Traffic Impact Fee	19
6.1 Cost Increases Over Time	19
6.2 Final Fee Schedule	19
6.2 Comparison With Other Jurisdictions	20
Appendix A – California Mitigation Fee Act	
Appendix B – Traffic Count Data	
Appendix C – LOS Calculation Sheets	
Appendix D – Intersection Cost Estimates	



SUMMARY

The purpose of this traffic impact fee nexus study is to outline the methodology used and summarize the findings of a study conducted by Iteris, Inc. (Iteris) to update the Traffic Impact Fee for the City of Seal Beach. The funds from the Traffic Impact Fee are intended for transportation infrastructure improvements to address projected deficiencies and unacceptable traffic conditions anticipated from new development associated with the buildout of the City's General Plan Housing Element, adopted on February 7, 2022. This report clarifies the purpose of the fee and establishes a reasonable relationship (nexus) between the fee and its intended use.

Existing and future year 2050 intersection traffic operations are evaluated during typical weekday peak hour conditions. Intersection improvements need to accommodate the future traffic demand resulting from buildout of the Adopted Housing Element, as well as maintain City traffic operations standards. The City's Local Roadway Safety Plan (LRSP) and Safety Action Plan (SAP) were also utilized to identify infrastructure improvement needed to accommodate the safety needs of future traffic demand. Utilizing unit costs for construction, planning-level cost estimates were prepared for the intersection improvements.

The net final total cost to improve the City's transportation system at full buildout of the Housing Element, is estimated at approximately \$2,122,308. The Traffic Impact Fee was calculated by dividing the total costs of the improvements by the expected net daily trips forecast to be generated from new development within the City by buildout of the General Plan land uses. The final maximum traffic impact fee, assuming the net transportation improvement cost of \$2,122,308 required by the addition of 7,065 new daily trips forecast under General Plan buildout conditions, is \$300.39 per daily trip. This calculation assumes that all "trips" are expected to equally contribute to the need for the improvements, regardless of the land use types that generate the trips, per the City's adopted daily trip generation rates.

Note that the fees to be collected as a result of this updated traffic impact fee nexus study are supplementary to the specific fees and conditions imposed upon individual development projects by the City. All requirements of the Mitigation Fee Act in California Government Code Section 66001 need to be met by this nexus study.



1.0 METHODOLOGY

The purpose of this traffic impact fee nexus study is to describe the methodology used for, and summarize the recent results of, a study conducted by Iteris, Inc. (Iteris) to update the Traffic Impact Fee in the City of Seal Beach. The Traffic Impact Fee funds are intended for transportation infrastructure improvements aimed at relieving projected deficiencies and adverse mobility conditions forecast to be caused by new development associated with buildout of the City's General Plan. This report identifies the purpose of the fee and demonstrates a reasonable relationship (nexus) between the fee and the purpose for which it is to be collected.

1.1 California Mitigation Fee Act

New development lays the groundwork for population increases and job opportunities within the City. However, as population and employment increase, the need for planning and implementing circulation system improvements also increases.

California Government Code Section 66000 et seq. enables local agencies to charge development impact fees, or mitigation fees. A mitigation fee is a monetary exaction imposed by a government agency upon an applicant seeking approval for a development project. The fee is applied towards the cost of traffic-related public infrastructure improvements within the jurisdiction, and is not a tax or special assessment. The fee is to be used to finance only those circulation system improvements which are related to the type of development that will generate an increase in traffic.

The Mitigation Fee Act requirements in California Government Code Section 66001 require specific nexus requirements to be satisfied for fees related to traffic mitigation improvements. These requirements include:

66001. (a) In any action establishing, increasing, or imposing a fee as a condition of approval of a development project by a local agency, the local agency shall do all of the following:

- (1) Identify the purpose of the fee.
- (2) Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement plan as specified in Section 65403 or 66002, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged.
- (3) Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed.
- (4) Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.

Appendix A includes a complete version of California Government Code Section 66000-66008.



2.0 TRAVEL DEMAND FORECASTING

This section describes the methodology used to forecast the future traffic volumes that are expected to be generated by the buildout of the City's General Plan land uses. Iteris utilized the Orange County Traffic Analysis Model (OCTAM), prepared by the Orange County Transportation Authority (OCTA), to develop the future year traffic forecasts. OCTAM is consistent with Orange County Projections (OCP) socioeconomic data and is OCTA's preferred model for Orange County projects. The OCTAM consists of a base year 2019 scenario and future year 2050 scenario. The model features a detailed Transportation Analysis Zone (TAZ) system within the City consisting of 14 zones, as shown in **Figure 1**. The future year land use (i.e., socioeconomic data) within OCTAM was reviewed to ensure that it reflected current City plans. In the standard OCTAM model, TAZ 466 includes both the Rossmoor shopping center (located inside the City of Seal Beach) as well as a southern portion of the Rossmoor residential development (located outside the City). To isolate traffic volumes generated solely within the City of Seal Beach, the Rossmoor residential development located outside the City was reallocated from TAZ 466 to TAZ 465 which is located just north of the City.

In the 2050 scenario, additional residential units were added to the OCTAM 2050 socioeconomic data inputs as shown in **Table 1** to reflect dwelling units required in Seal Beach's Regional Housing Needs Assessment (RHNA). The RHNA allocation is 1,243 units, however, the Housing Element provides opportunity sites totaling 1,544 dwelling units.

Table 1: RHNA Housing units added to 2050 OCTAM

TAZ	RHNA Units
466	400
657	320
658	75
659	150
661	59
662	294
663	40
664	86
667	120
Total	1,544

Forecast traffic volumes were then postprocessed using traffic counts and the growth in traffic volumes between 2019 and 2050 consistent with the postprocessing methodology used in the National Cooperative Highway Research Program (NCHRP) Report 255. The postprocessed volumes were provided as input to the operational analysis.

Since only a subset of the study intersections are included in the OCTAM highway network, the growth in post-processed traffic volumes from the major through streets was applied to the adjacent intermediate locations.





3.0 TRAFFIC OPERATIONS ANALYSIS

This section presents the evaluation of intersection operations within the City in existing and future year conditions, along with the methodology used for the evaluation.

3.1 Methodology

Intersections are typically considered the most critical locations for traffic flow bottlenecks and congestion on roadways with interrupted traffic flow, since the right-of-way must be shared by opposing traffic streams, creating conflicting traffic movements. The quality of traffic operations is characterized using the concept of level of service (LOS). Level of service is defined by a range of grades from A (best) to F (worst). At intersections, LOS "A" represents relatively free operating conditions with little or no delay. LOS "F" is characterized by extremely unstable flow conditions and severe congestion with volumes at or near the intersection's design capacity. This results in long queues at the intersection approaches. **Table 2** outlines the LOS concept for intersections using the Highway Capacity Manual (HCM) methodology, which is based on average vehicle delay, and the Intersection Capacity Utilization (ICU) methodology, which is based on the "sum of critical lane volumes" using a Volume-to-Capacity (V/C) ratio scale.



Table 2: Intersection Level of Service Definitions – HCM and ICU Methodology

Level of Service	Description	Signalized Intersection Delay (seconds per vehicle)	Unsignalized Intersection Delay (seconds per vehicle)	Volume-to-Capacity Ratio (Signalized Intersections)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10	≤ 10	Under 0.60
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	$>10-20$	>10 and ≤ 15	0.61 to 0.70
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	$>20-35$	>15 and ≤ 25	0.71 to 0.80
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	$>35-55$	>25 and ≤ 35	0.81 to 0.90
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	$>55-80$	>35 and ≤ 50	0.91 to 1.00
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	>80	> 50	Exceeds 1.00

Source: Highway Capacity Manual, Sixth Edition, Transportation Research Board, Washington, D.C., 2016

3.2 Existing Conditions

This section presents the methodology for developing existing traffic volumes and describes the current intersection LOS operations. Consistent with the analyses performed under the General Plan and EIR process, level of service conditions were analyzed for twenty-eight (28) key intersections in the City during morning (AM) and evening (PM) peak hours. **Figure 2** displays the locations of the 28 study intersections.

Traffic Volumes

Existing traffic volumes at the study intersections are based on a combination of traffic counts provided by the City and new traffic counts collected in February 2025. The City provided traffic counts at 24 intersections (collected during various years between 2021 and 2024). New traffic counts were collected at the remaining 4 locations in February 2025. All counts were conducted during morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods. The traffic analysis utilizes the highest single hour of traffic volumes from each peak period at each intersection. Detailed traffic count data are included in **Appendix B**.





Note that the count data, representing various years, was not escalated for use in this analysis, as the counts were collected within a recent timeframe. In addition, new development levels in the past few years were considered to be minimal.

Intersection Levels of Service

This section summarizes the existing conditions intersection LOS and delay during a typical weekday AM and PM peak hours. **Table 3** summarizes the existing weekday AM and PM peak hour traffic operating conditions at each study intersection. The LOS specified in the table is based on delay because the delay-based method provides a more comprehensive evaluation of lane groups and signal timing opportunities. Detailed LOS calculation sheets are provided in **Appendix C**.

Table 3: Existing Intersection Peak Hour LOS

Intersection		Traffic Control	AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	ICU (V/C)	LOS	Delay (s)	ICU (V/C)
1	1st St/Marina Dr	Stop-controlled	A	8.5	N/A	B	10.4	N/A
2	5th St/Marina Dr	Stop-controlled	A	7.9	N/A	A	9.0	N/A
3	Seal Beach Blvd/Bradbury Rd	Signalized	B	15.8	0.55	B	13.5	0.58
4	Seal Beach Blvd/Rossmoor Center Wy	Signalized	A	5.1	0.45	B	12.2	0.59
5	Seal Beach Blvd/Towne Center Dr	Signalized	A	4.5	0.44	B	16.2	0.65
6	Seal Beach Blvd/St Cloud Dr	Signalized	C	20.6	0.61	C	21.6	0.61
7	Seal Beach Blvd/Lampson Ave	Signalized	C	23.1	0.67	B	19.2	0.64
8	Seal Beach Blvd/Old Ranch Pkwy-405 NB Ramps*	Signalized	B	15.4	0.50	B	14.1	0.63
9	Seal Beach Blvd/Gate Rd-405 SB Ramps*	Signalized	C	32.7	0.69	C	24.7	0.73
10	Seal Beach Blvd/Golden Rain Rd (WB)	Signalized	A	5.8	0.41	A	5.6	0.62
11	Seal Beach Blvd/Golden Rain Rd (EB)	Signalized	A	4.7	0.41	A	9.1	0.62
12	Seal Beach Blvd/St Andrews Dr	Signalized	A	2.2	0.42	A	6.9	0.48
13	Seal Beach Blvd/Westminster Ave	Signalized	D	38.3	0.63	D	45.7	0.78
14	Seal Beach Blvd/Road C	Signalized	A	4.1	0.33	A	1.4	0.31
15	Seal Beach Blvd/Apollo Dr	Signalized	A	1.7	0.31	A	1.3	0.32
16	Seal Beach Blvd/Adolfo Lopez Dr	Signalized	A	0.7	0.31	A	1.8	0.31
17	Seal Beach Blvd/Heron Point	Signalized	A	4.5	0.40	A	4.2	0.37
18	Seal Beach Blvd/Bolsa Ave	Signalized	B	16.5	0.58	B	17.1	0.64
19	Seal Beach Blvd/Marlin Ave	Stop-controlled	C	18.4	N/A	C	16.0	N/A
20	Seal Beach Blvd/Pacific Coast Hwy*	Signalized	C	30.5	0.63	D	44.0	0.74
21	Old Ranch Plaza/Lampson Ave	Signalized	A	4.1	0.37	A	4.6	0.41
22	Basswood St/Lampson Ave	Signalized	B	11.4	0.46	A	8.9	0.43
23	Candleberry Ave/Lampson Ave	Signalized	A	7.4	0.35	A	4.2	0.33



Intersection		Traffic Control	AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	ICU (V/C)	LOS	Delay (s)	ICU (V/C)
24	Heather St/Lampson Ave	Signalized	A	5.7	0.40	A	4.3	0.43
25	Rose St/Lampson Ave	Signalized	A	4.1	0.36	A	3.9	0.44
26	Tulip St/Lampson Ave	Signalized	A	4.6	0.44	A	3.7	0.46
27	Apollo Dr/Westminster Ave	Signalized	A	5.1	0.44	A	7.0	0.45
28	Kitts Hwy/Westminster Ave	Signalized	A	5.7	0.46	A	4.1	0.49

Notes:

* Intersection operated by Caltrans

LOS = Level of Service, s = seconds.

ICU values are shown for informational purposes. LOS values are based on the average vehicle delay.

As shown in **Table 3**, all intersections are currently operating at LOS D or better. The following intersections operate at a LOS D:

- Seal Beach Boulevard/Westminster Avenue; and
- Seal Beach Boulevard/Pacific Coast Highway (Caltrans intersection).

3.3 Future Year Conditions

This section presents the methodology for developing future traffic volumes and describes the resulting intersection LOS operations. Consistent with the analyses performed under the General Plan and EIR process, level of service conditions were analyzed for twenty-eight (28) key intersections in the City for the morning (AM) and evening (PM) peak hours.

Traffic Volumes

Future traffic volumes were generated for both the AM and PM peak hours. As mentioned, a subset (nine) of the study intersections are included in the OCTAM model, which was used to model link B-turn postprocess adjustments to existing traffic count data. The overall volume growth between 2025 and 2050 volumes at those nine intersections was then calculated for each time period. This volume growth was then used to grow the primary/major through movements at the remaining seventeen (17) study intersections. Lastly, all volumes were rounded up to the nearest 5 trips.

Intersection Levels of Service

This section summarizes the future year conditions intersection LOS and delay during a typical weekday AM and PM peak hour. **Table 4** summarizes the future weekday AM and PM peak hour traffic operating conditions at each study intersection. Detailed LOS calculation sheets are provided in **Appendix D**.



Table 4: Future Year Intersection Peak Hour LOS

Intersection		AM Peak Hour			PM Peak Hour		
		LOS	Delay (s)	ICU	LOS	Delay (s)	ICU
1	1st St/Marina Dr	A	9.0	N/A	B	12.2	N/A
2	5th St/Marina Dr	A	8.3	N/A	A	9.3	N/A
3	Seal Beach Blvd/Bradbury Rd	B	15.6	0.56	B	14.0	0.59
4	Seal Beach Blvd/Rossmoor Center Wy	B	10.6	0.53	B	15.7	0.63
5	Seal Beach Blvd/Towne Center Dr	A	4.6	0.45	B	16.0	0.67
6	Seal Beach Blvd/St Cloud Dr	C	20.8	0.62	C	21.7	0.63
7	Seal Beach Blvd/Lampson Ave	C	22.2	0.68	B	19.9	0.66
8	Seal Beach Blvd/Old Ranch Pkwy-405 NB Ramps*	B	15.5	0.52	B	14.3	0.66
9	Seal Beach Blvd/Gate Rd-405 SB Ramps*	C	34.8	0.71	C	24.9	0.74
10	Seal Beach Blvd/Golden Rain Rd (WB)	A	6.1	0.43	A	5.8	0.65
11	Seal Beach Blvd/Golden Rain Rd (EB)	A	4.5	0.43	A	9.2	0.65
12	Seal Beach Blvd/St Andrews Dr	A	2.8	0.43	A	7.8	0.49
13	Seal Beach Blvd/Westminster Ave	D	39.8	0.62	D	43.0	0.71
14	Seal Beach Blvd/Road C	A	4.8	0.34	A	2.1	0.32
15	Seal Beach Blvd/Apollo Dr	A	0.4	0.31	A	0.2	0.31
16	Seal Beach Blvd/Adolfo Lopez Dr	A	1.1	0.31	A	1.4	0.33
17	Seal Beach Blvd/Heron Point	A	4.0	0.41	A	5.4	0.38
18	Seal Beach Blvd/Bolsa Ave	B	16.4	0.61	B	17.2	0.65
19	Seal Beach Blvd/Marlin Ave	C	19.7	N/A	C	17.0	N/A
20	Seal Beach Blvd/Pacific Coast Hwy*	D	35.3	0.66	E	76.1	0.86
21	Old Ranch Plaza/Lampson Ave	A	4.4	0.39	A	4.9	0.42
22	Basswood St/Lampson Ave	B	11.6	0.48	A	8.9	0.46
23	Candleberry Ave/Lampson Ave	A	7.5	0.36	A	4.2	0.34
24	Heather St/Lampson Ave	A	5.7	0.41	A	4.9	0.44
25	Rose St/Lampson Ave	A	4.2	0.36	A	4.0	0.45
26	Tulip St/Lampson Ave	A	5.2	0.45	A	3.9	0.48
27	Apollo Dr/Westminster Ave	A	5.1	0.46	A	7.1	0.47
28	Kitts Hwy/Westminster Ave	A	6.9	0.49	A	4.5	0.51

* Intersection operated by Caltrans

Notes:

LOS = Level of Service, s = seconds.

ICU values are shown for informational purposes. LOS values are based on the average vehicle delay.

As shown in **Table 4**, the majority of the study intersections are forecast to continue to operate at LOS D or better. The intersection of Seal Beach Boulevard/Pacific Coast Highway degraded to a deficient LOS E.



Additionally, LOS degradation was observed at the Seal Beach Boulevard/Rossmoor Way intersection, but the intersection would still operate at LOS B in the AM and PM.

For the PM peak period, the Seal Beach Boulevard/Pacific Coast Highway intersection is forecast to degrade from LOS D under existing conditions to LOS E under future conditions. The movements experiencing the most significant delay increases for future year conditions are the eastbound left-turn and northbound through movements. The volumes for the eastbound left-turn and northbound thru movements are projected to increase by 47% and 134%, respectively, for the future PM peak period, resulting in increased signal delay. The future year intersection Volume-to-Capacity ratio (V/C) is 1.85 for the eastbound left-turn and 1.05 for the northbound through movements. The following strategies may be applied to reduce the delay and to improve intersection LOS:

- Adjust signal timing to accommodate new traffic patterns.
- Add a second eastbound left-turn lane by modifying existing raised median.

For the PM peak period, Seal Beach Boulevard between Town Center Drive and St Cloud Drive experiences large turning movement demands. Both intersections experience delay on the westbound left turn movements that can be mitigated by modified signal phasing operations. The following strategies may be applied to reduce turning movement delay at these locations.

- Install additional westbound left turn lane at the intersection of Towne Center and Seal Beach Boulevard.
- Adjust phasing to protected left-turn phasing.

Table 5 summarizes the comparison of the existing and future year traffic operations (LOS and delay).

Table 5: Existing vs Future Year Intersection Peak Hour LOS Comparison

Intersection		AM Peak Hour LOS – Delay (s)		PM Peak Hour LOS -Delay (s)	
		Existing	Future Year	Existing	Future Year
1	1st St/Marina Dr	A - 8.5	A - 9.0	B - 10.4	B - 12.2
2	5th St/Marina Dr	A - 7.9	A - 8.3	A - 9.0	A - 9.3
3	Seal Beach Blvd/Bradbury Rd	B - 15.8	B - 15.6	B - 13.5	B - 14.0
4	Seal Beach Blvd/Rossmoor Center Wy	A - 5.1	B - 10.6	B - 12.2	B - 15.7
5	Seal Beach Blvd/Towne Center Dr	A - 4.5	A - 4.6	B - 16.2	B - 16.0
6	Seal Beach Blvd/St Cloud Dr	C - 20.6	C - 20.8	C - 21.6	C - 21.7
7	Seal Beach Blvd/Lampson Ave	C - 23.1	C - 22.2	B - 19.2	B - 19.9
8	Seal Beach Blvd/Old Ranch Pkwy-405 NB Ramps*	B - 15.4	B - 15.5	B - 14.1	B - 14.3
9	Seal Beach Blvd/Gate Rd-405 SB Ramps*	C - 32.7	C - 34.8	C - 24.7	C - 24.9
10	Seal Beach Blvd/Golden Rain Rd (WB)	A - 5.8	A - 6.1	A - 5.6	A - 5.8
11	Seal Beach Blvd/Golden Rain Rd (EB)	A - 4.7	A - 4.5	A - 9.1	A - 9.2
12	Seal Beach Blvd/St Andrews Dr	A - 2.2	A - 2.8	A - 6.9	A - 7.8
13	Seal Beach Blvd/Westminster Ave	D - 38.3	D - 39.8	D - 45.7	D - 43.0



Intersection		AM Peak Hour LOS – Delay (s)		PM Peak Hour LOS -Delay (s)	
		Existing	Future Year	Existing	Future Year
14	Seal Beach Blvd/Road C	A - 4.1	A - 4.8	A - 1.4	A - 2.1
15	Seal Beach Blvd/Apollo Dr	A - 1.7	A - 0.4	A - 1.3	A - 0.2
16	Seal Beach Blvd/Adolfo Lopez Dr	A - 0.7	A - 1.1	A - 1.8	A - 1.4
17	Seal Beach Blvd/Heron Point	A - 4.5	A - 4.0	A - 4.2	A - 5.4
18	Seal Beach Blvd/Bolsa Ave	B - 16.5	B - 16.4	B - 17.1	B - 17.2
19	Seal Beach Blvd/Marlin Ave	C - 18.4	C - 19.7	C - 16.0	C - 17
20	Seal Beach Blvd/Pacific Coast Hwy*	C - 30.5	D - 35.3	D - 44.0	E - 76.1
21	Old Ranch Plaza/Lampson Ave	A - 4.1	A - 4.4	A - 4.6	A - 4.9
22	Basswood St/Lampson Ave	B - 11.4	B - 11.6	A - 8.9	A - 8.9
23	Candleberry Ave/Lampson Ave	A - 7.4	A - 7.5	A - 4.2	A - 4.2
24	Heather St/Lampson Ave	A - 5.7	A - 5.7	A - 4.3	A - 4.9
25	Rose St/Lampson Ave	A - 4.1	A - 4.2	A - 3.9	A - 4.0
26	Tulip St/Lampson Ave	A - 4.6	A - 5.2	A - 3.7	A - 3.9
27	Apollo Dr/Westminster Ave	A - 5.1	A - 5.1	A - 7.0	A - 7.1
28	Kitts Hwy/Westminster Ave	A - 5.7	A - 6.9	A - 4.1	A - 4.5

* Intersection operated by Caltrans

Notes:

LOS = Level of Service, s = seconds.

Note that at a few locations, the average intersection vehicle delay is forecast to be slightly reduced in the future year scenario as compared to the existing conditions scenario. This is due to a reduction in volumes at certain intersection movements due to decreases in population as forecast in OCP which is used by OCTAM. OCTAM also incorporates 2021 RHNA, local agency general plan updates, employment, and transportation system changes in Orange County and surrounding areas. As a regional modeling tool, OCTAM is not used to evaluate traffic volumes at an intersection level. The forecasted roadway link volumes generated by OCTAM are post-processed to derive intersection turning movement volumes used for the intersection level analysis. Post-processing involves calculating intersection volumes using the “B-Turns” methodology which utilizes an iterative “Furness” growth factoring methodology to grow existing traffic counts based on the relative change in the intersection’s approach and departure volumes between the existing and future model scenarios. This approach is consistent with National Cooperative Highway Research Program (NCHRP) Report 255.



4.0 TRAFFIC IMPACT FEE PROJECT LIST

This section describes the development of the improvement project list that corresponds to the Traffic Impact Fee update and Improvements identified in the City's LRSP and SAP. Intersection improvements are proposed to accommodate the future traffic demand resulting from buildout of the Adopted Housing Element and to maintain the City's minimum LOS D. The City's LRSP and SAP were also utilized to identify infrastructure improvement needed to accommodate the safety needs of future traffic demand. **Table 6** summarizes the list of required improvements at the study intersections. **Figure 3** shows the locations of the intersections which need improvement.

Table 6: Improvement Project List

Intersection		Improvement
1	1st St/Marina Dr	Upgrade signing and striping at the intersection. Modify existing curb return and curb ramp.
2	5th St/Marina Dr	Upgrade signing and striping at the intersection.
3	Seal Beach Blvd/ Bradbury Rd	Upgrade signing and striping at the intersection. Install raised hardscape median with turnouts and upgraded driveways with proper radii (~500 LF).
4	Seal Beach Blvd/ Rossmoor Center Wy	Upgrade signing and striping at the intersection. Install raised hardscape median with turnouts and upgraded driveways with proper radii (~500 LF).
5	Seal Beach Blvd/ Towne Center Dr	Modify Traffic Signal to provide protected left turn phasing in for westbound approach. Add a westbound left turn lane. Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install EVP, and Advanced Dilemma Zone Detection System.
6	Seal Beach Blvd/ St Cloud Dr	Upgrade traffic signal phasing to remove split phasing. Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install EVP, and Advanced Dilemma Zone Detection System. Modify existing curb ramps on south side of intersection to be directional curb ramps.
7	Seal Beach Blvd/ Lampson Ave	Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.
8	Seal Beach Blvd/ Old Ranch Pkwy-405 NB Ramps*	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Trim bushes for sight distance.
9	Seal Beach Blvd/ Gate Rd-405 SB Ramps*	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.
10	Seal Beach Blvd/ Golden Rain Rd (WB)	Upgrade pole equipment and APS ped push button. Improve signal timing. Upgrade signing and striping at the intersection. Install Leading Pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.
11	Seal Beach Blvd/ Golden Rain Rd (EB)	Upgrade pole equipment and APS ped push button. Improve signal timing. Upgrade signing and striping at the intersection. Install Leading Pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.
12	Seal Beach Blvd/ St Andrews Dr	Upgrade pole equipment and APS ped push button. Improve signal timing. Upgrade signing and striping at the intersection. Install EVP, and Advanced Dilemma Zone Detection System. Modify existing access curb ramp.



Intersection		Improvement
13	Seal Beach Blvd/ Westminster Ave	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Reconstruct both raised median on the South of Westminster on Seal Beach Blvd. Relocate existing OCTA bus stop at NEC on NB Seal Beach Blvd to 220' north of ECR.
14	Seal Beach Blvd/Road C	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.
15	Seal Beach Blvd/Apollo Dr	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.
16	Seal Beach Blvd/ Adolfo Lopez Dr	Upgrade pole equipment and APS ped push button. Improve signal timing. Upgrade signing and striping at the intersection. Install Leading Pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Modify existing access curb ramp.
17	Seal Beach Blvd/ Heron Point	Upgrade pole equipment. Improve signal timing. Upgrade signing and striping at the intersection. Install no right-turn-on-red-restriction from Bolsa Ave on WBR movement.
18	Seal Beach Blvd/Bolsa Ave	Signal modification to Install Eastbound and Westbound protected left-turn signal heads and implement protected left-turn phasing for the Eastbound and Westbound movements. Improve signal timing. Restripe EB approach to add a second Eastbound left-turn lane. This may require the conversion of the right-turn lane into a thru-right lane due to limited right-of-way. Restripe EB on the East of PCH.
19	Seal Beach Blvd/ Marlin Ave	Signal modification to install updated pole standards, safety lighting and equipment. Install Curb Ramp.
20	Seal Beach Blvd/ Pacific Coast Hwy*	Adjust signal timing to accommodate new traffic patterns Add a second eastbound left-turn lane by modifying existing raised median
21	Old Ranch Plaza/ Lampson Ave	Signal modification to install updated pole standards and equipment.
22	Basswood St/ Lampson Ave	Signal modification to install updated pole standards and equipment.
23	Candleberry Ave/ Lampson Ave	Signal modification to install updated pole standards and equipment.
24	Heather St/Lampson Ave	Install no right-turn-on-red-restriction on NBR movement. Install protected phasing on N/S movements.
25	Rose St/Lampson Ave	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Replace existing advanced warning flashing beacons at ~2000' East of Kitts Hwy on WB Westminster Ave's North shoulder.
26	Tulip St/Lampson Ave	Upgrade signing and striping at the intersection. Modify existing curb return and curb ramp.
27	Apollo Dr/ Westminster Ave	Upgrade signing and striping at the intersection.
28	Kitts Hwy/ Westminster Ave	Upgrade signing and striping at the intersection. Install raised hardscape median with turnouts and upgraded driveways with proper radii (~500 LF).

* Intersection operated by Caltrans





5.0 IMPROVEMENT PROJECT COST ESTIMATES

This section describes the methodology used to estimate the total cost of the intersection improvement projects described in Section 6. The cost of each intersection improvement project is generally based on unit cost estimates obtained from the City's LRSP and SAP documents. Intersection improvement costs for the intersection of PCH and Seal Beach Boulevard are based on recent available Caltrans cost data for similar types of improvements. Note that a 30% contingency factor and 15% Engineering fee factor were added to the construction costs.

5.1 Intersection Improvement Cost Estimates

Table 7 summarizes the intersection improvement costs based on the methodology described. The fair share percentage of costs applied towards the fee is noted for all locations except the intersection of PCH and Seal Beach Boulevard. For this location, the full cost is applied because the LOS deteriorated from D in existing conditions to E using projected 2050 models. A detailed cost breakdown illustrating the details of the cost elements at each intersection is provided in **Appendix D**.



Table 7: Improvement Project Costs

	Intersection	Sub-total	Fair Share % towards fee	Total Intersection Cost (after Fair Share %)
1	1st St/Marina Dr	\$58,034	17%	\$9,866
2	5th St/Marina Dr	\$23,899	20%	\$4,780
3	Seal Beach Blvd/Bradbury Rd	\$209,866	5%	\$10,493
4	Seal Beach Blvd/Rossmoor Center Wy	\$209,866	12%	\$25,184
5	Seal Beach Blvd/Towne Center Dr	\$1,353,787	6%	\$81,227
6	Seal Beach Blvd/St Cloud Dr	\$408,079	5%	\$20,404
7	Seal Beach Blvd/Lampson Ave	\$245,988	5%	\$12,299
8	Seal Beach Blvd/Old Ranch Pkwy-405 NB Ramps**	\$198,892	3%	\$5,967
9	Seal Beach Blvd/Gate Rd-405 SB Ramps**	\$130,889	3%	\$3,272
10	Seal Beach Blvd/Golden Rain Rd (WB)	\$378,562	6%	\$22,714
11	Seal Beach Blvd/Golden Rain Rd (EB)	\$378,562	6%	\$22,714
12	Seal Beach Blvd/St Andrews Dr	\$175,962	5%	\$10,558
13	Seal Beach Blvd/Westminster Ave	\$1,485,876	6%	\$74,294
14	Seal Beach Blvd/Road C	\$184,434	6%	\$11,066
15	Seal Beach Blvd/Apollo Dr	\$184,434	7%	\$11,066
16	Seal Beach Blvd/Adolfo Lopez Dr	\$181,371	7%	\$12,696
18	Seal Beach Blvd/Bolsa Ave	\$429,065	11%	\$47,197
20	Seal Beach Blvd/Pacific Coast Hwy*	\$1,181,050	50%	\$590,525
21	Old Ranch Plaza/Lampson Ave	\$224,250	7%	\$15,698
22	Basswood St/Lampson Ave	\$224,250	6%	\$13,455
23	Candleberry Ave/Lampson Ave	\$224,250	6%	\$13,455
24	Heather St/Lampson Ave	\$224,250	6%	\$13,455
25	Rose St/Lampson Ave	\$224,250	6%	\$13,455
26	Tulip St/Lampson Ave	\$139,035	7%	\$9,732
28	Kitts Hwy/Westminster Ave	\$317,240	7%	\$22,207
TOTAL				\$1,074,788

Note: All other intersections "fair share" calculation is based on traffic increase caused by new development unless otherwise noted.

* Intersection identified as having no existing deficiency, and the City is responsible for 50% of intersection costs. Thus, the cost applied to the fee (as shown) reflects 50% "fair share" percentage of the total improvement cost.

** The City is responsible for 50% of the intersection "fair share" costs.

As shown in **Table 7**, the total cost of required physical construction, at the 28 intersections requiring improvements, is estimated as \$1,074,788. This cost includes a 30 percent contingency fee and a 15 percent engineering fee factor consistent with planning level cost estimates.



5.2 Improvement Cost Summary

In addition to physical construction costs of intersection-level improvements, additional fees are included to cover other transportation-related improvements and internal costs over a 10-year period. These fees include:

- **Intelligent Transportation Systems (ITS) Improvements** – This fee would cover the installation of 6,000 feet of conduit and 96 strand fiber to connect three traffic signals. The fee includes a fair share estimate to replace aging fiber optic cable and related network equipment. A unit cost of \$100.00 per foot of conduit and \$10.00 per foot of fiber is assumed, resulting in a total of \$660,000. The fee also includes related network hardware and software required to integrate each traffic signal into the City's Advanced Traffic Management System (ATMS), enabling more efficient use of existing capacity in compliance with Senate Bill (SB) 743.
- **Traffic Signal Maintenance and Operation Fee** – This fee would be used for routine and preventative maintenance repairs of the City's traffic signal equipment and associated lighting, as well as signal timing adjustments where applicable. The annual cost of \$11,900 per traffic signal was applied, consistent with such costs in other jurisdictions. For maintenance of 26 traffic signals, the total cost over the span of 10 years would be \$3,094,000. The fair share annual cost applied to this category was 8% (which is the weighted average fair share percentage for all intersections combined), for a total of \$247,520 to be paid for by the fee program.
- **City Administration Fee** – This fee covers annual tasks related to City Council action for Engineering News Record (ENR) construction cost increases, improvement project prioritization and budgeting, and public education. A yearly fee of \$7,400 was calculated based on 40 hours of staff time at \$200 per hour. Over the span of 10 years, the Administration Fee would total \$80,000.
- **5-year Update Fee** – This fee includes staff and consultant time to validate new construction, update land use data for zoning and General Plan changes, rerun the model, prepare reports, and prepare Council action if necessary. The 5-year Update would occur two times during the 10-year period. Each update would cost \$30,000, totaling \$60,000 over the life of the General Plan horizon.

Table 8 summarizes the final cost calculations.

Table 8: Total Transportation Improvement Costs

Category	Cost
Intersection Improvements	\$1,074,788
ITS Improvements	\$660,000
Traffic Signal Maintenance and Operation Fee	\$247,520
City Administration Fee	\$80,000
5-year Updates (Administration fee)	\$60,000
NET TOTAL	\$2,122,308



6.0 TRAFFIC IMPACT FEE

The Traffic Impact Fee was calculated by dividing the total costs of the improvements by the expected net daily trips forecast to be generated from new development within the City by buildout of the General Plan land uses (included recently adopted housing element). The final maximum traffic impact fee, assuming the net transportation improvement cost of \$2,122,308 required by the addition of 7,065 new daily trips forecast under General Plan buildout conditions, is \$300.39 per daily trip. This calculation assumes that all “trips” are expected to equally contribute to the need for the improvements, regardless of the land use types that generate the trips. The fees to be collected as a result of this updated traffic impact fee nexus study are supplementary to the specific fees and conditions imposed upon individual development projects by the City. All requirements of the Mitigation Fee Act in California Government Code Section 66001 have been met by this nexus study.

6.1 Cost Increases Over Time

The cost estimates used to calculate the traffic impact fee were based on 2025 dollars and unit costs applied recently in other cities. In order for the traffic impact fee to stay current with changing construction and land costs, the City of Seal Beach shall apply an inflation adjustment to the fee. Construction costs shall be revised periodically to reflect changes in the Construction Cost Index published by the ENR.

6.2 Final Fee Schedule

In order to develop the final fee schedule, for scaling purposes, the new maximum traffic impact fee per daily trip was multiplied by daily trip rates for various land use types acquired from the *ITE Trip Generation 11th Edition* manual (the most recent version at the time of this report). For example, the maximum allowable fee for the single-family (detached) category was derived as follows:

- \$300.39 per daily trip * 9.43 daily trips per single-family residential unit = \$2,833 per unit

Based on the cost per daily trip calculated as part of this study, the following maximum traffic impact fee schedule is recommended, generally consistent with the land use types included in the current fee structure:

1. Retail/Shopping Center: \$16.36 per square foot of gross leasable area
2. General Office Building: \$3.26 per square foot of gross leasable area
3. Restaurant: \$25.18 per square foot of gross leasable area
4. Hotel: \$2,400 per room
5. Single-family Residential: \$1.61 per livable square foot (assuming \$2,833 per unit)
 - The per unit fee, calculated using the ITE trip rate, is based on an average single-family unit size of 1,757 square feet. The average size is consistent with the average size identified in the City’s Parks Impact Fee Update, which is sourced from Redfin. The per square foot fee applied as part of the program, consistent with AB 602, is calculated by dividing \$2,833 per unit by 1,757 square feet per unit.



6. Multi-family Residential: \$1.58 per livable square foot (assuming \$2,364 per unit)
 - The per unit fee, calculated using the ITE trip rate, is based on an average multi-family unit size of 861 square feet. The average size is consistent with the average size identified in the City's Parks Impact Fee Update, which is sourced from Costar. The per square foot fee applied as part of this program, consistent with AB 602, is calculated by dividing \$2,364 per unit by 861 square feet per unit.
7. Other Land Use Types: \$300.39 per daily trip generated, utilizing trip rates from the latest version of the *ITE Trip Generation* manual

6.3 Comparison With Other Jurisdictions

Lastly, the traffic impact fees applied in similar jurisdictions within the area were reviewed in order to provide a comparison to the proposed City of Seal Beach maximum traffic impact fees developed as part of this report (as well as the current fees). **Table 9** summarizes the fee comparison per unit, room, or square foot as applicable.

Table 9: Transportation Impact Fee Comparisons (to Seal Beach)

Agency	Residential (per unit)			Hotel (per room)	General Office (per sq ft)
	Apartment	Condominium	Single-family (detached)		
Seal Beach (current)	\$959.95	\$788.72	\$1,462.81	\$866.95	\$4.15
Seal Beach (max allowable)*	\$1,364**	Same as Apt	\$2,833**	\$2,400	\$3.26
Huntington Beach	\$2,068	\$1,804	\$2,944	\$2,034	\$2.77
Long Beach	\$1,125	\$1,125	\$1,125	\$750	\$2.00
Placentia	\$1,004	Same as Apt	\$1,619	N/A	\$2.41
Anaheim	\$1,297	Same as Apt	\$2,029	\$1,474	\$3.67
Garden Grove	\$990	Same as Apt	\$1,600	\$919	\$2.61

* Maximum allowable fee per land use category as calculated by this report, using ITE Trip Generation daily trip rates.

** Assuming average square foot of residential unit 1,757 for Single Family and 861 for multi-family.

As shown in **Table 9**, the maximum allowable traffic impact fees are higher than the currently adopted Seal Beach fees, with the exception of the General Office category. Compared to fees in nearby jurisdictions, the maximum allowable fees are also generally higher. However, the maximum allowable fee for multi-family residential development (i.e., apartments/condominiums) and single-family residential development would still be lower than fees currently imposed by Huntington Beach for the same uses. Also, the General Office fee is lower in part due to declining ITE trip generation rates for that land use category.

Appendix A - California Mitigation Fee Act


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GOVERNMENT CODE - GOV

TITLE 7. PLANNING AND LAND USE [65000 - 66499.58] (*Heading of Title 7 amended by Stats. 1974, Ch. 1536.)*

DIVISION 1. PLANNING AND ZONING [65000 - 66342] (*Heading of Division 1 added by Stats. 1974, Ch. 1536.)*

CHAPTER 5. Fees for Development Projects [66000 - 66008] (*Chapter 5 added by Stats. 1987, Ch. 927, Sec. 1.)*

66000. As used in this chapter, the following terms have the following meanings:

- (a) "Development project" means any project undertaken for the purpose of development. "Development project" includes a project involving the issuance of a permit for construction or reconstruction, but not a permit to operate.
- (b) "Fee" means a monetary exaction other than a tax or special assessment, whether established for a broad class of projects by legislation of general applicability or imposed on a specific project on an ad hoc basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project, but does not include fees specified in Section 66477, fees for processing applications for governmental regulatory actions or approvals, fees collected under development agreements adopted pursuant to Article 2.5 (commencing with Section 65864) of Chapter 4, or fees collected pursuant to agreements with redevelopment agencies that provide for the redevelopment of property in furtherance or for the benefit of a redevelopment project for which a redevelopment plan has been adopted pursuant to the Community Redevelopment Law (Part 1 (commencing with Section 33000) of Division 24 of the Health and Safety Code).
- (c) "Local agency" means a county, city, whether general law or chartered, city and county, school district, special district, authority, agency, any other municipal public corporation or district, or other political subdivision of the state.
- (d) "Public facilities" includes public improvements, public services, and community amenities.

(Amended by Stats. 2006, Ch. 538, Sec. 319. Effective January 1, 2007.)

66000.5. (a) This chapter, Chapter 6 (commencing with Section 66010), Chapter 7 (commencing with Section 66012), Chapter 7.5 (commencing with Section 66015), Chapter 8 (commencing with Section 66016), and Chapter 9 (commencing with Section 66020) shall be known and may be cited as the Mitigation Fee Act.

(b) Any action brought in the superior court relating to the Mitigation Fee Act may be subject to a mediation proceeding conducted pursuant to Chapter 9.3 (commencing with Section 66030).

(Amended by Stats. 2020, Ch. 370, Sec. 179. (SB 1371) Effective January 1, 2021.)

66001. (a) In any action establishing, increasing, or imposing a fee as a condition of approval of a development project by a local agency, the local agency shall do all of the following:

- (1) Identify the purpose of the fee.
- (2) Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement plan as specified in Section 65403 or 66002, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged.
- (3) Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed.

(4) Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.

(b) In any action imposing a fee as a condition of approval of a development project by a local agency, the local agency shall determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.

(c) Upon receipt of a fee subject to this section, the local agency shall deposit, invest, account for, and expend the fees pursuant to Section 66006.

(d) (1) For the fifth fiscal year following the first deposit into the account or fund, and every five years thereafter, the local agency shall make all of the following findings with respect to that portion of the account or fund remaining unexpended, whether committed or uncommitted:

(A) Identify the purpose to which the fee is to be put.

(B) Demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

(C) Identify all sources and amounts of funding anticipated to complete financing in incomplete improvements identified in paragraph (2) of subdivision (a).

(D) Designate the approximate dates on which the funding referred to in subparagraph (C) is expected to be deposited into the appropriate account or fund.

(2) When findings are required by this subdivision, they shall be made in connection with the public information required by subdivision (b) of Section 66006. The findings required by this subdivision need only be made for moneys in possession of the local agency, and need not be made with respect to letters of credit, bonds, or other instruments taken to secure payment of the fee at a future date. If the findings are not made as required by this subdivision, the local agency shall refund the moneys in the account or fund as provided in subdivision (e).

(e) Except as provided in subdivision (f), when sufficient funds have been collected, as determined pursuant to subparagraph (F) of paragraph (1) of subdivision (b) of Section 66006, to complete financing on incomplete public improvements identified in paragraph (2) of subdivision (a), and the public improvements remain incomplete, the local agency shall identify, within 180 days of the determination that sufficient funds have been collected, an approximate date by which the construction of the public improvement will be commenced, or shall refund to the then current record owner or owners of the lots or units, as identified on the last equalized assessment roll, of the development project or projects on a prorated basis, the unexpended portion of the fee, and any interest accrued thereon. By means consistent with the intent of this section, a local agency may refund the unexpended revenues by direct payment, by providing a temporary suspension of fees, or by any other reasonable means. The determination by the governing body of the local agency of the means by which those revenues are to be refunded is a legislative act.

(f) If the administrative costs of refunding unexpended revenues pursuant to subdivision (e) exceed the amount to be refunded, the local agency, after a public hearing, notice of which has been published pursuant to Section 6061 and posted in three prominent places within the area of the development project, may determine that the revenues shall be allocated for some other purpose for which fees are collected subject to this chapter and which serves the project on which the fee was originally imposed.

(g) A fee shall not include the costs attributable to existing deficiencies in public facilities, but may include the costs attributable to the increased demand for public facilities reasonably related to the development project in order to (1) refurbish existing facilities to maintain the existing level of service or (2) achieve an adopted level of service that is consistent with the general plan.

(Amended by Stats. 2006, Ch. 194, Sec. 1. Effective January 1, 2007.)

66002. (a) Any local agency which levies a fee subject to Section 66001 may adopt a capital improvement plan, which shall indicate the approximate location, size, time of availability, and estimates of cost for all facilities or improvements to be financed with the fees.

(b) The capital improvement plan shall be adopted by, and shall be annually updated by, a resolution of the governing body of the local agency adopted at a noticed public hearing. Notice of the hearing shall be given pursuant to Section 65090. In addition, mailed notice shall be given to any city or county which may be significantly affected by the capital improvement plan. This notice shall be given no later than the date the local agency notices the public hearing pursuant to Section 65090. The information in the notice shall be not less than the information contained in the notice of public hearing and shall be given by first-class mail or personal delivery.

(c) "Facility" or "improvement," as used in this section, means any of the following:

- (1) Public buildings, including schools and related facilities; provided that school facilities shall not be included if Senate Bill 97 of the 1987–88 Regular Session is enacted and becomes effective on or before January 1, 1988.
- (2) Facilities for the storage, treatment, and distribution of nonagricultural water.
- (3) Facilities for the collection, treatment, reclamation, and disposal of sewage.
- (4) Facilities for the collection and disposal of storm waters and for flood control purposes.
- (5) Facilities for the generation of electricity and the distribution of gas and electricity.
- (6) Transportation and transit facilities, including but not limited to streets and supporting improvements, roads, overpasses, bridges, harbors, ports, airports, and related facilities.
- (7) Parks and recreation facilities.
- (8) Any other capital project identified in the capital facilities plan adopted pursuant to Section 66002.

(Added by Stats. 1987, Ch. 927, Sec. 1. Operative January 1, 1989, by Section 66003.)

66003. Sections 66001 and 66002 do not apply to a fee imposed pursuant to a reimbursement agreement by and between a local agency and a property owner or developer for that portion of the cost of a public facility paid by the property owner or developer which exceeds the need for the public facility attributable to and reasonably related to the development. This chapter shall become operative on January 1, 1989.

(Amended by Stats. 1989, Ch. 170, Sec. 2.)

66004. The establishment or increase of any fee pursuant to this chapter shall be subject to the requirements of Section 66018.

(Amended by Stats. 1990, Ch. 1572, Sec. 15.)

66005. (a) When a local agency imposes any fee or exaction as a condition of approval of a proposed development, as defined by Section 65927, or development project, those fees or exactions shall not exceed the estimated reasonable cost of providing the service or facility for which the fee or exaction is imposed.

(b) This section does not apply to fees or monetary exactions expressly authorized to be imposed under Sections 66475.1 and 66477.

(c) It is the intent of the Legislature in adding this section to codify existing constitutional and decisional law with respect to the imposition of development fees and monetary exactions on developments by local agencies. This section is declaratory of existing law and shall not be construed or interpreted as creating new law or as modifying or changing existing law.

(Added by renumbering Section 65959 by Stats. 1988, Ch. 418, Sec. 6.)

66005.1. (a) When a local agency imposes a fee on a housing development pursuant to Section 66001 for the purpose of mitigating vehicular traffic impacts, if that housing development satisfies all of the following characteristics, the fee, or the portion thereof relating to vehicular traffic impacts, shall be set at a rate that reflects a lower rate of automobile trip generation associated with such housing developments in comparison with housing developments without these characteristics, unless the local agency adopts findings after a public hearing establishing that the housing development, even with these characteristics, would not generate fewer automobile trips than a housing development without those characteristics:

- (1) The housing development is located within a transit priority area and the major transit stop, if planned, is programmed to be completed before or within one year from the scheduled completion and occupancy of the housing development.
- (2) Convenience retail uses, including a store that sells food, are located within one-half mile of the housing development.
- (3) The housing development provides either the minimum number of parking spaces required by the local ordinance, or no more than one onsite parking space for zero- to two-bedroom units, and two onsite parking spaces for three or more bedroom units, whichever is less.

(b) If a housing development does not satisfy the characteristics in subdivision (a), the local agency may charge a fee that is proportional to the estimated rate of automobile trip generation associated with the housing development.

(c) (1) A local agency shall not impose a land dedication requirement on a housing development pursuant to Section 66001 to widen a roadway if the land dedication requirement is for the purpose of mitigating vehicular traffic impacts, achieving an adopted traffic level of service related to vehicular traffic, or achieving a desired roadway width.

(2) Notwithstanding paragraph (1), a local agency may do any of the following:

(A) Impose a land dedication requirement on a housing development if both of the following conditions are met:

(i) The housing development is not located in a transit priority area.

(ii) The housing development has a linear street frontage of 500 feet or more.

(B) Discretionarily impose a land dedication requirement as a condition of approval of a specific housing development project for traffic safety features if the local agency makes a finding, specific to the housing development project and supported by substantial evidence, that the land dedication requirement is necessary to preserve the health, safety, and welfare of the public, including pedestrians, cyclists, and children.

(C) Impose a land dedication requirement to construct public improvements, including, but not limited to, sidewalk and sewer improvements.

(d) For purposes of this section:

(1) "Housing development" means a development project with common ownership and financing consisting of residential use or mixed use where not less than 50 percent of the floorspace is for residential use.

(2) "Land dedication" means a physical exaction of property for public use without compensation, whether imposed on an ad hoc or legislative basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project.

(3) "Major transit stop" has the meaning as the term is defined in Section 21064.3 of the Public Resources Code, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. "Major transit stop" includes planned major transit stops otherwise meeting this definition whose construction is programmed to be completed before or within one year from the scheduled completion and occupancy of the housing development.

(4) "Roadway" means the same as defined in Section 530 of the Vehicle Code.

(5) "Transit priority area" means the same as defined in paragraph (7) of subdivision (a) of Section 21099 of the Public Resources Code.

(e) This section shall become operative on January 1, 2011.

(Amended by Stats. 2024, Ch. 436, Sec. 1.5. (AB 3177) Effective January 1, 2025.)

66006. (a) If a local agency requires the payment of a fee specified in subdivision (c) in connection with the approval of a development project, the local agency receiving the fee shall deposit it with the other fees for the improvement in a separate capital facilities account or fund in a manner to avoid any commingling of the fees with other revenues and funds of the local agency, except for temporary investments, and expend those fees solely for the purpose for which the fee was collected. Any interest income earned by moneys in the capital facilities account or fund shall also be deposited in that account or fund and shall be expended only for the purpose for which the fee was originally collected.

(b) (1) For each separate account or fund established pursuant to subdivision (a), the local agency shall, within 180 days after the last day of each fiscal year, make available to the public the following information for the fiscal year:

(A) A brief description of the type of fee in the account or fund.

(B) The amount of the fee.

(C) The beginning and ending balance of the account or fund.

(D) The amount of the fees collected and the interest earned.

(E) An identification of each public improvement on which fees were expended and the amount of the expenditures on each improvement, including the total percentage of the cost of the public improvement that was funded with fees.

(F) (i) An identification of an approximate date by which the construction of the public improvement will commence if the local agency determines that sufficient funds have been collected to complete financing on an incomplete public improvement, as identified in paragraph (2) of subdivision (a) of Section 66001, and the public improvement remains incomplete.

(ii) An identification of each public improvement identified in a previous report pursuant to clause (i) and whether construction began on the approximate date noted in the previous report.

(iii) For a project identified pursuant to clause (ii) for which construction did not commence by the approximate date provided in the previous report, the reason for the delay and a revised approximate date that the local agency will commence construction.

(G) A description of each interfund transfer or loan made from the account or fund, including the public improvement on which the transferred or loaned fees will be expended, and, in the case of an interfund loan, the date on which the loan will be repaid, and the rate of interest that the account or fund will receive on the loan.

(H) The amount of refunds made pursuant to subdivision (e) of Section 66001, the number of persons or entities identified to receive those refunds, and any allocations pursuant to subdivision (f) of Section 66001.

(2) The local agency shall review the information made available to the public pursuant to paragraph (1) at the next regularly scheduled public meeting not less than 15 days after this information is made available to the public, as required by this subdivision. Notice of the time and place of the meeting, including the address where this information may be reviewed, shall be mailed, at least 15 days prior to the meeting, to any interested party who files a written request with the local agency for mailed notice of the meeting. Any written request for mailed notices shall be valid for one year from the date on which it is filed unless a renewal request is filed. Renewal requests for mailed notices shall be filed on or before April 1 of each year. The legislative body may establish a reasonable annual charge for sending notices based on the estimated cost of providing the service.

(c) For purposes of this section, "fee" means any fee imposed to provide for an improvement to be constructed to serve a development project, or which is a fee for public improvements within the meaning of subdivision (b) of Section 66000, and that is imposed by the local agency as a condition of approving the development project.

(d) Any person may request an audit of any local agency fee or charge that is subject to Section 66023, including fees or charges of school districts, in accordance with that section.

(e) (1) A local agency shall inform a person paying a fee subject to this section of both of the following:

(A) The person's right to request an audit pursuant to Section 66023.

(B) The person's right, pursuant to paragraph (1) of subdivision (b), to file a written request for mailed notice of the local agency's meeting to review the information made public pursuant to paragraph (1) of subdivision (b).

(2) A local agency shall provide a person paying a fee subject to this section a link to the page on the local agency's internet website where the information made public pursuant to paragraph (1) of subdivision (b) is available for review.

(f) The Legislature finds and declares that untimely or improper allocation of development fees hinders economic growth and is, therefore, a matter of statewide interest and concern. It is, therefore, the intent of the Legislature that this section shall supersede all conflicting local laws and shall apply in charter cities.

(g) At the time the local agency imposes a fee for public improvements on a specific development project, it shall identify the public improvement that the fee will be used to finance.

(Amended by Stats. 2023, Ch. 741, Sec. 1. (AB 516) Effective January 1, 2024.)

66006.5. (a) A city or county which imposes an assessment, fee, or charge, other than a tax, for transportation purposes may, by ordinance, prescribe conditions and procedures allowing real property which is needed by the city

or county for local transportation purposes, or by the state for transportation projects which will not receive any federal funds, to be donated by the obligor in satisfaction or partial satisfaction of the assessment, fee, or charge.

(b) To facilitate the implementation of subdivision (a), the Department of Transportation shall do all of the following:

- (1) Give priority to the refinement, modification, and enhancement of procedures and policies dealing with right-of-way donations in order to encourage and facilitate those donations.
- (2) Reduce or simplify paperwork requirements involving right-of-way procurement.
- (3) Increase communication and education efforts as a means to solicit and encourage voluntary right-of-way donations.
- (4) Enhance communication and coordination with local public entities through agreements of understanding that address state acceptance of right-of-way donations.

(Added by Stats. 1989, Ch. 857, Sec. 2.)

66007. (a) Except as otherwise provided in subdivisions (b) and (h), any local agency that imposes any fees or charges on a residential development for the construction of public improvements or facilities shall not require the payment of those fees or charges, notwithstanding any other provision of law, until the date of the final inspection, or the date the certificate of occupancy is issued, whichever occurs first. However, utility service fees related to connections may be collected at the time an application for service is received, provided that those fees do not exceed the costs incurred by the utility provider resulting from the connection activities. If the residential development contains more than one dwelling, the local agency may determine whether the fees or charges shall be paid on a pro rata basis for each dwelling when it receives its final inspection or certificate of occupancy, whichever occurs first; on a pro rata basis when a certain percentage of the dwellings have received their final inspection or certificate of occupancy, whichever occurs first; or on a lump-sum basis when the first dwelling in the development receives its final inspection or certificate of occupancy, whichever occurs first.

(b) (1) Notwithstanding subdivision (a), the local agency may require the payment of those fees or charges at an earlier time if (A) the local agency determines that the fees or charges will be collected for public improvements or facilities for which an account has been established and funds appropriated and for which the local agency has adopted a proposed construction schedule or plan before final inspection or issuance of the certificate of occupancy or (B) the fees or charges are to reimburse the local agency for expenditures previously made. "Appropriated," as used in this subdivision, means authorization by the governing body of the local agency for which the fee is collected to make expenditures and incur obligations for specific purposes.

(2) (A) Paragraph (1) does not apply to units reserved for occupancy by lower income households included in a residential development proposed by a housing developer in which at least 49 percent of the total units are reserved for occupancy by lower income households, as defined in Section 50079.5 of the Health and Safety Code, at an affordable rent, as defined in Section 50053 of the Health and Safety Code. In addition to the contract that may be required under subdivision (d), a city, county, or city and county may require the posting of a performance bond or a letter of credit from a federally insured, recognized depository institution to guarantee payment of any fees or charges that are subject to this paragraph. Fees and charges exempted from paragraph (1) under this paragraph shall become immediately due and payable when the residential development no longer meets the requirements of this paragraph.

(B) The exception provided in subparagraph (A) does not apply to fees and charges levied pursuant to Chapter 6 (commencing with Section 17620) of Part 10.5 of Division 1 of Title 1 of the Education Code.

(c) All of the following apply to designated residential development projects:

(1) If a local agency imposes any fees or charges on the residential development for the construction of public improvements or facilities, then all of the following conditions apply:

(A) (i) Notwithstanding any other law, the local agency shall not require the payment of those fees or charges until the date the first certificate of occupancy or first temporary certificate of occupancy is issued, whichever occurs first.

(ii) Notwithstanding clause (i), utility service fees related to connections may be collected at the time an application for service is received, provided that those fees do not exceed the costs incurred by the utility provider resulting from the connection activities.

(iii) Clause (i) shall not apply if construction of the residential development does not begin within five years of the date upon which the building permit is issued.

(B) The amount of the fees and charges shall be the same amount as would have been paid had the fees and charges been paid prior to the issuance of building permits, and the local agency shall not charge interest or other fees on any amount deferred pursuant to this paragraph.

(C) If the development contains more than one dwelling, the local agency may determine whether the fees or charges described shall be paid on a pro rata basis for each dwelling when it receives its certificate of occupancy, on a pro rata basis when a certain percentage of the dwellings have received their certificate of occupancy, or on a lump-sum basis when all the dwellings in the development receive their certificate of occupancy.

(D) Notwithstanding any other law, the local agency may withhold a certificate of occupancy or a temporary certificate of occupancy until payment of those fees or charges is received.

(2) (A) Notwithstanding paragraph (1), the local agency may require the payment of those fees or charges at an earlier time if either of the following conditions is met:

(i) The fees or charges are to reimburse the local agency for expenditures previously made to the extent those expenditures have not been paid or reimbursed by another party.

(ii) The local agency determines both of the following:

(I) The fees or charges will be collected for any of the following public improvements or facilities:

(ia) Public improvements or facilities related to providing water service to the residential development.

(ib) Public improvements or facilities related to providing sewer or wastewater service to the residential development.

(ic) Public improvements or facilities related to providing fire, public safety, and emergency services to the residential development.

(id) Roads, sidewalks, or other public improvements or facilities for the transportation of people that serve the development, including the acquisition of all property, easements, and rights-of-way that may be required to carry out the improvements or facilities.

(ie) Construction and rehabilitation of school facilities, if the school district governing board has approved a five-year school facilities master plan pursuant to subdivision (a) of Section 17070.54 of the Education Code. For purposes of this section, if the school district does not intend to participate in the school facilities program pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10 of Division 1 of Title 1 of the Education Code, the school district is not required to submit the five-year school facilities master plan to the Department of General Services and the five-year school facilities master plan is not required to include information specific to the school facilities program pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10 of Division 1 of Title 1 of the Education Code.

(II) An account has been established and funds appropriated for the public improvements or facilities described in subclause (I). "Appropriated," as used in this subclause, means authorization by the governing body of the local agency for which the fee is collected to make expenditures and incur obligations for specific purposes.

(B) (i) Subparagraph (A) does not apply to units reserved for occupancy by lower income households included in a residential development proposed by a housing developer in which at least 49 percent of the total units are reserved for occupancy by lower income households, as defined in Section 50079.5 of the Health and Safety Code, at an affordable rent, as defined in Section 50053 of the Health and Safety Code. Fees and charges exempted from subparagraph (A) under this subparagraph shall become immediately due and payable when the residential development no longer meets the requirements of this subparagraph.

(ii) The exception provided in clause (i) does not apply to fees and charges levied pursuant to Chapter 6 (commencing with Section 17620) of Part 10.5 of Division 1 of Title 1 of the Education Code.

(iii) (I) The developer may elect to post a performance bond or a letter of credit from a federally insured, recognized depository institution to guarantee payment of any fees or charges that are subject to this subparagraph.

(II) If the developer does not post a performance bond or letter of credit pursuant to subclause (I), the city, county, or city and county may collect any fees and charges subject to this subparagraph that are not paid at the time the first certificate of occupancy or first temporary certificate of occupancy is issued, whichever occurs first, in accordance with the following procedure:

(ia) On or before August 10 of each year, the building official of the local agency shall furnish in writing to the county auditor a description of each parcel of land for which a performance bond or letter of credit has not been posted within the local agency's jurisdiction upon which fees or charges are unpaid and the amount of the unpaid fees or charges.

(ib) The amount of the unpaid fees or charges shall constitute a lien upon the land for which the fees or charges are unpaid.

(ic) The unpaid fees or charges shall be collected in the same manner and at the same time as county ad valorem taxes.

(id) The unpaid fees or charges shall be subject to the same penalties, lien priority, and procedure and sale in case of delinquency that apply to county ad valorem taxes.

(ie) All laws applicable to the levy, collection, and enforcement of county ad valorem taxes shall be applicable to the unpaid fees and charges.

(iv) Clause (iii) does not apply to projects that dedicate 100 percent of units, exclusive of a manager's unit or units, to lower income households, as defined by Section 50079.5 of the Health and Safety Code, and have a recorded regulatory agreement with the California Tax Credit Allocation Committee, the California Debt Limit Allocation Committee, or the Department of Housing and Community Development.

(3) If the local agency does not issue certificates of occupancy for the type of residential developments described in this subdivision, the final inspection shall serve as the certificate of occupancy.

(4) For purposes of this subdivision, "designated residential development project" means a residential development project that meets any of the following conditions:

(A) The project dedicates 100 percent of units, exclusive of a manager's unit or units, to lower income households, as defined by Section 50079.5 of the Health and Safety Code.

(B) The project meets the requirements described in Section 65662.

(C) The project is approved by a local government pursuant to Article 2 (commencing with Section 65912.110) or Article 3 (commencing with Section 65912.120) of Chapter 4.1.

(D) The project meets the requirements described in subdivision (a) of Section 65913.4.

(E) The project meets the criteria described in subdivision (c) of Section 65913.16.

(F) The project is entitled to a density bonus pursuant to subdivision (b) of Section 65915.

(G) The project includes 10 or fewer units.

(d) (1) If any fee or charge specified in subdivision (a) or (c) is not fully paid prior to issuance of a building permit for construction of any portion of the residential development encumbered thereby, the local agency issuing the building permit may require the property owner, or lessee if the lessee's interest appears of record, as a condition of issuance of the building permit, to execute a contract to pay the fee or charge, or applicable portion thereof, within the time specified in subdivision (a) or (c). If the fee or charge is prorated pursuant to subdivision (a) or (c), the obligation under the contract shall be similarly prorated.

(2) The obligation to pay the fee or charge shall inure to the benefit of, and be enforceable by, the local agency that imposed the fee or charge, regardless of whether it is a party to the contract. The contract shall contain a legal description of the property affected, shall be recorded in the office of the county recorder of the county and, from the date of recordation, shall constitute a lien for the payment of the fee or charge, which shall be enforceable against successors in interest to the property owner or lessee at the time of issuance of the building

permit. The contract shall be recorded in the grantor-grantee index in the name of the public agency issuing the building permit as grantee and in the name of the property owner or lessee as grantor. The local agency shall record a release of the obligation, containing a legal description of the property, in the event the obligation is paid in full, or a partial release in the event the fee or charge is prorated pursuant to subdivision (a) or (c).

(3) The contract may require the property owner or lessee to provide appropriate notification of the opening of any escrow for the sale of the property for which the building permit was issued and to provide in the escrow instructions that the fee or charge be paid to the local agency imposing the same from the sale proceeds in escrow prior to disbursing proceeds to the seller.

(4) The governing body of a local agency may authorize an officer or employee of the local agency to approve and execute contracts under this subdivision on behalf of the local agency.

(5) Before requiring execution of a contract under this subdivision, the local agency shall post a model form of contract on its internet website, if it maintains an internet website.

(e) This section applies only to fees collected by a local agency to fund the construction of public improvements or facilities. It does not apply to fees collected to cover the cost of code enforcement or inspection services, or to other fees collected to pay for the cost of enforcement of local ordinances or state law.

(f) "Final inspection," "temporary certificate of occupancy," or "certificate of occupancy," as used in this section, has the same meaning as described in Sections 305 and 307 of the Uniform Building Code, International Conference of Building Officials, 1985 edition.

(g) Methods of complying with the requirement in subdivision (b) that a proposed construction schedule or plan be adopted, include, but are not limited to, (1) the adoption of the capital improvement plan described in Section 66002, or (2) the submittal of a five-year school facilities master plan approved by the applicable school district governing board pursuant to subdivision (a) of Section 17070.54 of the Education Code. For purposes of this section, if the school district does not intend to participate in the school facilities program pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10 of Division 1 of Title 1 of the Education Code, the school district is not required to submit the five-year school facilities master plan to the Department of General Services and the five-year school facilities master plan is not required to include information specific to the school facilities program pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10 of Division 1 of Title 1 of the Education Code.

(h) A local agency may defer the collection of one or more fees up to the close of escrow. This subdivision shall not apply to fees and charges levied pursuant to Chapter 6 (commencing with Section 17620) of Part 10.5 of Division 1 of Title 1 of the Education Code.

(Amended by Stats. 2025, Ch. 8, Sec. 56. (AB 121) Effective June 27, 2025.)

66008. A local agency shall expend a fee for public improvements, as accounted for pursuant to Section 66006, solely and exclusively for the purpose or purposes, as identified in subdivision (g) of Section 66006, for which the fee was collected. The fee shall not be levied, collected, or imposed for general revenue purposes.

(Amended by Stats. 2023, Ch. 741, Sec. 2. (AB 516) Effective January 1, 2024.)

Appendix B - Traffic Count Data

National Data & Surveying Services

Intersection Turning Movement Count

Location: Apollo Dr & Westminster Blvd
City: Seal Beach
Control: Signalized

Project ID: 25-010017-001
Date: 2/25/2025

Data - Totals

NS/EW Streets:	Apollo Dr				Apollo Dr				Westminster Blvd				Westminster Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	4	0	2	0	0	0	0	0	0	149	21	0	23	122	0	1	322
7:15 AM	1	0	3	0	0	0	0	0	0	150	22	0	51	156	0	1	384
7:30 AM	3	0	5	0	0	0	0	0	0	180	11	0	32	259	0	2	492
7:45 AM	2	0	6	0	0	0	0	0	0	214	19	0	40	303	0	2	586
8:00 AM	3	0	2	0	0	0	0	0	0	189	14	0	48	245	0	0	501
8:15 AM	3	0	4	0	0	0	0	0	0	188	15	0	49	232	0	2	493
8:30 AM	1	0	4	0	0	0	0	0	0	147	8	0	24	235	0	2	421
8:45 AM	1	0	2	0	0	0	0	0	0	156	8	0	32	286	0	2	487
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	18	0	28	0	0	0	0	0	0	1373	118	0	299	1838	0	12	3686
	39.13%	0.00%	60.87%	0.00%					0.00%	92.09%	7.91%	0.00%	13.91%	85.53%	0.00%	0.56%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	11	0	17	0	0	0	0	0	0	771	59	0	169	1039	0	6	2072
PEAK HR FACTOR :	0.917	0.000	0.708	0.000	0.000	0.000	0.000	0.000	0.000	0.901	0.776	0.000	0.862	0.857	0.000	0.750	0.884
	0.875								0.891				0.880				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:00 PM	40	0	28	0	0	0	0	0	0	196	1	0	12	245	0	0	522
4:15 PM	22	0	14	0	0	0	0	0	0	190	2	0	5	221	0	0	454
4:30 PM	36	0	25	0	0	0	0	0	0	206	4	0	8	275	0	0	554
4:45 PM	18	0	20	0	0	0	0	0	0	199	4	0	5	245	0	0	491
5:00 PM	66	0	39	0	0	0	0	0	0	201	1	0	8	247	0	0	562
5:15 PM	26	0	15	0	0	0	0	0	0	253	4	1	18	260	0	1	578
5:30 PM	30	0	19	0	0	0	0	0	0	199	0	0	25	198	0	0	471
5:45 PM	36	0	25	0	0	0	0	0	0	212	8	0	56	218	0	0	555
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	274	0	185	0	0	0	0	0	0	1656	24	1	137	1909	0	1	4187
	59.69%	0.00%	40.31%	0.00%					0.00%	98.51%	1.43%	0.06%	6.69%	93.26%	0.00%	0.05%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	146	0	99	0	0	0	0	0	0	859	13	1	39	1027	0	1	2185
PEAK HR FACTOR :	0.553	0.000	0.635	0.000	0.000	0.000	0.000	0.000	0.000	0.849	0.813	0.250	0.542	0.934	0.000	0.250	0.945
	0.583								0.846				0.943				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Apollo Dr & Westminster Blvd
City: Seal Beach
Control: Signalized

Project ID: 25-010017-001
Date: 2/25/2025

Data - Bikes

NS/EW Streets:	Apollo Dr				Apollo Dr				Westminster Blvd				Westminster Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	7	3	0	0	2	0	0	12
PEAK HR :	07:30 AM - 08:30 AM								0.00% 70.00% 30.00% 0.00%				0.00% 100.00% 0.00% 0.00%				
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	5
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.313
	0.250								0.250				0.250				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	12
PEAK HR :	04:30 PM - 05:30 PM								0.00% 100.00% 0.00% 0.00%				0.00% 100.00% 0.00% 0.00%				
PEAK HR VOL :	2	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	9
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.333	0.000	0.000	0.375
	0.250								0.750				0.333				

Location: Apollo Dr & Westminster Blvd
City: Seal Beach

Data - Pedestrians (Crosswalks)

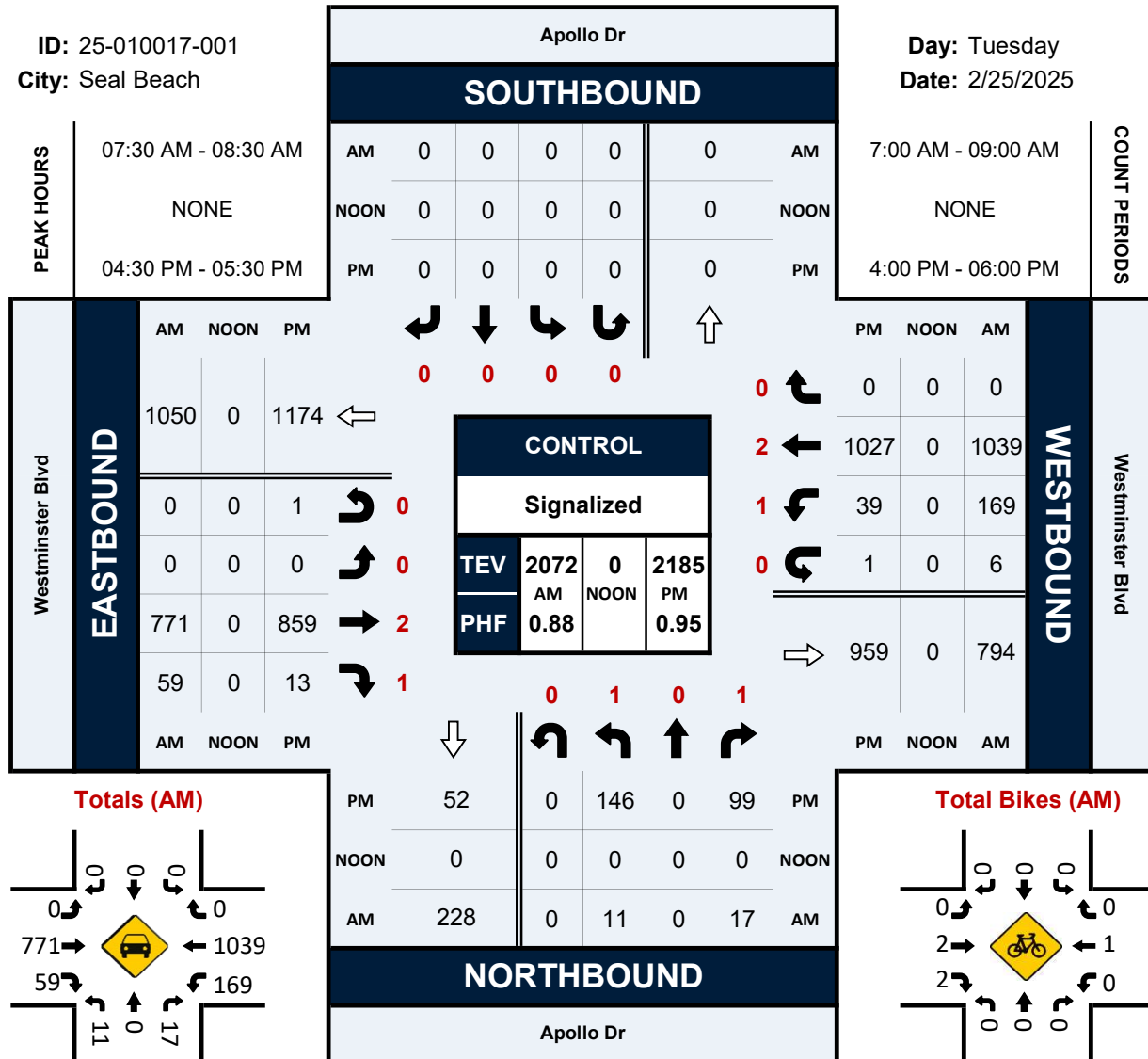
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	EB	WB	EB	WB	NB	SB	NB	SB	
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4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	1	0	0	0	0	0	1
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 2 50.00%	WB 2 50.00%	NB 0	SB 0	NB 0	SB 0	TOTAL 4
	PEAK HR : 04:30 PM - 05:30 PM								TOTAL 2
PEAK HR VOL : PEAK HR FACTOR :	0 0		1 0.250 0.250 0.500		0 0		0 0		0.500

Apollo Dr & Westminster Blvd

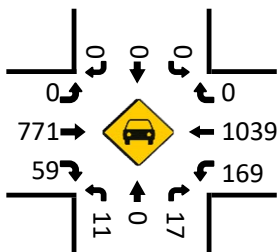
Peak Hour Turning Movement Count

ID: 25-010017-001
City: Seal Beach

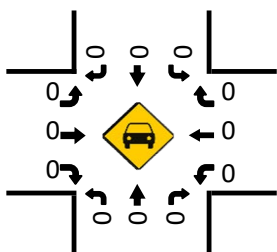
Day: Tuesday
Date: 2/25/2025



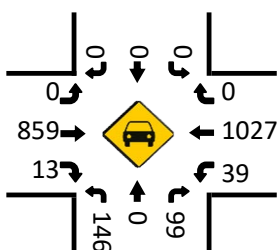
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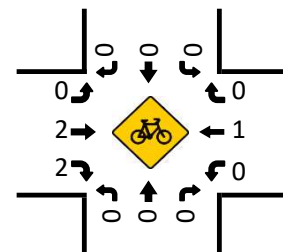
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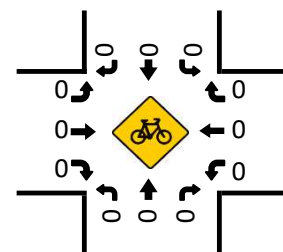
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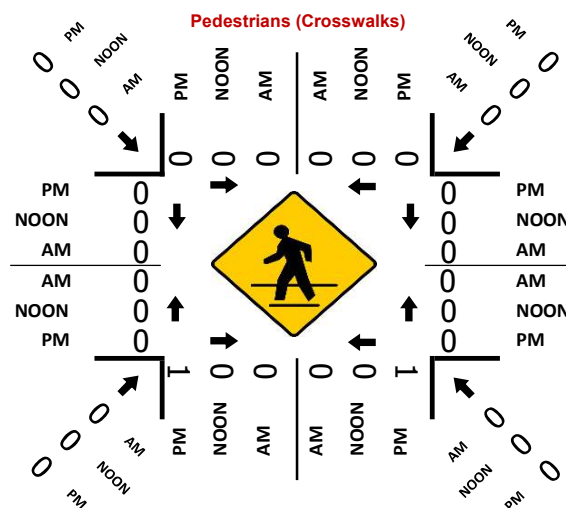
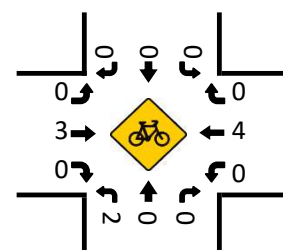
Total Bikes (AM)



Total Bikes (NOON)



Total Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: 5th St & Marina Dr
City: Seal Beach
Control: 4-Way Stop

Project ID: 25-010017-004
Date: 2/25/2025

Data - Totals

NS/EW Streets:	5th St				5th St				Marina Dr				Marina Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	7:00 AM	0	3	3	0	2	4	1	0	1	18	0	0	4	7	7	0
	7:15 AM	0	7	5	0	3	4	0	0	5	17	0	0	2	14	11	0
	7:30 AM	1	13	2	0	0	8	0	0	7	21	0	0	3	15	13	0
	7:45 AM	0	9	1	0	4	7	4	0	3	19	2	0	2	18	8	0
	8:00 AM	0	10	1	0	4	3	4	0	3	22	1	0	3	20	17	0
	8:15 AM	1	2	6	0	4	7	4	0	3	16	2	0	2	31	9	0
	8:30 AM	2	8	0	0	2	8	2	0	2	13	0	0	2	20	13	0
	8:45 AM	0	7	1	0	3	7	7	0	3	19	0	0	2	28	7	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	4	59	19	0	22	48	22	0	27	145	5	0	20	153	85	0	609
PEAK HR :	07:30 AM - 08:30 AM				12	25	12	0	16	78	5	0	10	84	47	0	TOTAL
PEAK HR VOL :	2	34	10	0	12	25	12	0	16	78	5	0	10	84	47	0	335
PEAK HR FACTOR :	0.500	0.654	0.417	0.000	0.750	0.781	0.750	0.000	0.571	0.886	0.625	0.000	0.833	0.677	0.691	0.000	0.952
	0.719				0.817				0.884				0.839				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	4:00 PM	1	9	9	1	10	7	5	0	4	23	1	1	6	35	21	0
	4:15 PM	1	11	3	0	9	10	5	1	4	29	2	0	5	38	14	0
	4:30 PM	1	13	5	0	9	6	6	0	6	27	2	0	8	26	13	0
	4:45 PM	2	13	3	0	3	11	7	0	7	41	3	0	6	45	13	0
	5:00 PM	1	17	1	0	7	9	10	0	7	23	3	0	10	45	19	0
	5:15 PM	0	15	5	0	5	5	12	0	5	26	4	0	3	42	14	0
	5:30 PM	2	18	2	0	2	9	3	0	6	21	2	0	15	30	15	0
	5:45 PM	3	10	7	0	5	16	14	0	8	29	1	1	6	35	12	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	11	106	35	1	50	73	62	1	47	219	18	2	59	296	121	0	1101
PEAK HR :	04:45 PM - 05:45 PM				17	34	32	0	25	111	12	0	34	162	61	0	TOTAL
PEAK HR VOL :	5	63	11	0	17	34	32	0	25	111	12	0	34	162	61	0	567
PEAK HR FACTOR :	0.625	0.875	0.550	0.000	0.607	0.773	0.667	0.000	0.893	0.677	0.750	0.000	0.567	0.900	0.803	0.000	0.920
	0.898				0.798				0.725				0.868				

National Data & Surveying Services

Intersection Turning Movement Count

Location: 5th St & Marina Dr
City: Seal Beach
Control: 4-Way Stop

Project ID: 25-010017-004
Date: 2/25/2025

Data - Bikes

NS/EW Streets:	5th St				5th St				Marina Dr				Marina Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	
TOTAL VOLUMES :	0	1	2	0	0	0	1	0	0	2	0	0	0	4	1	0	TOTAL
APPROACH %'s :	0.00%	33.33%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	11
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.375
					0.250				0.250				0.250				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	0	1	0	0	0	0	2	0	0	0	0	0	0	1	1	0	
	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	
	0	0	0	0	0	1	0	0	0	0	0	0	0	3	1	0	
	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	
	0	0	0	0	1	1	0	0	0	1	0	0	0	2	0	0	
	0	0	0	0	0	1	0	0	2	0	0	0	0	1	1	0	
	1	0	0	0	5	0	0	0	0	1	0	0	0	0	2	0	
TOTAL VOLUMES :	1	1	0	0	7	4	3	0	2	4	0	0	0	9	5	0	TOTAL
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	50.00%	28.57%	21.43%	0.00%	33.33%	66.67%	0.00%	0.00%	0.00%	64.29%	35.71%	0.00%	36
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	2	4	0	0	2	1	0	0	0	7	2	0	18
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	1.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.583	0.500	0.000	0.900
					0.750				0.375				0.563				

National Data & Surveying Services
Intersection Turning Movement Count

Location: 5th St & Marina Dr
City: Seal Beach

Project ID: 25-010017-004
Date: 2/25/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	5th St		5th St		Marina Dr		Marina Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	1	1	0	3	0	0	2	0	7
7:15 AM	0	1	3	2	0	1	0	2	9
7:30 AM	0	0	3	3	0	0	1	3	10
7:45 AM	0	0	0	2	0	3	1	1	7
8:00 AM	0	0	3	3	0	0	3	1	10
8:15 AM	0	0	2	5	1	0	0	1	9
8:30 AM	0	1	2	4	0	2	2	4	15
8:45 AM	1	1	0	5	2	1	1	0	11
TOTAL VOLUMES :	EB 2	WB 4	EB 13	WB 27	NB 3	SB 7	NB 10	SB 12	TOTAL 78
APPROACH %'s :	33.33%	66.67%	32.50%	67.50%	30.00%	70.00%	45.45%	54.55%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	8	13	1	3	5	6	36
PEAK HR FACTOR :			0.667	0.650	0.250	0.250	0.417	0.500	0.900
			0.750		0.333		0.688		

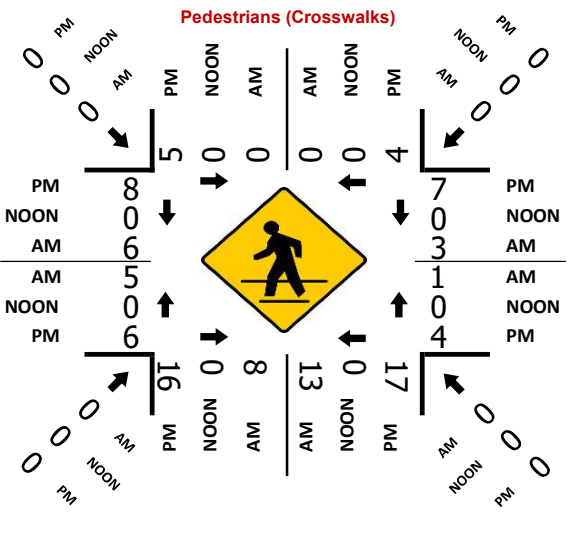
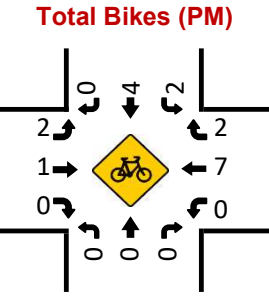
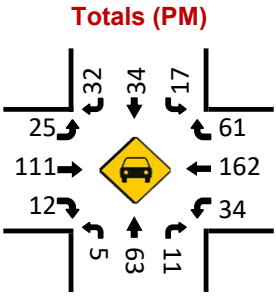
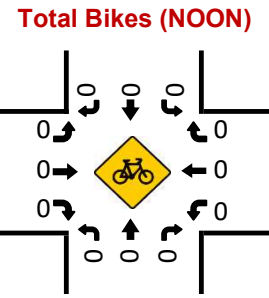
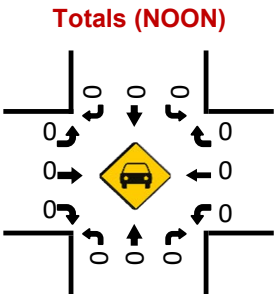
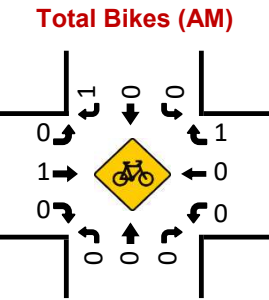
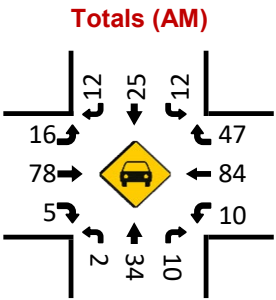
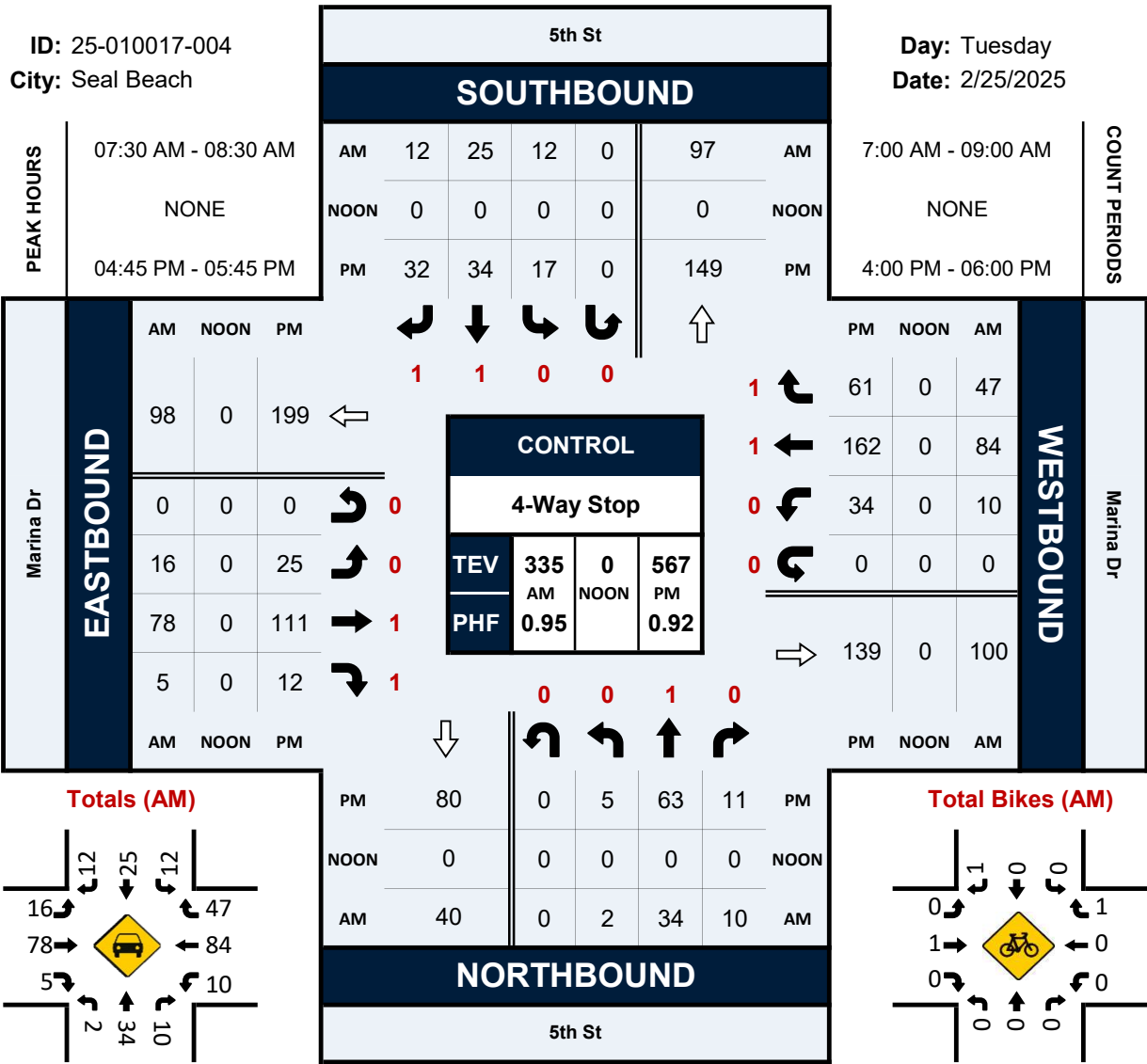
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	1	0	5	4	1	2	1	2	16
4:15 PM	2	0	4	7	0	5	4	5	27
4:30 PM	4	2	3	2	0	0	1	2	14
4:45 PM	0	2	6	4	0	1	2	1	16
5:00 PM	2	0	1	4	0	2	4	3	16
5:15 PM	2	1	2	3	4	1	0	2	15
5:30 PM	1	1	7	6	0	3	0	2	20
5:45 PM	3	0	2	4	1	1	3	0	14
TOTAL VOLUMES :	EB 15	WB 6	EB 30	WB 34	NB 6	SB 15	NB 15	SB 17	TOTAL 138
APPROACH %'s :	71.43%	28.57%	46.88%	53.13%	28.57%	71.43%	46.88%	53.13%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	5	4	16	17	4	7	6	8	67
PEAK HR FACTOR :	0.625	0.500	0.571	0.708	0.250	0.583	0.375	0.667	0.838
	0.750		0.635		0.550		0.500		

5th St & Marina Dr

Peak Hour Turning Movement Count

ID: 25-010017-004
City: Seal Beach

Day: Tuesday
Date: 2/25/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: 1st St & Marina Dr
City: Seal Beach
Control: 4-Way Stop

Project ID: 25-010017-003
Date: 2/25/2025

Data - Totals

NS/EW Streets:	1st St				1st St				Marina Dr				Marina Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	1 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
7:00 AM	7	12	3	0	0	3	0	0	3	10	7	0	0	6	15	0	66
7:15 AM	7	7	4	0	5	6	0	0	2	10	7	0	1	10	8	0	67
7:30 AM	9	3	2	0	0	0	0	0	4	14	7	0	0	18	10	0	67
7:45 AM	10	12	2	0	7	4	1	0	2	24	8	0	4	19	12	0	105
8:00 AM	10	4	1	0	2	6	2	0	0	24	8	0	4	12	13	0	86
8:15 AM	7	9	2	0	9	6	2	0	1	22	5	0	5	19	7	0	94
8:30 AM	11	5	1	0	6	3	2	0	2	15	2	0	0	19	15	1	82
8:45 AM	8	7	1	0	11	3	1	0	0	20	7	0	2	19	5	0	84
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	47.92%	59	16	0	40	31	8	0	14	139	51	0	16	122	85	1	651
PEAK HR :	07:45 AM - 08:45 AM				50.63%	39.24%	10.13%	0.00%	6.86%	68.14%	25.00%	0.00%	7.14%	54.46%	37.95%	0.45%	
PEAK HR VOL :	38	30	6	0	24	19	7	0	5	85	23	0	13	69	47	1	TOTAL
PEAK HR FACTOR :	0.864	0.625	0.750	0.000	0.667	0.792	0.875	0.000	0.625	0.885	0.719	0.000	0.650	0.908	0.783	0.250	367
	0.771				0.735				0.831				0.929				0.874

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	1 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
4:00 PM	19	11	1	0	5	5	5	0	3	34	25	0	3	34	10	0	155
4:15 PM	8	5	5	0	7	6	3	0	5	24	18	0	7	30	12	0	130
4:30 PM	9	12	1	0	11	12	6	0	4	35	18	0	1	30	13	0	152
4:45 PM	15	11	4	0	5	6	3	0	4	41	16	0	6	42	24	0	177
5:00 PM	18	8	2	0	8	2	6	0	6	32	16	0	8	49	8	0	163
5:15 PM	23	9	2	0	5	4	5	0	1	29	20	0	6	42	12	1	159
5:30 PM	6	8	4	0	7	9	5	0	5	25	19	0	5	20	16	1	130
5:45 PM	13	11	4	0	9	9	1	0	5	31	19	0	10	27	8	0	147
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	53.11%	75	23	0	57	53	34	0	33	251	151	0	46	274	103	2	1213
PEAK HR :	04:30 PM - 05:30 PM				39.58%	36.81%	23.61%	0.00%	7.59%	57.70%	34.71%	0.00%	10.82%	64.47%	24.24%	0.47%	
PEAK HR VOL :	65	40	9	0	29	24	20	0	15	137	70	0	21	163	57	1	TOTAL
PEAK HR FACTOR :	0.707	0.833	0.563	0.000	0.659	0.500	0.833	0.000	0.625	0.835	0.875	0.000	0.656	0.832	0.594	0.250	651
	0.838				0.629				0.910				0.840				0.919

National Data & Surveying Services

Intersection Turning Movement Count

Location: 1st St & Marina Dr
City: Seal Beach
Control: 4-Way Stop

Project ID: 25-010017-003
Date: 2/25/2025

Data - Bikes

NS/EW Streets:	1st St				1st St				Marina Dr				Marina Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	1 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	1	2	0	0	1	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
7:45 AM	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:00 AM	2	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	2	1	0	0	2	0	0	5
8:45 AM	3	0	0	0	0	0	0	0	0	1	1	0	0	3	0	0	8
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	9	0	1	0	0	0	0	0	1	6	12	0	0	7	0	0	36
	90.00%	0.00%	10.00%	0.00%					5.26%	31.58%	63.16%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	6	0	1	0	0	0	0	0	1	2	5	0	0	3	0	0	18
PEAK HR FACTOR :	0.375	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.313	0.000	0.000	0.375	0.000	0.000	0.900
	0.438								0.500				0.375				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	1 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
4:00 PM	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5
4:15 PM	0	0	0	0	0	0	1	0	0	4	1	0	0	1	1	0	8
4:30 PM	2	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	5
4:45 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	4
5:00 PM	2	1	0	0	0	0	0	0	2	1	0	0	0	0	1	0	7
5:15 PM	1	0	0	0	0	0	1	0	1	2	0	0	0	2	0	0	7
5:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	3
5:45 PM	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	10	1	0	0	0	0	2	0	5	12	3	0	0	7	2	0	42
	90.91%	9.09%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	25.00%	60.00%	15.00%	0.00%	0.00%	77.78%	22.22%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	6	1	0	0	0	0	1	0	3	5	1	0	0	5	1	0	23
PEAK HR FACTOR :	0.750	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.375	0.625	0.250	0.000	0.000	0.625	0.250	0.000	0.821
	0.583				0.250				0.750				0.750				

National Data & Surveying Services
Intersection Turning Movement Count

Location: 1st St & Marina Dr
City: Seal Beach

Project ID: 25-010017-003
Date: 2/25/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	1st St		1st St		Marina Dr		Marina Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	1	3	1	2	2	0	0	0	9
7:15 AM	1	3	1	1	1	1	0	4	12
7:30 AM	0	0	1	1	0	1	1	1	5
7:45 AM	3	0	1	2	1	0	4	2	13
8:00 AM	0	0	0	0	0	0	1	0	1
8:15 AM	1	3	1	6	0	1	2	2	16
8:30 AM	0	1	2	1	0	1	1	0	6
8:45 AM	3	3	0	4	0	2	1	2	15
TOTAL VOLUMES :	EB 9	WB 13	EB 7	WB 17	NB 4	SB 6	NB 10	SB 11	TOTAL 77
APPROACH %'s :	40.91%	59.09%	29.17%	70.83%	40.00%	60.00%	47.62%	52.38%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	4	4	4	9	1	2	8	4	36
PEAK HR FACTOR :	0.333	0.333	0.500	0.375	0.250	0.500	0.500	0.500	0.563
	0.500		0.464		0.750		0.500		

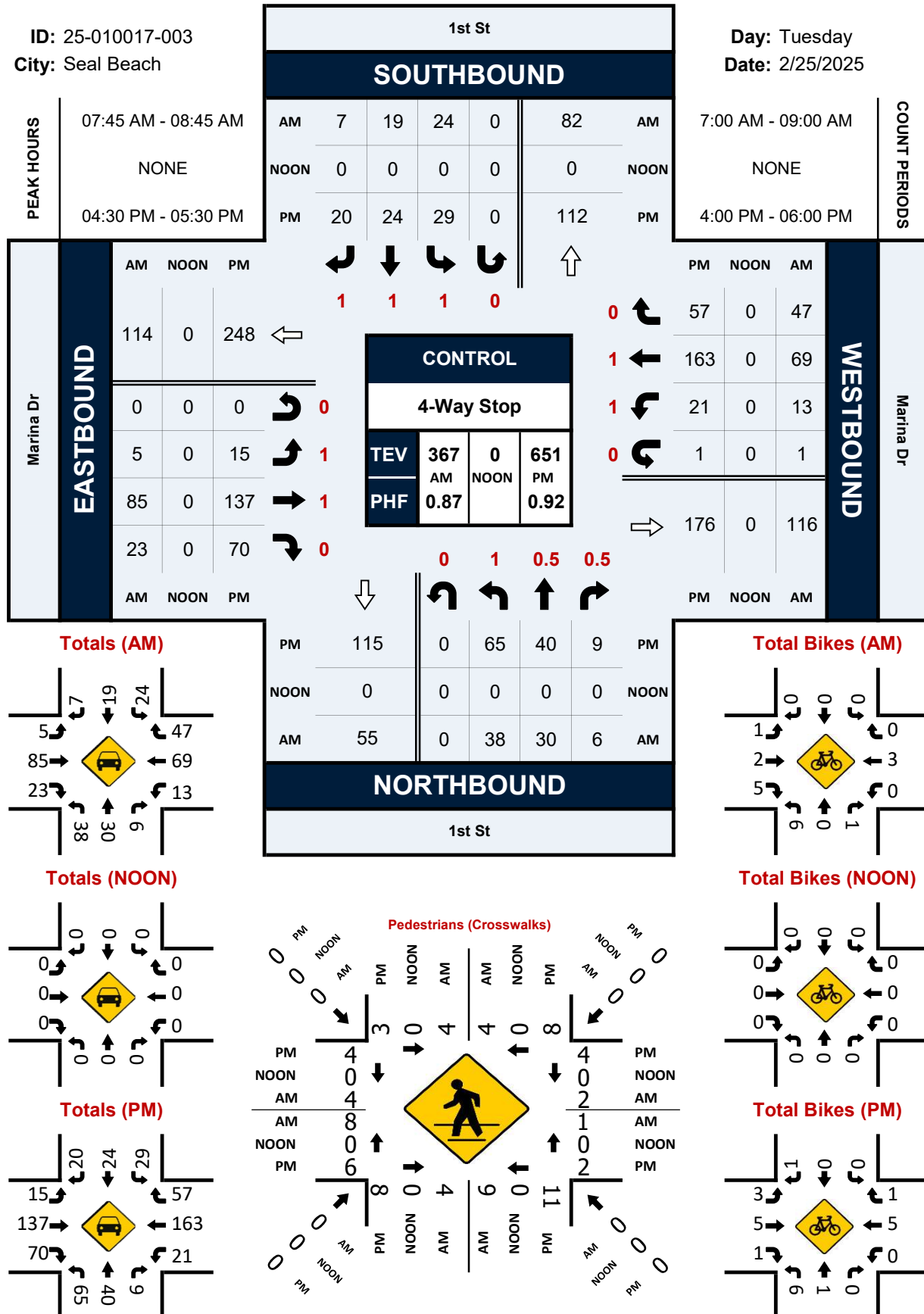
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	4	6	2	2	2	0	3	1	20
4:15 PM	1	0	3	0	0	2	1	1	8
4:30 PM	2	0	0	4	0	2	3	0	11
4:45 PM	0	4	4	6	1	2	1	2	20
5:00 PM	1	4	0	0	0	0	1	2	8
5:15 PM	0	0	4	1	1	0	1	0	7
5:30 PM	1	0	3	3	0	2	1	1	11
5:45 PM	1	2	1	0	0	3	2	4	13
TOTAL VOLUMES :	EB 10	WB 16	EB 17	WB 16	NB 4	SB 11	NB 13	SB 11	TOTAL 98
APPROACH %'s :	38.46%	61.54%	51.52%	48.48%	26.67%	73.33%	54.17%	45.83%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	3	8	8	11	2	4	6	4	46
PEAK HR FACTOR :	0.375	0.500	0.500	0.458	0.500	0.500	0.500	0.500	0.575
	0.550		0.475		0.500		0.833		

1st St & Marina Dr

Peak Hour Turning Movement Count

ID: 25-010017-003
City: Seal Beach

Day: Tuesday
Date: 2/25/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Seal Beach Blvd & Marlin Ave
City: Seal Beach
Control: 1-Way Stop(EB)

Project ID: 25-010017-002
Date: 2/25/2025

Data - Totals

NS/EW Streets:	Seal Beach Blvd				Seal Beach Blvd				Marlin Ave				Marlin Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	7:00 AM	0	152	0	0	0	96	3	0	8	0	3	0	0	0	0	262
	7:15 AM	1	143	0	0	0	172	9	0	4	0	1	0	0	0	0	330
	7:30 AM	15	163	0	0	0	139	22	0	7	0	3	0	0	0	0	349
	7:45 AM	4	174	0	1	0	220	19	0	12	0	8	0	0	0	0	438
	8:00 AM	1	162	0	0	0	198	6	0	12	0	11	0	0	0	0	390
	8:15 AM	3	163	0	1	0	180	5	0	8	0	5	0	0	0	0	365
	8:30 AM	0	146	0	1	0	189	7	0	1	0	4	0	0	0	0	348
	8:45 AM	2	138	0	0	0	167	10	0	2	0	2	0	0	0	0	321
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	26	1241	0	3	0	1361	81	0	54	0	37	0	0	0	0	0	2803
	2.05%	97.72%	0.00%	0.24%	0.00%	94.38%	5.62%	0.00%	59.34%	0.00%	40.66%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	23	662	0	2	0	737	52	0	39	0	27	0	0	0	0	0	1542
PEAK HR FACTOR :	0.383	0.951	0.000	0.500	0.000	0.838	0.591	0.000	0.813	0.000	0.614	0.000	0.000	0.000	0.000	0.000	0.880
	0.959				0.825				0.717								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	4:00 PM	5	155	0	1	0	208	13	0	4	0	4	0	0	0	0	390
	4:15 PM	0	169	0	1	0	166	8	0	2	0	3	0	0	0	0	349
	4:30 PM	3	148	0	2	0	212	9	0	5	0	2	0	0	0	0	381
	4:45 PM	5	145	0	0	0	199	8	0	2	0	2	0	0	0	0	361
	5:00 PM	4	163	0	0	0	203	7	0	1	0	2	0	0	0	0	380
	5:15 PM	5	154	0	0	0	182	7	0	3	0	0	0	0	0	0	351
	5:30 PM	3	175	0	0	0	185	10	0	4	0	3	0	0	0	0	380
	5:45 PM	3	146	0	2	0	200	13	0	5	0	7	0	0	0	0	376
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	28	1255	0	6	0	1555	75	0	26	0	23	0	0	0	0	0	2968
	2.17%	97.36%	0.00%	0.47%	0.00%	95.40%	4.60%	0.00%	53.06%	0.00%	46.94%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	15	638	0	2	0	770	37	0	13	0	12	0	0	0	0	0	1487
PEAK HR FACTOR :	0.750	0.911	0.000	0.250	0.000	0.948	0.712	0.000	0.650	0.000	0.429	0.000	0.000	0.000	0.000	0.000	0.978
	0.920				0.947				0.521								

National Data & Surveying Services
Intersection Turning Movement Count

Location: Seal Beach Blvd & Marlin Ave
City: Seal Beach
Control: 1-Way Stop(EB)

Project ID: 25-010017-002
Date: 2/25/2025

Data - Bikes

NS/EW Streets:		Seal Beach Blvd				Seal Beach Blvd				Marlin Ave				Marlin Ave				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	3 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
	8:00 AM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	3
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0	0	0	0	10
PEAK HR:		07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:		0	1	0	0	0	6	0	0	0	0	1	0	0	0	0	0	8
PEAK HR FACTOR:		0.000	0.250	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
		0.250				0.375				0.250								
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	3 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
	4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
	5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	4	0	0	0	4	0	0	0	0	1	0	0	0	0	0	9
		0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR:		05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL:		0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR:		0.000	1.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
		1.000				0.250												

Location: Seal Beach Blvd & Marlin Ave
City: Seal Beach

Project ID: 25-010017-002
Date: 2/25/2025

NS/EW Streets:

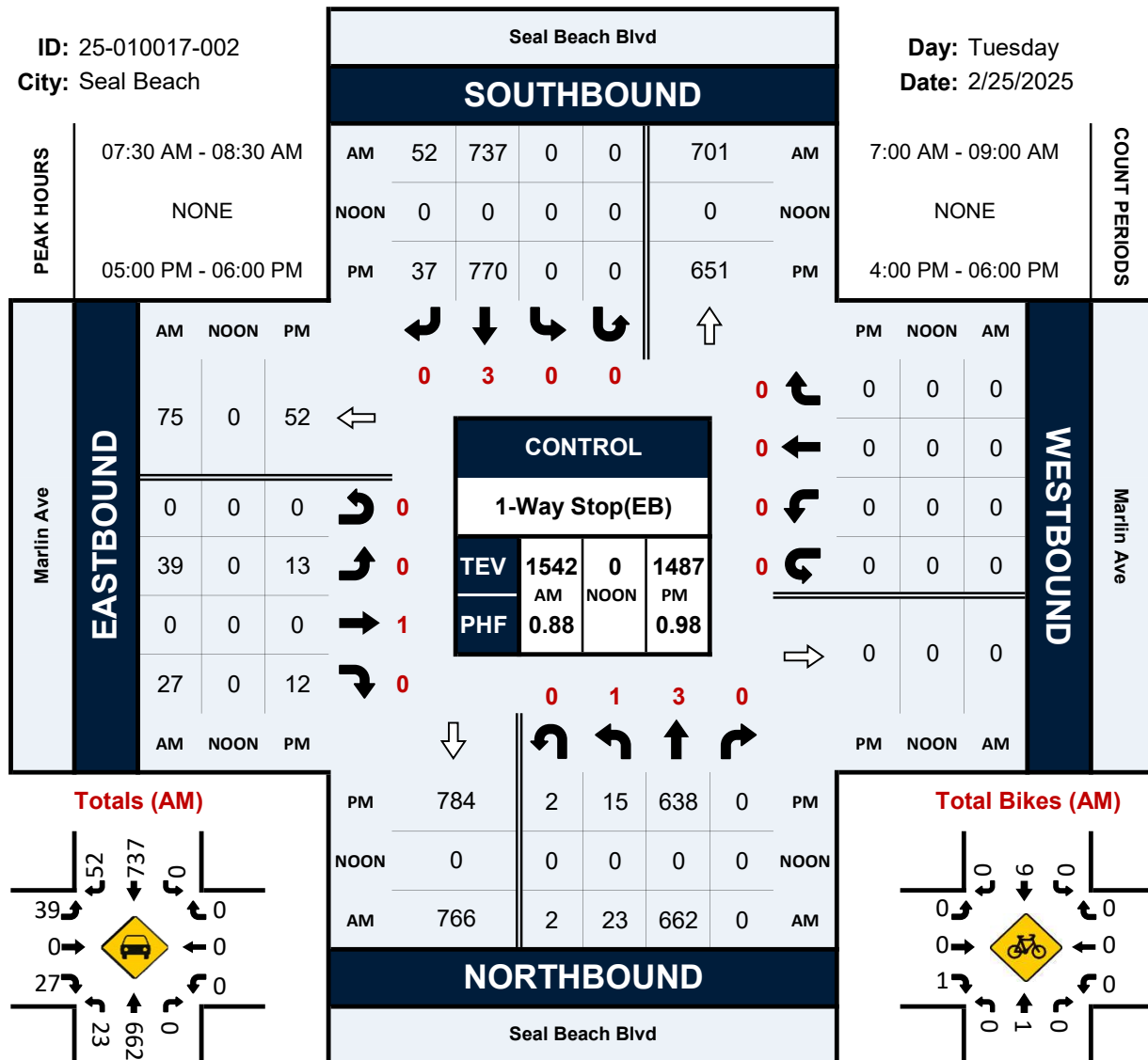
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	1	3
5:15 PM	0	0	0	0	0	0	1	3	4
5:30 PM	0	0	0	0	0	0	2	0	2
5:45 PM	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 0	WB 0	NB 0	SB 0	NB 7 58.33%	SB 5 41.67%	TOTAL 12
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0		0		0		6		10
PEAK HR FACTOR :							0.750 0.333 0.625		0.625

Seal Beach Blvd & Marlin Ave

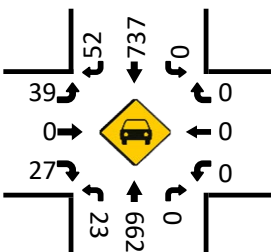
Peak Hour Turning Movement Count

ID: 25-010017-002
City: Seal Beach

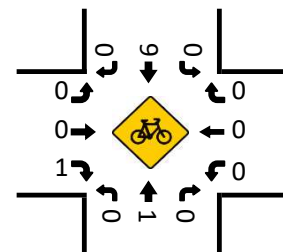
Day: Tuesday
Date: 2/25/2025



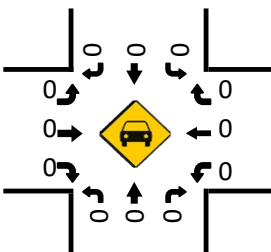
Totals (AM)



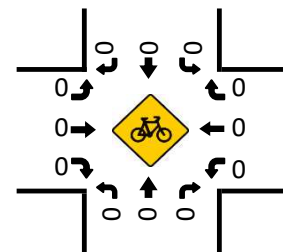
Total Bikes (AM)



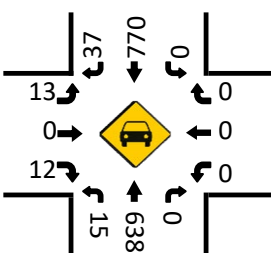
Totals (NOON)



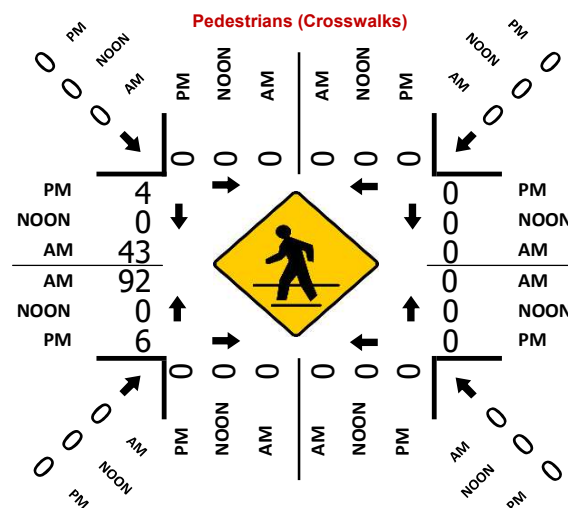
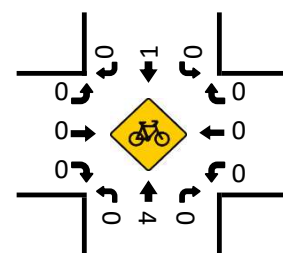
Total Bikes (NOON)



Totals (PM)



Total Bikes (PM)



Appendix C - LOS Calculation Sheets

Existing Conditions

Lanes, Volumes, Timings

1: 1st St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	85	23	14	69	47	38	30	6	24	19	7
Future Volume (vph)	5	85	23	14	69	47	38	30	6	24	19	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	65		0	70		0	50		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	120			70			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.939			0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1803	0	1770	1749	0	1770	1816	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1803	0	1770	1749	0	1770	1816	0	1770	1863	1583
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		745			1359			938			991	
Travel Time (s)		16.9			30.9			21.3			16.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	85	23	14	69	47	38	30	6	24	19	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	108	0	14	116	0	38	36	0	24	19	7
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	23.2%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	85	23	14	69	47	38	30	6	24	19	7
Future Vol, veh/h	5	85	23	14	69	47	38	30	6	24	19	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	85	23	14	69	47	38	30	6	24	19	7
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	2
HCM Control Delay	8.6	8.5	8.6	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	83%	0%	79%	0%	59%	0%	100%	0%
Vol Right, %	0%	17%	0%	21%	0%	41%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	36	5	108	14	116	24	19	7
LT Vol	38	0	5	0	14	0	24	0	0
Through Vol	0	30	0	85	0	69	0	19	0
RT Vol	0	6	0	23	0	47	0	0	7
Lane Flow Rate	38	36	5	108	14	116	24	19	7
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.061	0.052	0.008	0.15	0.022	0.156	0.039	0.028	0.009
Departure Headway (Hd)	5.82	5.2	5.658	5.007	5.63	4.845	5.866	5.363	4.66
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	616	688	633	717	637	741	610	667	766
Service Time	3.555	2.935	3.386	2.735	3.357	2.571	3.604	3.101	2.398
HCM Lane V/C Ratio	0.062	0.052	0.008	0.151	0.022	0.157	0.039	0.028	0.009
HCM Control Delay	8.9	8.2	8.4	8.6	8.5	8.5	8.8	8.3	7.4
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0	0.5	0.1	0.6	0.1	0.1	0

Lanes, Volumes, Timings
2: 5th St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	78	5	10	84	47	2	34	10	12	25	12
Future Volume (vph)	16	78	5	10	84	47	2	34	10	12	25	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.955			0.971				0.850
Flt Protected		0.992			0.996			0.998			0.984	
Satd. Flow (prot)	0	1835	0	0	1772	0	0	1805	0	0	1833	1583
Flt Permitted		0.992			0.996			0.998			0.984	
Satd. Flow (perm)	0	1835	0	0	1772	0	0	1805	0	0	1833	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1359			918			1174			1074	
Travel Time (s)		30.9			20.9			26.7			24.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	78	5	10	84	47	2	34	10	12	25	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	141	0	0	46	0	0	37	12
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	78	5	10	84	47	2	34	10	12	25	12
Future Vol, veh/h	16	78	5	10	84	47	2	34	10	12	25	12
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	78	5	10	84	47	2	34	10	12	25	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	7.9	7.9	7.8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	16%	7%	32%	0%
Vol Thru, %	74%	79%	60%	68%	0%
Vol Right, %	22%	5%	33%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	99	141	37	12
LT Vol	2	16	10	12	0
Through Vol	34	78	84	25	0
RT Vol	10	5	47	0	12
Lane Flow Rate	46	99	141	37	12
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.058	0.118	0.16	0.054	0.015
Departure Headway (Hd)	4.5	4.309	4.095	5.262	4.395
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	799	835	881	683	817
Service Time	2.513	2.321	2.095	2.975	2.108
HCM Lane V/C Ratio	0.058	0.119	0.16	0.054	0.015
HCM Control Delay	7.8	7.9	7.9	8.3	7.2
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.6	0.2	0

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	160	9	69	45	9	10	72	951	19	1	14	859
Future Volume (vph)	160	9	69	45	9	10	72	951	19	1	14	859
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	12	12	11	10	12	12	12	12	12	12
Storage Length (ft)	92		0	0		60	358		0		205	
Storage Lanes	1		0	0		1	1		0		1	
Taper Length (ft)	60			25			75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00	0.98			1.00	0.98		1.00				1.00
Frt		0.868				0.850		0.997				0.984
Flt Protected	0.950				0.960		0.950				0.950	
Satd. Flow (prot)	1947	1751	0	0	1729	1478	1770	5067	0	0	1770	4988
Flt Permitted	0.719				0.736		0.950				0.950	
Satd. Flow (perm)	1468	1751	0	0	1320	1455	1770	5067	0	0	1770	4988
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		75				101		3				21
Link Speed (mph)		25			25			40				40
Link Distance (ft)		498			562			1142				537
Travel Time (s)		13.6			15.3			19.5				9.2
Confl. Peds. (#/hr)	3		4	4		3			2			
Confl. Bikes (#/hr)			1						3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	10	75	49	10	11	78	1034	21	1	15	934
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	85	0	0	59	11	78	1055	0	0	16	1044
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		15			18			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	0.88	0.88	1.00	1.00	1.04	1.09	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Left	Thru
Leading Detector (ft)	20	100		20	100	20	20	100		20	20	100
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100		20	100	20	20	100		20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	Prot	NA
Protected Phases		8			4		1	6		5	5	2
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	5	2

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	101
Future Volume (vph)	101
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.91
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	2
Peak Hour Factor	0.92
Adj. Flow (vph)	110
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	3.0	12.0		3.0	3.0	12.0
Minimum Split (s)	33.0	33.0		33.0	33.0	33.0	15.0	26.3		15.0	15.0	26.3
Total Split (s)	46.0	46.0		46.0	46.0	46.0	21.0	57.0		17.0	17.0	53.0
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	17.5%	47.5%		14.2%	14.2%	44.2%
Maximum Green (s)	42.0	42.0		42.0	42.0	42.0	17.5	51.7		13.5	13.5	47.7
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.3		3.0	3.0	4.3
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	0.5	1.0		0.5	0.5	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	-1.3			0.0	-1.3
Total Lost Time (s)	4.0	4.0			4.0	4.0	3.5	4.0			3.5	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	2.0	2.0	1.5	5.0		1.5	1.5	5.0
Minimum Gap (s)	3.0	3.0		2.0	2.0	2.0	1.5	3.0		1.5	1.5	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	0.0	12.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	0.0	12.0
Recall Mode	None	None		None	None	None	None	C-Max		None	None	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0				7.0
Flash Dont Walk (s)	22.0	22.0		22.0	22.0	22.0		14.0				14.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0				0
Act Effct Green (s)	19.7	19.7			19.7	19.7	15.0	88.3			5.2	75.5
Actuated g/C Ratio	0.16	0.16			0.16	0.16	0.12	0.74			0.04	0.63
v/c Ratio	0.72	0.24			0.27	0.03	0.35	0.28			0.21	0.33
Control Delay	63.6	12.7			44.8	0.2	45.5	7.3			61.3	12.3
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	63.6	12.7			44.8	0.2	45.5	7.3			61.3	12.3
LOS	E	B			D	A	D	A			E	B
Approach Delay		46.9			37.8			9.9				13.0
Approach LOS		D			D			A				B

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 73 (61%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.8

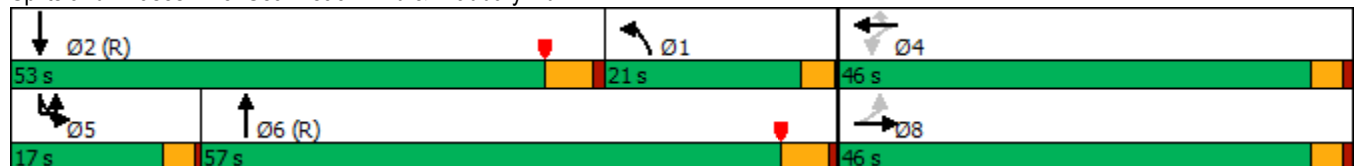
Intersection LOS: B

Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Seal Beach Blvd & Bradbury Rd



Lanes, Volumes, Timings
3: Seal Beach Blvd & Bradbury Rd

05/29/2025



Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Minimum Gap (s)	
Time Before Reduce (s)	
Time To Reduce (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations								  				  
Traffic Volume (vph)	44	3	57	8	3	24	38	1043	5	9	14	879
Future Volume (vph)	44	3	57	8	3	24	38	1043	5	9	14	879
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	8	12	12	12
Storage Length (ft)	80		0	0		0	80		60		150	
Storage Lanes	1		0	1		0	1		1		1	
Taper Length (ft)	25			25			100				60	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91
Ped Bike Factor		0.98		1.00	0.99				0.95			
Frt		0.857			0.866				0.850			
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1770	1570	0	1770	1595	0	1770	5085	1372	0	1770	5085
Flt Permitted	0.738			0.701			0.950				0.533	
Satd. Flow (perm)	1375	1570	0	1300	1595	0	1770	5085	1308	0	993	5085
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		62			26				52			
Link Speed (mph)		25			30			40				40
Link Distance (ft)		538			406			892				1142
Travel Time (s)		14.7			9.2			15.2				19.5
Confl. Peds. (#/hr)			4	4					5			
Confl. Bikes (#/hr)			1			1			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	3	62	9	3	26	41	1134	5	10	15	955
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	65	0	9	29	0	41	1134	5	0	25	955
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		12			12			16				16
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Left	Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20	20	100
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	100		20	100		20	100	20	20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	custom	Prot	NA
Protected Phases		4			8		5	2			1	6
Permitted Phases	4			8					2	1		
Detector Phase	4	4		8	8		5	2	2	1	1	6

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

Lane Group	SBR
Left Configurations	↗
Traffic Volume (vph)	51
Future Volume (vph)	51
Ideal Flow (vphpl)	1900
Lane Width (ft)	8
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	0.96
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1372
Flt Permitted	
Satd. Flow (perm)	1314
Right Turn on Red	Yes
Satd. Flow (RTOR)	61
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	6
Peak Hour Factor	0.92
Adj. Flow (vph)	55
Shared Lane Traffic (%)	
Lane Group Flow (vph)	55
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.20
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		3.0	10.0	10.0	3.0	3.0	10.0
Minimum Split (s)	36.2	36.2		15.0	15.0		15.0	17.5	17.5	15.0	15.0	18.5
Total Split (s)	36.0	36.0		36.0	36.0		16.0	69.0	69.0	15.0	15.0	68.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		13.3%	57.5%	57.5%	12.5%	12.5%	56.7%
Maximum Green (s)	31.8	31.8		31.8	31.8		11.5	63.5	63.5	10.5	10.5	62.5
Yellow Time (s)	3.2	3.2		3.2	3.2		3.5	4.5	4.5	3.5	3.5	4.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.2	-0.2		-0.2	-0.2		-0.5	-1.5	-1.5		-0.5	-1.5
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0	4.0	2.0	2.0	4.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	None	C-Max
Walk Time (s)	7.0	7.0						7.0	7.0			7.0
Flash Dont Walk (s)	25.0	25.0						5.0	5.0			6.0
Pedestrian Calls (#/hr)	0	0						0	0			0
Act Effect Green (s)	9.8	9.8		9.8	9.8		10.6	95.3	95.3		9.7	92.1
Actuated g/C Ratio	0.08	0.08		0.08	0.08		0.09	0.79	0.79		0.08	0.77
v/c Ratio	0.43	0.35		0.08	0.19		0.26	0.28	0.00		0.32	0.24
Control Delay	63.0	18.7		50.5	22.3		38.9	0.8	0.0		78.1	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	63.0	18.7		50.5	22.3		38.9	0.8	0.0		78.1	2.3
LOS	E	B		D	C		D	A	A		E	A
Approach Delay		37.5			28.9			2.1				4.0
Approach LOS		D			C			A				A

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 5.1

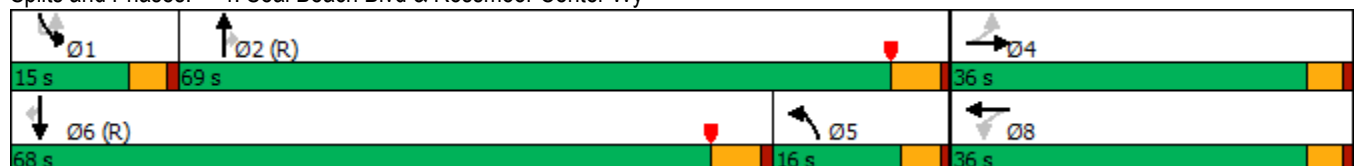
Intersection LOS: A

Intersection Capacity Utilization 44.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Seal Beach Blvd & Rossmoor Center Wy



Lanes, Volumes, Timings
4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025



Lane Group	SBR
Switch Phase	
Minimum Initial (s)	10.0
Minimum Split (s)	18.5
Total Split (s)	68.0
Total Split (%)	56.7%
Maximum Green (s)	62.5
Yellow Time (s)	4.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	-1.5
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	C-Max
Walk Time (s)	7.0
Flash Dont Walk (s)	6.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	92.1
Actuated g/C Ratio	0.77
v/c Ratio	0.05
Control Delay	0.2
Queue Delay	0.0
Total Delay	0.2
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	5	1	18	44	2	15	30	1012	38	13	812	15
Future Volume (vph)	5	1	18	44	2	15	30	1012	38	13	812	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	75		0	179		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			110			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99				0.98			1.00			1.00	
Frt		0.857			0.867			0.995			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1596	0	1770	1584	0	1770	5055	0	1770	5067	0
Flt Permitted	0.746			0.744			0.950			0.950		
Satd. Flow (perm)	1377	1596	0	1386	1584	0	1770	5055	0	1770	5067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			16			7			3	
Link Speed (mph)		15			15			40			40	
Link Distance (ft)		340			303			598			892	
Travel Time (s)		15.5			13.8			10.2			15.2	
Confl. Peds. (#/hr)	8					8			2			12
Confl. Bikes (#/hr)									1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	20	48	2	16	33	1100	41	14	883	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	21	0	48	18	0	33	1141	0	14	899	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	100		20	100		20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												

Lanes, Volumes, Timings

5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	15.0	15.0		34.0	34.0		15.0	22.5		15.0	22.5	
Total Split (s)	35.0	35.0		35.0	35.0		17.0	65.0		20.0	68.0	
Total Split (%)	29.2%	29.2%		29.2%	29.2%		14.2%	54.2%		16.7%	56.7%	
Maximum Green (s)	31.0	31.0		31.0	31.0		12.5	59.5		15.5	62.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				23.0	23.0			10.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effect Green (s)	9.5	9.5		9.5	9.5		7.3	100.7		6.1	97.7	
Actuated g/C Ratio	0.08	0.08		0.08	0.08		0.06	0.84		0.05	0.81	
v/c Ratio	0.05	0.14		0.44	0.13		0.31	0.27		0.16	0.22	
Control Delay	49.6	22.2		63.8	24.8		66.7	0.7		62.0	2.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.6	22.2		63.8	24.8		66.7	0.7		62.0	2.0	
LOS	D	C		E	C		E	A		E	A	
Approach Delay		27.5			53.2			2.6			2.9	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 4.5

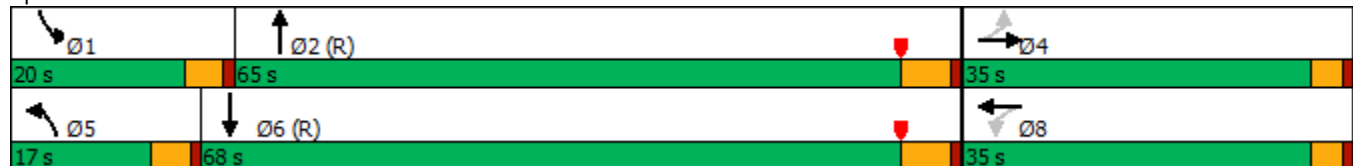
Intersection LOS: A

Intersection Capacity Utilization 44.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Seal Beach Blvd & Towne Center Dr



Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	  			  	
Traffic Volume (vph)	108	0	665	55	8	0	377	1328	62	1	1141	44
Future Volume (vph)	108	0	665	55	8	0	377	1328	62	1	1141	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	107		0	0		0	206		0	78		0
Storage Lanes	1		2	1		0	2		0	1		0
Taper Length (ft)	40			25			120			110		
Lane Util. Factor	1.00	1.00	0.88	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99							1.00			1.00	
Frt			0.850					0.993			0.994	
Flt Protected	0.950			0.950	0.963		0.950			0.950		
Satd. Flow (prot)	1770	0	2787	1681	1704	0	3433	5044	0	1770	5051	0
Flt Permitted	0.731			0.950	0.963		0.950			0.950		
Satd. Flow (perm)	1354	0	2787	1681	1704	0	3433	5044	0	1770	5051	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			305					8			5	
Link Speed (mph)		25			15			40			40	
Link Distance (ft)		526			300			909			598	
Travel Time (s)		14.3			13.6			15.5			10.2	
Confl. Peds. (#/hr)	4					1			1			3
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	0	723	60	9	0	410	1443	67	1	1240	48
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	117	0	723	31	38	0	410	1510	0	1	1288	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1	1	1		1	1		1	1	
Detector Template	Left		Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20		20	20	100		20	100		20	100	
Trailing Detector (ft)	0		0	0	0		0	0		0	0	
Detector 1 Position(ft)	0		0	0	0		0	0		0	0	
Detector 1 Size(ft)	20		20	20	100		20	100		20	100	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm		pm+ov	Split	NA		Prot	NA		Prot	NA	
Protected Phases			5	3	3		5	2		1	6	
Permitted Phases	4		4									
Detector Phase	4		4	3	3		5	2		1	6	
Switch Phase												

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0		10.0	5.0	5.0		10.0	10.0		3.0	10.0	
Minimum Split (s)	15.0		15.0	15.0	15.0		15.0	22.5		15.0	28.5	
Total Split (s)	27.0		24.0	20.0	20.0		24.0	58.0		15.0	49.0	
Total Split (%)	22.5%		20.0%	16.7%	16.7%		20.0%	48.3%		12.5%	40.8%	
Maximum Green (s)	23.0		19.5	16.0	16.0		19.5	52.5		10.5	43.5	
Yellow Time (s)	3.0		3.5	3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0		-0.5	0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag		Lead	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0		2.0	4.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None		None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								10.0			16.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)	20.4		42.7	9.1	9.1		18.3	78.7		5.1	58.3	
Actuated g/C Ratio	0.17		0.36	0.08	0.08		0.15	0.66		0.04	0.49	
v/c Ratio	0.51		0.61	0.24	0.29		0.78	0.46		0.01	0.52	
Control Delay	52.1		19.1	55.9	57.5		66.1	5.6		73.0	19.6	
Queue Delay	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.1		19.1	55.9	57.5		66.1	5.6		73.0	19.6	
LOS	D		B	E	E		E	A		E	B	
Approach Delay		23.7			56.8			18.5			19.6	
Approach LOS		C			E			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 69 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 20.6

Intersection LOS: C

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Seal Beach Blvd & St. Cloud Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	58 s	20 s	27 s
 Ø5	 Ø6 (R)	 Ø8	
24 s	49 s	47 s	

Lane Group	Ø8
Minimum Initial (s)	2.0
Minimum Split (s)	35.0
Total Split (s)	47.0
Total Split (%)	39%
Maximum Green (s)	44.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	25.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

7: Seal Beach Blvd & Lampson Ave

05/29/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  		 	  
Traffic Volume (vph)	340	572	1199	266	364	1244
Future Volume (vph)	340	572	1199	266	364	1244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	147		299	319	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				150	
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Ped Bike Factor		0.98		0.98		
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	5085	1583	3433	5085
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1558	5085	1555	3433	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		9		45		
Link Speed (mph)	45		45			40
Link Distance (ft)	707		802			909
Travel Time (s)	10.7		12.2			15.5
Confl. Peds. (#/hr)		2		5		
Confl. Bikes (#/hr)		4		2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	622	1303	289	396	1352
Shared Lane Traffic (%)						
Lane Group Flow (vph)	370	622	1303	289	396	1352
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	36		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	100	20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						

Lanes, Volumes, Timings

7: Seal Beach Blvd & Lampson Ave

05/29/2025

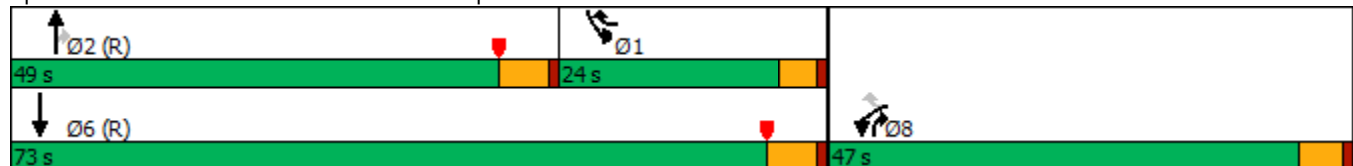


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	38.3	15.0	35.5	38.3	15.0	15.0
Total Split (s)	47.0	24.0	49.0	47.0	24.0	73.0
Total Split (%)	39.2%	20.0%	40.8%	39.2%	20.0%	60.8%
Maximum Green (s)	42.0	19.5	43.5	42.0	19.5	67.5
Yellow Time (s)	4.0	3.5	4.5	4.0	3.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-0.5	-1.5	-1.3	-0.5	-1.5
Total Lost Time (s)	3.7	4.0	4.0	3.7	4.0	4.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	2.0	5.0	3.0	2.0	5.0
Recall Mode	None	None	C-Max	None	None	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	26.0		23.0	26.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effect Green (s)	35.5	55.2	52.8	88.6	20.0	76.8
Actuated g/C Ratio	0.30	0.46	0.44	0.74	0.17	0.64
v/c Ratio	0.36	0.86	0.58	0.25	0.69	0.42
Control Delay	31.2	36.4	28.0	2.4	46.7	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	36.4	28.0	2.4	46.7	7.5
LOS	C	D	C	A	D	A
Approach Delay	34.5		23.4			16.4
Approach LOS	C		C			B

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 23.1
Intersection LOS: C
Intersection Capacity Utilization 67.3%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Seal Beach Blvd & Lampson Ave



Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

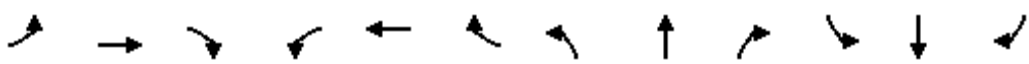
05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	3	6	343	26	427	69	794	413	239	890	226
Future Volume (vph)	4	3	6	343	26	427	69	794	413	239	890	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		117	0		217	124		0	260		392
Storage Lanes	1		1	2		2	2		1	2		1
Taper Length (ft)	25			25			60			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850		0.868	0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1536	1504	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1536	1504	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		200	264			449			246
Link Speed (mph)		30			35			45			45	
Link Distance (ft)		663			410			1873			802	
Travel Time (s)		15.1			8.0			28.4			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	3	7	373	28	464	75	863	449	260	967	246
Shared Lane Traffic (%)						43%						
Lane Group Flow (vph)	4	3	7	373	228	264	75	863	449	260	967	246
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8		2	2			6
Detector Phase	7	7	7	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	10.0	10.0	10.0	8.0	10.0	10.0	8.0	10.0	10.0
Minimum Split (s)	12.2	12.2	12.2	44.2	44.2	44.2	12.2	15.3	15.3	12.2	35.3	35.3
Total Split (s)	14.0	14.0	14.0	45.0	45.0	45.0	13.0	33.0	33.0	28.0	48.0	48.0

Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.7%	11.7%	11.7%	37.5%	37.5%	37.5%	10.8%	27.5%	27.5%	23.3%	40.0%	40.0%
Maximum Green (s)	9.8	9.8	9.8	40.8	40.8	40.8	8.8	27.7	27.7	23.8	42.7	42.7
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.7	-0.7	-0.7	-1.1	-1.1	-1.1	-0.2	-1.8	-1.8	-0.2	-1.8	-1.8
Total Lost Time (s)	3.5	3.5	3.5	3.1	3.1	3.1	4.0	3.5	3.5	4.0	3.5	3.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	5.0	2.0	5.0	5.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	35.0	35.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				5.0	5.0	5.0					5.0	5.0
Flash Dont Walk (s)				35.0	35.0	35.0					25.0	25.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effect Green (s)	8.7	8.7	8.7	19.9	19.9	19.9	8.8	70.9	70.9	13.7	78.2	78.2
Actuated g/C Ratio	0.07	0.07	0.07	0.17	0.17	0.17	0.07	0.59	0.59	0.11	0.65	0.65
v/c Ratio	0.03	0.02	0.03	0.65	0.54	0.56	0.30	0.29	0.40	0.66	0.29	0.22
Control Delay	52.5	52.3	0.2	52.0	13.4	9.8	34.4	5.4	2.2	45.6	11.1	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	52.3	0.2	52.0	13.4	9.8	34.4	5.4	2.2	45.6	11.1	5.0
LOS	D	D	A	D	B	A	C	A	A	D	B	A
Approach Delay		26.3			28.9			5.9			16.2	
Approach LOS		C			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 9 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 15.4

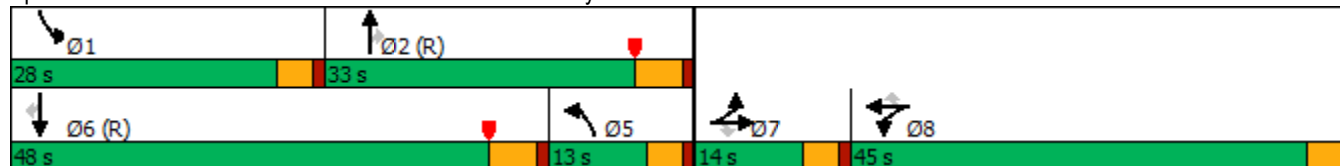
Intersection LOS: B

Intersection Capacity Utilization 50.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Seal Beach Blvd & Old Ranch Pkwy



Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	3	2	600	15	351	7	923	238	319	887	26
Future Volume (vph)	5	3	2	600	15	351	7	923	238	319	887	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		100	86		225	650		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			83			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.970				0.850			0.850		0.996	
Flt Protected		0.976		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	3351	0	1681	1690	1583	1770	5085	1583	1770	5065	0
Flt Permitted		0.976		0.950	0.955		0.950			0.950		
Satd. Flow (perm)	0	3351	0	1681	1690	1583	1770	5085	1583	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				191			259		5	
Link Speed (mph)		35			40			50			50	
Link Distance (ft)		991			994			1529			1873	
Travel Time (s)		19.3			16.9			20.9			25.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	3	2	652	16	382	8	1003	259	347	964	28
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	10	0	365	303	382	8	1003	259	347	992	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100		20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	Free	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						Free			2			
Detector Phase	4	4		3	3		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)	12.2	12.2		12.2	12.2		12.2	15.7	15.7	12.2	23.7	
Total Split (s)	17.0	17.0		27.0	27.0		13.0	37.0	37.0	39.0	63.0	

Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	14.2%	14.2%		22.5%	22.5%		10.8%	30.8%	30.8%	32.5%	52.5%	
Maximum Green (s)	12.8	12.8		22.8	22.8		8.8	31.3	31.3	34.8	57.3	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	4.7	4.7	3.2	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.1		-1.4	-1.4		-0.2	-2.2	-2.2	-0.2	-2.2	
Total Lost Time (s)		3.1		2.8	2.8		4.0	3.5	3.5	4.0	3.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	5.0	5.0	2.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	1.5	1.5	2.0	1.5	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	20.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)												5.0
Flash Dont Walk (s)												13.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)		9.1		24.2	24.2	120.0	8.2	48.1	48.1	35.0	84.6	
Actuated g/C Ratio		0.08		0.20	0.20	1.00	0.07	0.40	0.40	0.29	0.70	
v/c Ratio		0.04		1.08	0.89	0.24	0.07	0.49	0.33	0.67	0.28	
Control Delay		46.0		116.4	75.0	0.4	53.7	28.6	4.5	51.0	6.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		46.0		116.4	75.0	0.4	53.7	28.6	4.5	51.0	6.3	
LOS		D		F	E	A	D	C	A	D	A	
Approach Delay		46.0			62.2			23.8			17.9	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 119 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 32.7

Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Seal Beach Blvd & N Gate Rd



Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Lane Configurations			↰	↑↑↑	↑↑↑	↱		
Traffic Volume (vph)	0	0	31	1173	1549	171		
Future Volume (vph)	0	0	31	1173	1549	171		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	0			115		
Storage Lanes	0	0	1			1		
Taper Length (ft)	25		25					
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00		
Ped Bike Factor						0.98		
Frt						0.850		
Flt Protected			0.950					
Satd. Flow (prot)	0	0	1770	5085	5085	1583		
Flt Permitted			0.950					
Satd. Flow (perm)	0	0	1770	5085	5085	1555		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)						149		
Link Speed (mph)	15			50	50			
Link Distance (ft)	370			174	1529			
Travel Time (s)	16.8			2.4	20.9			
Confl. Peds. (#/hr)						1		
Confl. Bikes (#/hr)						8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	0	0	34	1275	1684	186		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	34	1275	1684	186		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			16	16			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	1	1	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	100	100	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Turn Type			Prot	NA	NA	Perm		
Protected Phases			5	2 4	6		2	4
Permitted Phases						6		
Detector Phase			5	2 4	6	6		
Switch Phase								

Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Minimum Initial (s)			3.0		10.0	10.0	10.0	5.0
Minimum Split (s)			15.0		26.7	26.7	15.7	15.0
Total Split (s)			18.0		30.0	30.0	48.0	17.0
Total Split (%)			27.7%		46.2%	46.2%	74%	26%
Maximum Green (s)			13.5		24.3	24.3	42.3	13.0
Yellow Time (s)			3.5		4.7	4.7	4.7	3.0
All-Red Time (s)			1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			-0.5		-1.7	0.0		
Total Lost Time (s)			4.0		4.0	5.7		
Lead/Lag			Lead		Lag	Lag		
Lead-Lag Optimize?			Yes		Yes	Yes		
Vehicle Extension (s)			2.0		4.0	4.0	4.0	4.0
Recall Mode			None		C-Max	C-Max	C-Max	None
Walk Time (s)					7.0	7.0		
Flash Dont Walk (s)					14.0	14.0		
Pedestrian Calls (#/hr)					0	0		
Act Effect Green (s)			6.3	65.0	39.7	38.0		
Actuated g/C Ratio			0.10	1.00	0.61	0.58		
v/c Ratio			0.20	0.25	0.54	0.19		
Control Delay			30.4	0.6	9.4	3.4		
Queue Delay			0.0	0.0	0.0	0.0		
Total Delay			30.4	0.6	9.4	3.4		
LOS			C	A	A	A		
Approach Delay				1.4	8.8			
Approach LOS				A	A			

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 60 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 5.8

Intersection LOS: A

Intersection Capacity Utilization 40.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations	↰↰	↱		↑↑↑↑	↑↑↑↑		
Traffic Volume (vph)	150	45	0	1055	1548	0	
Future Volume (vph)	150	45	0	1055	1548	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	16	12	12	12	12	
Storage Length (ft)	0	0	91			0	
Storage Lanes	2	1	1			0	
Taper Length (ft)	25		90				
Lane Util. Factor	0.97	1.00	1.00	0.86	0.91	1.00	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3547	1794	0	6408	5085	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3547	1794	0	6408	5085	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		49					
Link Speed (mph)	15			50	50		
Link Distance (ft)	316			1806	174		
Travel Time (s)	14.4			24.6	2.4		
Confl. Peds. (#/hr)						1	
Confl. Bikes (#/hr)						8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	163	49	0	1147	1683	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	163	49	0	1147	1683	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	26			4	4		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		1	1		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		100	100		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Turn Type	Prot	Perm		NA	NA		
Protected Phases	4			2	6		5
Permitted Phases		4					
Detector Phase	4	4		2	6		

Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Switch Phase							
Minimum Initial (s)	5.0	5.0		10.0	10.0		3.0
Minimum Split (s)	15.0	15.0		15.7	26.7		15.0
Total Split (s)	17.0	17.0		48.0	30.0		18.0
Total Split (%)	26.2%	26.2%		73.8%	46.2%		28%
Maximum Green (s)	13.0	13.0		42.3	24.3		13.5
Yellow Time (s)	3.0	3.0		4.7	4.7		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		-1.7	-1.7		
Total Lost Time (s)	4.0	4.0		4.0	4.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0
Recall Mode	None	None		C-Max	C-Max		None
Walk Time (s)					7.0		
Flash Dont Walk (s)					14.0		
Pedestrian Calls (#/hr)					0		
Act Effect Green (s)	12.7	12.7		44.3	39.7		
Actuated g/C Ratio	0.20	0.20		0.68	0.61		
v/c Ratio	0.24	0.13		0.26	0.54		
Control Delay	22.9	8.3		6.6	1.5		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	22.9	8.3		6.6	1.5		
LOS	C	A		A	A		
Approach Delay	19.6			6.6	1.5		
Approach LOS	B			A	A		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 60 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 4.7

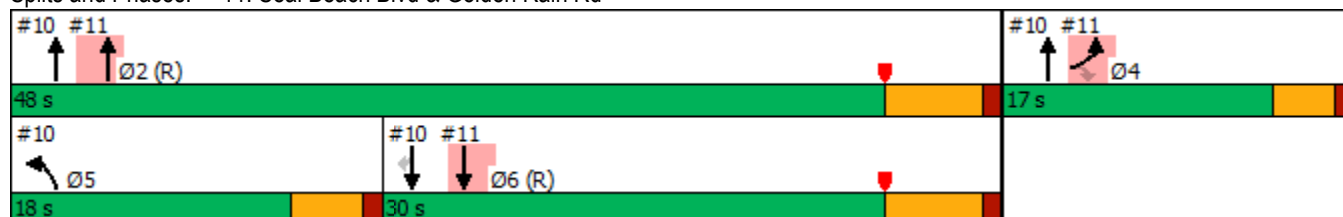
Intersection LOS: A

Intersection Capacity Utilization 40.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 11: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings
12: Seal Beach Blvd & St. Andrews Dr

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	56	38	886	1265	50
Future Volume (vph)	39	56	38	886	1265	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	70		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor					1.00	
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	5085	5050	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	5085	5050	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		61			12	
Link Speed (mph)	15			50	50	
Link Distance (ft)	538			1002	1806	
Travel Time (s)	24.5			13.7	24.6	
Confl. Peds. (#/hr)						1
Confl. Bikes (#/hr)						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	61	41	963	1375	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	61	41	963	1429	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	100	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						

Lanes, Volumes, Timings

12: Seal Beach Blvd & St. Andrews Dr

05/29/2025

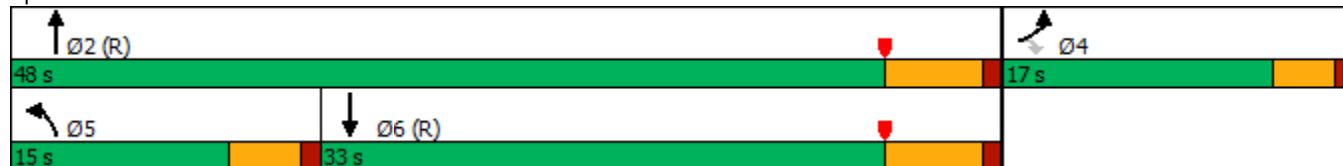


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	4.0	4.0	2.0	15.0	15.0	
Minimum Split (s)	15.0	15.0	15.0	20.7	21.7	
Total Split (s)	17.0	17.0	15.0	48.0	33.0	
Total Split (%)	26.2%	26.2%	23.1%	73.8%	50.8%	
Maximum Green (s)	13.0	13.0	10.5	42.3	27.3	
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	5.0	5.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)					7.0	
Flash Dont Walk (s)					9.0	
Pedestrian Calls (#/hr)					0	
Act Effect Green (s)	6.1	6.1	6.6	53.4	48.6	
Actuated g/C Ratio	0.09	0.09	0.10	0.82	0.75	
v/c Ratio	0.25	0.30	0.23	0.23	0.38	
Control Delay	30.5	12.4	34.6	1.5	0.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.5	12.4	34.6	1.5	0.4	
LOS	C	B	C	A	A	
Approach Delay	19.8			2.8	0.4	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 27 (42%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.38
Intersection Signal Delay: 2.2
Intersection LOS: A
Intersection Capacity Utilization 41.6%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: Seal Beach Blvd & St. Andrews Dr



Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

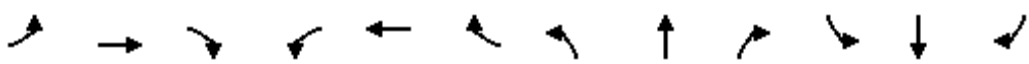
05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	 			  		  	  	
Traffic Volume (vph)	181	434	28	190	492	118	43	759	105	206	971	411
Future Volume (vph)	181	434	28	190	492	118	43	759	105	206	971	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	280		0	265		0	284		187
Storage Lanes	2		0	2		0	1		0	2		1
Taper Length (ft)	90			125			95			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	0.95	1.00	0.91	0.91	0.97	0.91	1.00
Ped Bike Factor								1.00				0.98
Frt		0.991			0.971			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5040	0	3433	3437	0	1770	4985	0	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5040	0	3433	3437	0	1770	4985	0	3433	5085	1558
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					27			18				
Link Speed (mph)		45			45			25			50	
Link Distance (ft)		1322			799			861			1002	
Travel Time (s)		20.0			12.1			23.5			13.7	
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												5
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
Adj. Flow (vph)	193	462	30	202	523	126	46	807	112	219	1033	437
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	492	0	202	649	0	46	919	0	219	1033	437
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												

Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	5.0
Minimum Split (s)	8.0	39.2		8.0	36.0		8.0	31.2		7.7	35.7	35.7
Total Split (s)	17.0	49.0		24.0	56.0		18.0	32.0		25.0	39.0	39.0
Total Split (%)	13.1%	37.7%		18.5%	43.1%		13.8%	24.6%		19.2%	30.0%	30.0%
Maximum Green (s)	12.0	43.0		19.0	50.0		13.0	26.3		20.3	33.3	33.3
Yellow Time (s)	3.0	5.0		3.0	5.0		3.0	4.7		3.0	4.7	4.7
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		1.7	1.0	1.0
Lost Time Adjust (s)	-1.7	-2.8		-1.7	-2.8		-1.7	-3.2		-1.7	-3.2	-3.2
Total Lost Time (s)	3.3	3.2		3.3	3.2		3.3	2.5		3.0	2.5	2.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Minimum Gap (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Time Before Reduce (s)	3.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	20.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			7.0	7.0
Flash Dont Walk (s)		28.0			25.0			20.0			23.0	23.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	13.3	33.7		13.7	34.1		13.0	56.2		14.4	59.2	59.2
Actuated g/C Ratio	0.10	0.26		0.11	0.26		0.10	0.43		0.11	0.46	0.46
v/c Ratio	0.55	0.38		0.56	0.70		0.26	0.42		0.58	0.45	0.62
Control Delay	61.7	40.0		59.4	44.1		54.4	25.5		53.4	31.8	40.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	61.7	40.0		59.4	44.1		54.4	25.5		53.4	31.8	40.5
LOS	E	D		E	D		D	C		D	C	D
Approach Delay		46.1			47.7			26.9			36.9	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 38.3

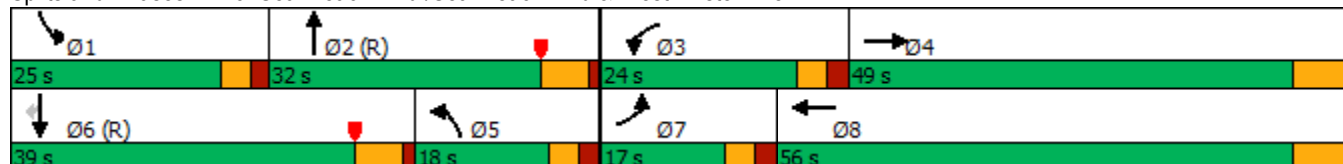
Intersection LOS: D

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations								  				  
Traffic Volume (vph)	10	0	63	0	0	0	74	780	0	2	0	791
Future Volume (vph)	10	0	63	0	0	0	74	780	0	2	0	791
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	15	12	12	12	12	12	12	12	12	12
Storage Length (ft)	0		50	0		0	192		0		196	
Storage Lanes	1		1	0		0	1		0		1	
Taper Length (ft)	25			25			60				80	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	0.91
Ped Bike Factor												
Frt			0.850									
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1711	0	1742	0	0	0	1770	5085	0	1770	0	5085
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	1711	0	1742	0	0	0	1770	5085	0	1770	0	5085
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			217									
Link Speed (mph)		15			15			50				50
Link Distance (ft)		316			163			1791				695
Travel Time (s)		14.4			7.4			24.4				9.5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	68	0	0	0	80	848	0	2	0	860
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	0	68	0	0	0	80	848	0	2	0	860
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		11			11			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.04	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1		1				1	1		1		1
Detector Template	Left		Right				Left	Thru		Left		Thru
Leading Detector (ft)	20		20				20	100		20		100
Trailing Detector (ft)	0		0				0	0		0		0
Detector 1 Position(ft)	0		0				0	0		0		0
Detector 1 Size(ft)	20		20				20	100		20		100
Detector 1 Type	Cl+Ex		Cl+Ex				Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0		0.0				0.0	0.0		0.0		0.0
Turn Type	Perm		Perm				Prot	NA		Prot		NA
Protected Phases							5	2		1		6
Permitted Phases	4		4									
Detector Phase	4		4				5	2		1		6
Switch Phase												

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

Lane Group	SBR	Ø8
↑↑↑ Configurations	↑	
Traffic Volume (vph)	41	
Future Volume (vph)	41	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	12	
Storage Length (ft)	99	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Ped Bike Factor	0.97	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1544	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	92	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Bikes (#/hr)	5	
Peak Hour Factor	0.92	
Adj. Flow (vph)	45	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	45	
Enter Blocked Intersection	No	
Lane Alignment	Right	
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor	1.00	
Turning Speed (mph)	9	
Number of Detectors	1	
Detector Template	Right	
Leading Detector (ft)	20	
Trailing Detector (ft)	0	
Detector 1 Position(ft)	0	
Detector 1 Size(ft)	20	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Minimum Initial (s)	4.0		4.0				3.0	10.0		3.0		10.0
Minimum Split (s)	15.0		15.0				15.0	15.7		15.0		22.7
Total Split (s)	22.0		22.0				15.0	28.0		15.0		28.0
Total Split (%)	33.8%		33.8%				23.1%	43.1%		23.1%		43.1%
Maximum Green (s)	18.0		18.0				10.5	22.3		10.5		22.3
Yellow Time (s)	3.0		3.0				3.5	4.7		3.5		4.7
All-Red Time (s)	1.0		1.0				1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0		0.0				-0.5	-1.7		-0.5		-1.7
Total Lost Time (s)	4.0		4.0				4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lead		Lag		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0		3.0				2.0	5.0		2.0		5.0
Recall Mode	None		None				None	C-Max		None		C-Max
Walk Time (s)												5.0
Flash Dont Walk (s)												12.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)	6.0		6.0				7.9	53.4		6.2		45.5
Actuated g/C Ratio	0.09		0.09				0.12	0.82		0.10		0.70
v/c Ratio	0.07		0.19				0.37	0.20		0.01		0.24
Control Delay	27.6		1.2				43.5	1.2		19.5		3.4
Queue Delay	0.0		0.0				0.0	0.0		0.0		0.0
Total Delay	27.6		1.2				43.5	1.2		19.5		3.4
LOS	C		A				D	A		B		A
Approach Delay		4.9						4.8				3.3
Approach LOS		A						A				A

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 57 (88%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 4.1

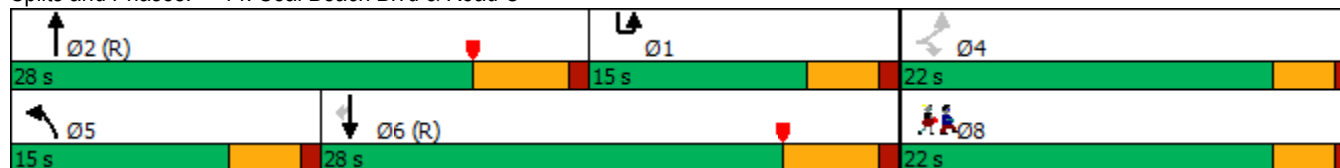
Intersection LOS: A

Intersection Capacity Utilization 32.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: Seal Beach Blvd & Road C



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025



Lane Group	SBR	Ø8
Minimum Initial (s)	10.0	5.0
Minimum Split (s)	22.7	39.0
Total Split (s)	28.0	22.0
Total Split (%)	43.1%	34%
Maximum Green (s)	22.3	18.0
Yellow Time (s)	4.7	3.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)	-1.7	
Total Lost Time (s)	4.0	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	5.0	2.0
Recall Mode	C-Max	None
Walk Time (s)	5.0	5.0
Flash Dont Walk (s)	12.0	30.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)	45.5	
Actuated g/C Ratio	0.70	
v/c Ratio	0.04	
Control Delay	1.5	
Queue Delay	0.0	
Total Delay	1.5	
LOS	A	
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
15: Seal Beach Blvd & Apollo Dr

05/29/2025

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		  	  			
Traffic Volume (vph)	5	857	834	29	29	3
Future Volume (vph)	5	857	834	29	29	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	16
Storage Length (ft)	180			162	0	92
Storage Lanes	1			1	1	1
Taper Length (ft)	60				25	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor				0.97		
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5085	1583	1711	1794
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5085	1539	1711	1794
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				32		3
Link Speed (mph)		50	50		25	
Link Distance (ft)		577	1791		717	
Travel Time (s)		7.9	24.4		19.6	
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)				6		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	932	907	32	32	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	932	907	32	32	3
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		16	12		21	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						

Lanes, Volumes, Timings

15: Seal Beach Blvd & Apollo Dr

05/29/2025



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	15.0	17.7	26.7	26.7	15.0	15.0
Total Split (s)	15.0	48.0	33.0	33.0	17.0	17.0
Total Split (%)	23.1%	73.8%	50.8%	50.8%	26.2%	26.2%
Maximum Green (s)	10.5	42.3	27.3	27.3	13.0	13.0
Yellow Time (s)	3.5	4.7	4.7	4.7	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-1.7	-1.7	-1.7	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	2.0	5.0	5.0	5.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)			5.0	5.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effect Green (s)	8.5	58.6	56.1	56.1	6.8	6.8
Actuated g/C Ratio	0.13	0.90	0.86	0.86	0.10	0.10
v/c Ratio	0.02	0.20	0.21	0.02	0.18	0.02
Control Delay	44.4	0.1	2.1	1.7	28.4	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	0.1	2.1	1.7	28.4	18.3
LOS	D	A	A	A	C	B
Approach Delay		0.4	2.1		27.5	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 50 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.21

Intersection Signal Delay: 1.7

Intersection LOS: A

Intersection Capacity Utilization 30.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 15: Seal Beach Blvd & Apollo Dr



Existing AM Seal Beach Boulevard TSSP 1:10 pm 03/12/2025 Existing Conditions
Iteris, Inc.

Synchro 11 Report
Page 38

Lanes, Volumes, Timings
16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	16	12	851	802	34
Future Volume (vph)	11	16	12	851	802	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	16	12	12	12	12
Storage Length (ft)	0	240	191			90
Storage Lanes	1	1	1			1
Taper Length (ft)	25		60			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1829	1794	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1829	1794	1770	5085	5085	1540
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		17				37
Link Speed (mph)	25			50	50	
Link Distance (ft)	715			1223	577	
Travel Time (s)	19.5			16.7	7.9	
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	17	13	925	872	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	17	13	925	872	37
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			16	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						

Lanes, Volumes, Timings

16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	8.0	12.0	12.0	12.0
Minimum Split (s)	15.0	15.0	15.0	17.7	26.7	26.7
Total Split (s)	17.0	17.0	15.0	48.0	33.0	33.0
Total Split (%)	26.2%	26.2%	23.1%	73.8%	50.8%	50.8%
Maximum Green (s)	13.0	13.0	10.5	42.3	27.3	27.3
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	5.0	5.0	5.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)					5.0	5.0
Flash Dont Walk (s)					16.0	16.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	7.0	7.0	8.5	58.7	56.2	56.2
Actuated g/C Ratio	0.11	0.11	0.13	0.90	0.86	0.86
v/c Ratio	0.06	0.08	0.06	0.20	0.20	0.03
Control Delay	26.4	13.9	27.8	0.3	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	13.9	27.8	0.3	0.2	0.0
LOS	C	B	C	A	A	A
Approach Delay	19.1			0.7	0.2	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 50 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.20

Intersection Signal Delay: 0.7

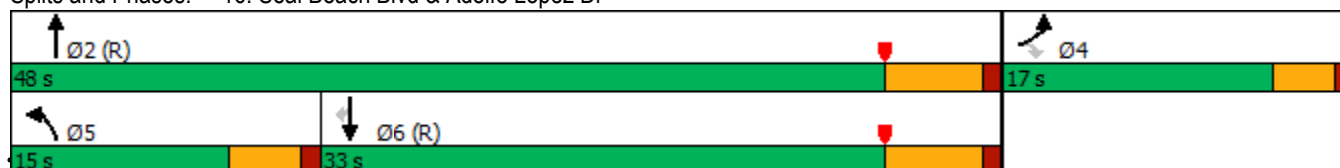
Intersection LOS: A

Intersection Capacity Utilization 30.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 16: Seal Beach Blvd & Adolfo Lopez Dr



Existing AM Seal Beach Boulevard TSSP 1:10 pm 03/12/2025 Existing Conditions
Iteris, Inc.

Synchro 11 Report
Page 40

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		↶	↷		↶	↷	↷	↶↶↶			↷	↶↶↶
Traffic Volume (vph)	34	0	8	4	0	11	6	817	28	1	40	748
Future Volume (vph)	34	0	8	4	0	11	6	817	28	1	40	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		120	289		0		192	
Storage Lanes	0		1	0		1	1		0		1	
Taper Length (ft)	25			25			60				60	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91
Ped Bike Factor								1.00				1.00
Frt			0.850			0.850		0.995				0.996
Flt Protected		0.950			0.950		0.950				0.950	
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	5058	0	0	1770	5063
Flt Permitted		0.800			0.800		0.950				0.548	
Satd. Flow (perm)	0	1490	1583	0	1490	1583	1770	5058	0	0	1021	5063
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			222			222		9				7
Link Speed (mph)		15			15			40				50
Link Distance (ft)		253			838			2064				1223
Travel Time (s)		11.5			38.1			35.2				16.7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	0	9	4	0	12	7	888	30	1	43	813
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	9	0	4	12	7	918	0	0	44	836
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		12			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1	1	1	1	1	1	1	2		1	1	2
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0

Lanes, Volumes, Timings
17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

Lane Group	SBR
▲▲▲ Configurations	
Traffic Volume (vph)	21
Future Volume (vph)	21
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.91
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	3
Peak Hour Factor	0.92
Adj. Flow (vph)	23
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		custom	Prot	NA
Protected Phases		4			8		5	2			1	6
Permitted Phases	4		4	8		8				1		
Detector Phase	4	4	4	8	8	8	5	2		1	1	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	10.0		3.0	3.0	10.0
Minimum Split (s)	15.0	15.0	15.0	36.0	36.0	36.0	15.0	25.0		15.0	15.0	24.7
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	16.0	28.0		15.0	15.0	27.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	33.8%	33.8%	24.6%	43.1%		23.1%	23.1%	41.5%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	11.5	22.0		10.5	10.5	21.3
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	5.0		3.5	3.5	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	-0.5	-2.0			-0.5	-1.7
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	4.0		2.0	2.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	None	C-Max
Walk Time (s)				5.0	5.0	5.0		5.0				5.0
Flash Dont Walk (s)				27.0	27.0	27.0		14.0				14.0
Pedestrian Calls (#/hr)				0	0	0		0				0
Act Effect Green (s)		7.3	7.3		7.2	7.2	6.6	45.7			9.4	52.0
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.10	0.70			0.14	0.80
v/c Ratio		0.22	0.02		0.02	0.03	0.04	0.26			0.30	0.21
Control Delay		28.7	0.1		24.8	0.2	23.0	5.3			29.4	1.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		28.7	0.1		24.8	0.2	23.0	5.3			29.4	1.1
LOS		C	A		C	A	C	A			C	A
Approach Delay		23.1			6.3			5.5				2.5
Approach LOS		C			A			A				A

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 64 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 4.5

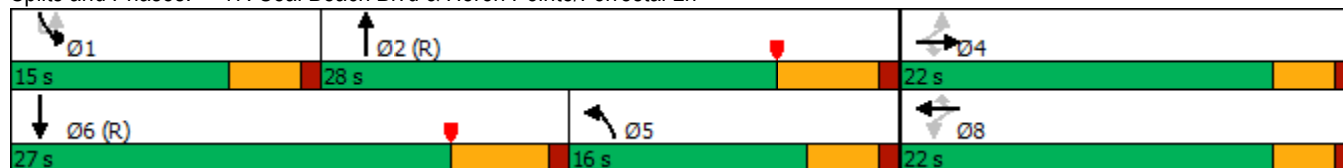
Intersection LOS: A

Intersection Capacity Utilization 39.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 17: Seal Beach Blvd & Heron Pointe/Forrestal Ln





Lane Group	SBR
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	2	65	13	6	49	13	613	3	20	578	155
Future Volume (vph)	195	2	65	13	6	49	13	613	3	20	578	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	167		0	189		0	198		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			95			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.94					1.00			0.99	
Frt			0.850		0.867			0.999			0.968	
Flt Protected		0.953		0.950			0.950			0.950		
Satd. Flow (prot)	0	1775	1583	1770	1615	0	1770	5080	0	1770	4892	0
Flt Permitted		0.953		0.950			0.950			0.950		
Satd. Flow (perm)	0	1775	1489	1770	1615	0	1770	5080	0	1770	4892	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			147		53						50	
Link Speed (mph)		30			15			50			50	
Link Distance (ft)		1498			1062			1153			2064	
Travel Time (s)		34.0			48.3			15.7			28.1	
Confl. Peds. (#/hr)			49						4			3
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	2	71	14	7	53	14	666	3	22	628	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	71	14	60	0	14	669	0	22	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			15			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	3	3		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		3.0	18.0		3.0	18.0	
Minimum Split (s)	44.6	44.6	44.6	15.0	15.0		15.0	31.0		15.0	26.0	
Total Split (s)	56.0	56.0	56.0	21.0	21.0		15.0	37.0		16.0	38.0	
Total Split (%)	43.1%	43.1%	43.1%	16.2%	16.2%		11.5%	28.5%		12.3%	29.2%	
Maximum Green (s)	51.4	51.4	51.4	17.0	17.0		10.5	31.0		11.5	32.0	
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0		3.5	5.0		3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-0.6	-0.6	0.0	0.0		-0.5	-2.0		-0.5	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	33.0	33.0	33.0					18.0			13.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effect Green (s)		23.0	23.0	8.1	8.1		6.1	79.4		9.3	84.5	
Actuated g/C Ratio		0.18	0.18	0.06	0.06		0.05	0.61		0.07	0.65	
v/c Ratio		0.68	0.18	0.13	0.40		0.17	0.22		0.17	0.25	
Control Delay		60.6	1.1	59.0	25.6		64.8	9.1		51.1	9.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		60.6	1.1	59.0	25.6		64.8	9.1		51.1	9.1	
LOS		E	A	E	C		E	A		D	A	
Approach Delay		45.8			31.9			10.2			10.2	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 78 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.5

Intersection LOS: B

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 18: Seal Beach Blvd & Bolsa Ave/Anchor Way

 02 (R)	 01	 04	 03
37 s	16 s	56 s	21 s
 05	 06 (R)		
15 s	38 s		

Lanes, Volumes, Timings
19: Seal Beach Blvd & Marlin Ave

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				  	  	
Traffic Volume (vph)	39	27	25	662	737	52
Future Volume (vph)	39	27	25	662	737	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		85			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt	0.945				0.990	
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1709	0	1770	5085	5034	0
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1709	0	1770	5085	5034	0
Link Speed (mph)	25			50	50	
Link Distance (ft)	591			614	1153	
Travel Time (s)	16.1			8.4	15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	27	25	662	737	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	25	662	789	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
19: Seal Beach Blvd & Marlin Ave

05/29/2025

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	27	25	662	737	52
Future Vol, veh/h	39	27	25	662	737	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	27	25	662	737	52

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1078	395	789
Stage 1	763	-	-
Stage 2	315	-	-
Critical Hdwy	5.74	7.14	5.34
Critical Hdwy Stg 1	6.64	-	-
Critical Hdwy Stg 2	6.04	-	-
Follow-up Hdwy	3.82	3.92	3.12
Pot Cap-1 Maneuver	284	516	494
Stage 1	337	-	-
Stage 2	654	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	270	516	494
Mov Cap-2 Maneuver	270	-	-
Stage 1	320	-	-
Stage 2	654	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.4	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	494	-	335	-	-
HCM Lane V/C Ratio	0.051	-	0.197	-	-
HCM Control Delay (s)	12.7	-	18.4	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	5	133	639	20	33	612	363	6	148	59	386	106
Future Volume (vph)	5	133	639	20	33	612	363	6	148	59	386	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		170		78	159		496	97		99	200	
Storage Lanes		1		1	1		1	1		1	1	
Taper Length (ft)		60			90			60			60	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00
Frt				0.850			0.850		0.957			
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1770	3539	1583	1770	3539	1583	1770	3387	0	3433	1863
Flt Permitted		0.950			0.950			0.950			0.950	
Satd. Flow (perm)	0	1770	3539	1583	1770	3539	1583	1770	3387	0	3433	1863
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				128			320		39			
Link Speed (mph)			40			40			50			50
Link Distance (ft)			1196			1066			687			614
Travel Time (s)			20.4			18.2			9.4			8.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	145	695	22	36	665	395	7	161	64	420	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	150	695	22	36	665	395	7	225	0	420	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			18			24			29
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1	1	1	1	1	1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	20	100	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	100	20	20	100	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Prot	Prot	NA	Perm	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	1	1	6		5	2	3	4	4		3	3
Permitted Phases				6			2					

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	187
Future Volume (vph)	187
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	203
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Adj. Flow (vph)	203
Shared Lane Traffic (%)	
Lane Group Flow (vph)	203
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	3

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	1	1	6	6	5	2	3	4	4		3	3
Switch Phase												
Minimum Initial (s)	5.0	5.0	15.0	15.0	5.0	15.0	7.0	5.0	5.0		7.0	7.0
Minimum Split (s)	10.6	10.6	44.0	44.0	10.6	44.0	43.3	11.3	11.3		43.3	43.3
Total Split (s)	26.0	26.0	39.0	39.0	26.0	39.0	37.0	28.0	28.0		37.0	37.0
Total Split (%)	20.0%	20.0%	30.0%	30.0%	20.0%	30.0%	28.5%	21.5%	21.5%		28.5%	28.5%
Maximum Green (s)	20.4	20.4	32.0	32.0	20.4	32.0	30.7	21.7	21.7		30.7	30.7
Yellow Time (s)	3.6	3.6	5.0	5.0	3.6	5.0	4.3	4.3	4.3		4.3	4.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.6	7.0	7.0	5.6	7.0	6.3	6.3	6.3		6.3	6.3
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	8.0	8.0	3.0	8.0	2.5	2.5	2.5		2.5	2.5
Recall Mode	None	None	C-Max	C-Max	None	C-Max	None	None	None		None	None
Walk Time (s)			7.0	7.0		7.0	7.0				7.0	7.0
Flash Dont Walk (s)			30.0	30.0		22.0	30.0				30.0	30.0
Pedestrian Calls (#/hr)			0	0		0	0				0	0
Act Effect Green (s)		15.9	65.9	65.9	8.1	53.4	83.8	12.1	12.1		23.4	23.4
Actuated g/C Ratio		0.12	0.51	0.51	0.06	0.41	0.64	0.09	0.09		0.18	0.18
v/c Ratio		0.69	0.39	0.03	0.33	0.46	0.35	0.04	0.64		0.68	0.34
Control Delay		71.1	23.3	0.1	65.5	31.4	3.4	52.2	55.3		44.4	36.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		71.1	23.3	0.1	65.5	31.4	3.4	52.2	55.3		44.4	36.4
LOS		E	C	A	E	C	A	D	E		D	D
Approach Delay			31.0			22.4			55.2			34.0
Approach LOS			C			C			E			C

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 77 (59%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 30.5

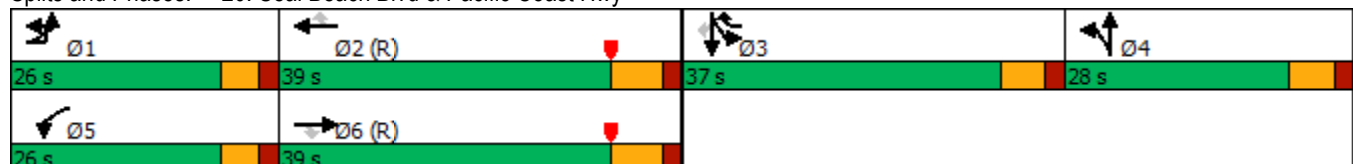
Intersection LOS: C

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 20: Seal Beach Blvd & Pacific Coast Hwy



Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025



Lane Group	SBR
Detector Phase	3
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	43.3
Total Split (s)	37.0
Total Split (%)	28.5%
Maximum Green (s)	30.7
Yellow Time (s)	4.3
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.3
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	2.5
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	30.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	23.4
Actuated g/C Ratio	0.18
v/c Ratio	0.45
Control Delay	11.3
Queue Delay	0.0
Total Delay	11.3
LOS	B
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	591	32	10	880	3	29	3	7	1	0	3
Future Volume (vph)	7	591	32	10	880	3	29	3	7	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		150	105		0	0		35	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	80			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.899	
Flt Protected	0.950			0.950				0.957			0.988	
Satd. Flow (prot)	1770	3539	1583	1770	3536	0	0	1783	1583	0	1655	0
Flt Permitted	0.950			0.950				0.743			0.924	
Satd. Flow (perm)	1770	3539	1583	1770	3536	0	0	1384	1583	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82						94		94	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		707			2617			340			327	
Travel Time (s)		10.7			39.7			9.3			8.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	591	32	10	880	3	29	3	7	1	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	591	32	10	883	0	0	32	7	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4		4	8		

Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.3	22.3	8.0	20.0		26.0	26.0	26.0	26.0	26.0	
Total Split (s)	24.0	64.0	64.0	31.0	71.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	20.0%	53.3%	53.3%	25.8%	59.2%		20.8%	20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	20.0	58.7	58.7	27.0	65.7		21.0	21.0	21.0	21.0	21.0	
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.3	5.3	4.0	5.3			4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		12.0	12.0		6.0		17.0	17.0	17.0	17.0	17.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	6.1	106.4	106.4	6.3	106.5			8.1	8.1		7.9	
Actuated g/C Ratio	0.05	0.89	0.89	0.05	0.89			0.07	0.07		0.07	
v/c Ratio	0.08	0.19	0.02	0.11	0.28			0.34	0.04		0.02	
Control Delay	79.4	2.0	0.4	56.2	2.5			62.6	0.3		0.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	79.4	2.0	0.4	56.2	2.5			62.6	0.3		0.2	
LOS	E	A	A	E	A			E	A		A	
Approach Delay		2.7			3.1			51.4			0.3	
Approach LOS		A			A			D			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 4.1

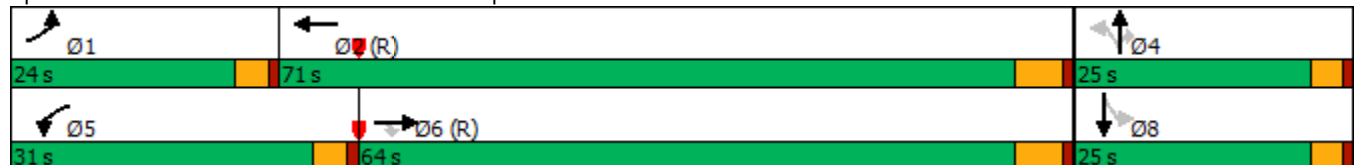
Intersection LOS: A

Intersection Capacity Utilization 37.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Old Ranch Plaza & Lampson Ave



Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	420	79	9	730	6	204	1	3	1	0	7
Future Volume (vph)	18	420	79	9	730	6	204	1	3	1	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	175		0	85		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	100			75			60			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.999			0.887			0.882	
Flt Protected	0.950			0.950			0.950				0.994	
Satd. Flow (prot)	1770	3454	0	1770	3536	0	1770	1652	0	0	1633	0
Flt Permitted	0.950			0.950			0.752				0.983	
Satd. Flow (perm)	1770	3454	0	1770	3536	0	1401	1652	0	0	1615	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			1			3			125	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		2617			1278			620			461	
Travel Time (s)		39.7			19.4			16.9			12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	420	79	9	730	6	204	1	3	1	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	499	0	9	736	0	204	4	0	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		

Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.0	20.0		9.0	21.3		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	30.0		20.0	45.0		30.0	30.0		30.0	30.0	
Total Split (%)	16.7%	33.3%		22.2%	50.0%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	11.0	24.7		16.0	39.7		26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.0	5.3		4.0	5.3		4.0	4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		7.0			11.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	5.6	21.2		5.4	21.1		12.9	12.9			12.9	
Actuated g/C Ratio	0.12	0.47		0.12	0.47		0.29	0.29			0.29	
v/c Ratio	0.08	0.31		0.04	0.45		0.51	0.01			0.01	
Control Delay	22.9	9.0		23.1	10.7		19.2	10.8			0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	22.9	9.0		23.1	10.7		19.2	10.8			0.0	
LOS	C	A		C	B		B	B			A	
Approach Delay		9.5			10.8			19.0				
Approach LOS		A			B			B				

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 45.2

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 11.4

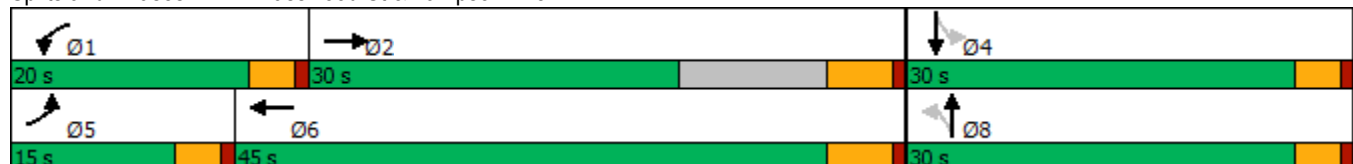
Intersection LOS: B

Intersection Capacity Utilization 46.1%

ICU Level of Service A

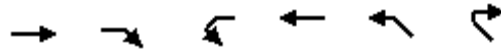
Analysis Period (min) 15

Splits and Phases: 22: Basswood St & Lampson Ave



Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

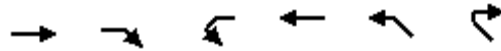
05/29/2025



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑		↵	↑↑	↵	
Traffic Volume (vph)	347	77	16	574	171	29
Future Volume (vph)	347	77	16	574	171	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			75		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.973				0.980	
Flt Protected			0.950		0.959	
Satd. Flow (prot)	3444	0	1770	3539	1751	0
Flt Permitted			0.505		0.959	
Satd. Flow (perm)	3444	0	941	3539	1751	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	53				18	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1278			2619	927	
Travel Time (s)	19.4			39.7	25.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	347	77	16	574	171	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	16	574	200	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	7			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

05/29/2025



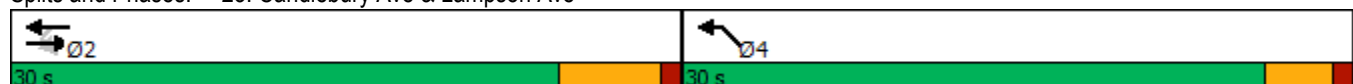
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	24.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	26.0	
Yellow Time (s)	4.5		4.5	4.5	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	7.0		7.0	7.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effect Green (s)	30.9		30.9	30.9	10.1	
Actuated g/C Ratio	0.65		0.65	0.65	0.21	
v/c Ratio	0.19		0.03	0.25	0.51	
Control Delay	4.6		5.5	5.4	19.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	4.6		5.5	5.4	19.1	
LOS	A		A	A	B	
Approach Delay	4.6			5.4	19.1	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 47.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 7.4
Intersection Capacity Utilization 35.0%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 23: Candlebury Ave & Lampson Ave



Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

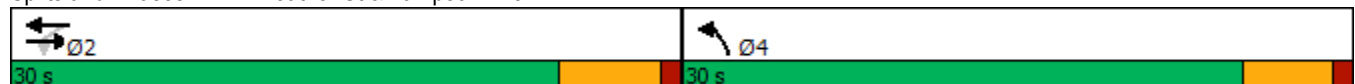
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↖	
Traffic Volume (vph)	314	62	30	507	83	55
Future Volume (vph)	314	62	30	507	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.975				0.946	
Flt Protected			0.950		0.971	
Satd. Flow (prot)	3451	0	1770	3539	1711	0
Flt Permitted			0.529		0.971	
Satd. Flow (perm)	3451	0	985	3539	1711	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	46				55	
Link Speed (mph)	45			45	25	
Link Distance (ft)	2619			1584	691	
Travel Time (s)	39.7			24.0	18.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	314	62	30	507	83	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	0	30	507	138	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	25.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	25.0	
Yellow Time (s)	4.5		4.5	4.5	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	33.7		33.7	33.7	8.0	
Actuated g/C Ratio	0.69		0.69	0.69	0.16	
v/c Ratio	0.16		0.04	0.21	0.42	
Control Delay	3.9		4.7	4.5	15.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.9		4.7	4.5	15.5	
LOS	A		A	A	B	
Approach Delay	3.9			4.5	15.5	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 48.8						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.42						
Intersection Signal Delay: 5.7				Intersection LOS: A		
Intersection Capacity Utilization 40.3%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 24: Heather St & Lampson Ave



Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

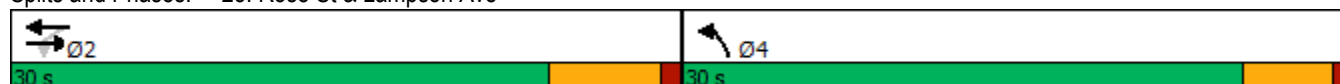
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Traffic Volume (vph)	336	24	25	505	37	46
Future Volume (vph)	336	24	25	505	37	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			65		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.990				0.925	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	3504	0	1770	3539	1685	0
Flt Permitted			0.537		0.978	
Satd. Flow (perm)	3504	0	1000	3539	1685	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	15				46	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1584			1257	867	
Travel Time (s)	24.0			19.0	23.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	336	24	25	505	37	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	360	0	25	505	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	
Minimum Split (s)	20.0		20.0	20.0	28.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.0		24.0	24.0	25.0	
Yellow Time (s)	5.0		5.0	5.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	18.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	38.7		38.7	38.7	7.6	
Actuated g/C Ratio	0.78		0.78	0.78	0.15	
v/c Ratio	0.13		0.03	0.18	0.28	
Control Delay	3.1		4.0	3.3	13.4	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.1		4.0	3.3	13.4	
LOS	A		A	A	B	
Approach Delay	3.1			3.4	13.4	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 49.5						
Natural Cycle: 50						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.28						
Intersection Signal Delay: 4.1				Intersection LOS: A		
Intersection Capacity Utilization 35.8%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 25: Rose St & Lampson Ave



Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

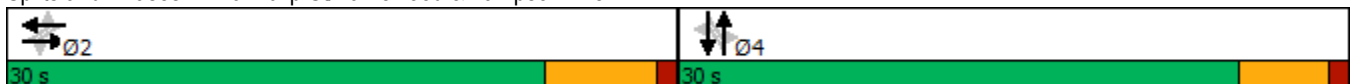
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	366	11	32	477	7	39	1	73	10	1	14
Future Volume (vph)	5	366	11	32	477	7	39	1	73	10	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	80		0	65		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	85			80			35			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.998			0.852			0.924	
Flt Protected	0.950			0.950			0.950				0.980	
Satd. Flow (prot)	1770	3525	0	1770	3532	0	1770	1587	0	0	1687	0
Flt Permitted	0.476			0.528			0.870				0.837	
Satd. Flow (perm)	887	3525	0	984	3532	0	1621	1587	0	0	1441	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			3			73			14	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		1257			1023			510			526	
Travel Time (s)		19.0			15.5			13.9			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	366	11	32	477	7	39	1	73	10	1	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	377	0	32	484	0	39	74	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		

Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		28.0	28.0		28.0	28.0	
Total Split (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	24.0	24.0		24.0	24.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	33.5	33.5		33.5	33.5		7.4	7.4			7.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.17	0.17			0.17	
v/c Ratio	0.01	0.14		0.04	0.18		0.15	0.23			0.10	
Control Delay	4.2	3.6		4.4	3.7		16.8	7.1			11.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	4.2	3.6		4.4	3.7		16.8	7.1			11.7	
LOS	A	A		A	A		B	A			B	
Approach Delay		3.6			3.8			10.5			11.7	
Approach LOS		A			A			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 60												
Actuated Cycle Length: 44.7												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.23												
Intersection Signal Delay: 4.6						Intersection LOS: A						
Intersection Capacity Utilization 43.9%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 26: Tulip St/Parkewood & Lampson Ave



Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	771	59	175	1039	11	17
Future Volume (vph)	771	59	175	1039	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		207	220		0	90
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1529	1770	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		64				18
Link Speed (mph)	50			45	25	
Link Distance (ft)	1365			937	502	
Travel Time (s)	18.6			14.2	13.7	
Confl. Peds. (#/hr)		3				
Confl. Bikes (#/hr)		10				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	838	64	190	1129	12	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	838	64	190	1129	12	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						

Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

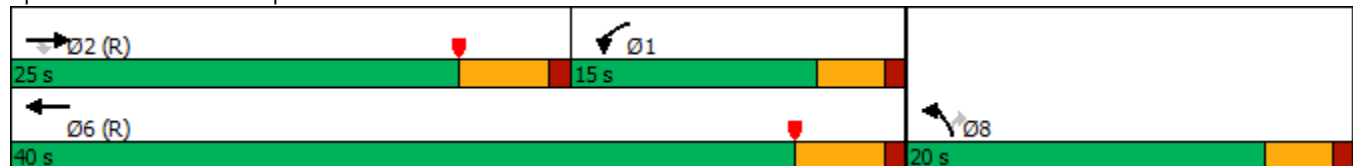
05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Initial (s)	10.0	10.0	3.0	10.0	4.0	4.0
Minimum Split (s)	23.0	23.0	7.7	16.2	8.6	8.6
Total Split (s)	25.0	25.0	15.0	40.0	20.0	20.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%
Maximum Green (s)	20.0	20.0	11.0	35.0	16.0	16.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.2	-3.2	-1.7	-2.8	-1.6	-1.6
Total Lost Time (s)	1.8	1.8	2.3	2.2	2.4	2.4
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	5.0	5.0				
Flash Dont Walk (s)	13.0	13.0				
Pedestrian Calls (#/hr)	0	0				
Act Effect Green (s)	39.3	39.3	12.7	55.3	6.6	6.6
Actuated g/C Ratio	0.66	0.66	0.21	0.92	0.11	0.11
v/c Ratio	0.36	0.06	0.51	0.35	0.06	0.09
Control Delay	6.0	2.2	24.0	1.0	24.3	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	2.2	24.0	1.0	24.3	13.2
LOS	A	A	C	A	C	B
Approach Delay	5.8			4.3	17.6	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 33 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 5.1
 Intersection LOS: A
 Intersection Capacity Utilization 44.3%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 27: Apollo Dr & Westminster Ave



Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	829	46	63	1068	4	4	6	2	1	4	6
Future Volume (vph)	6	829	46	63	1068	4	4	6	2	1	4	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	715		0	75		55	0		75
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		1.00							
Frt			0.850		0.999				0.850		0.905	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3535	0	1770	1863	1583	1770	1686	0
Flt Permitted	0.950			0.950			0.889			0.889		
Satd. Flow (perm)	1770	3539	1543	1770	3535	0	1656	1863	1583	1656	1686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51						71			7
Link Speed (mph)		45			60			25			25	
Link Distance (ft)		799			6309			1679			2824	
Travel Time (s)		12.1			71.7			45.8			77.0	
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)			4			2						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	921	51	70	1187	4	4	7	2	1	4	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	921	51	70	1191	0	4	7	2	1	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4				8
Permitted Phases			2				4		4	8		
Detector Phase	5	2	2	1	6		4	4	4	8	8	
Switch Phase												

Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	7.0	31.5	31.5	7.0	27.5		8.0	8.0	8.0	36.0	36.0	
Total Split (s)	28.0	72.0	72.0	28.0	72.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	21.5%	55.4%	55.4%	21.5%	55.4%		23.1%	23.1%	23.1%	23.1%	23.1%	
Maximum Green (s)	24.0	64.5	64.5	24.0	64.5		26.0	26.0	26.0	26.0	26.0	
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.7	-3.8	-3.8	-1.7	-4.9		-1.7	-1.7	-1.7	-1.7	-1.7	
Total Lost Time (s)	2.3	3.7	3.7	2.3	2.6		2.3	2.3	2.3	2.3	2.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0					5.0	5.0	
Flash Dont Walk (s)		19.0	19.0		15.0					27.0	27.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effect Green (s)	6.9	111.0	111.0	11.2	122.5		7.8	7.8	7.8	7.8	7.8	
Actuated g/C Ratio	0.05	0.85	0.85	0.09	0.94		0.06	0.06	0.06	0.06	0.06	
v/c Ratio	0.08	0.30	0.04	0.46	0.36		0.04	0.06	0.01	0.01	0.10	
Control Delay	47.2	5.5	3.0	65.3	1.4		58.0	58.3	0.0	57.0	39.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	47.2	5.5	3.0	65.3	1.4		58.0	58.3	0.0	57.0	39.2	
LOS	D	A	A	E	A		E	E	A	E	D	
Approach Delay		5.7			5.0			49.3			40.7	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 90 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 5.7

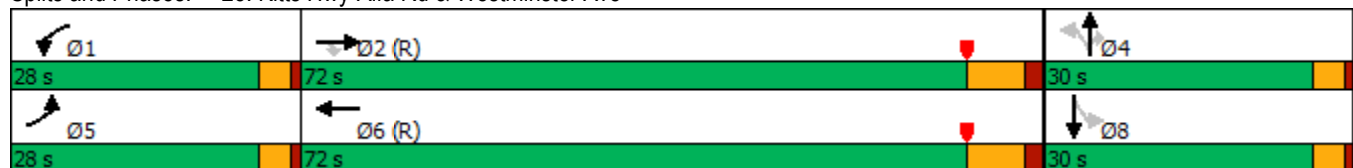
Intersection LOS: A

Intersection Capacity Utilization 46.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Kitts Hwy-Alfa Rd & Westminster Ave



Lanes, Volumes, Timings

1: 1st St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	137	70	22	163	57	65	40	9	29	24	20
Future Volume (vph)	15	137	70	22	163	57	65	40	9	29	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	65		0	70		0	50		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	120			70			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.961			0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1768	0	1770	1790	0	1770	1811	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1768	0	1770	1790	0	1770	1811	0	1770	1863	1583
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		745			1359			938			991	
Travel Time (s)		16.9			30.9			21.3			16.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	137	70	22	163	57	65	40	9	29	24	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	207	0	22	220	0	65	49	0	29	24	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	35.2%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	137	70	22	163	57	65	40	9	29	24	20
Future Vol, veh/h	15	137	70	22	163	57	65	40	9	29	24	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	137	70	22	163	57	65	40	9	29	24	20
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	2
HCM Control Delay	10.6	10.8	9.9	9.3
HCM LOS	B	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	82%	0%	66%	0%	74%	0%	100%	0%
Vol Right, %	0%	18%	0%	34%	0%	26%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	49	15	207	22	220	29	24	20
LT Vol	65	0	15	0	22	0	29	0	0
Through Vol	0	40	0	137	0	163	0	24	0
RT Vol	0	9	0	70	0	57	0	0	20
Lane Flow Rate	65	49	15	207	22	220	29	24	20
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.12	0.082	0.026	0.316	0.038	0.337	0.054	0.042	0.031
Departure Headway (Hd)	6.653	6.016	6.243	5.503	6.199	5.514	6.756	6.251	5.543
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	596	576	656	580	656	531	573	646
Service Time	4.384	3.748	3.955	3.215	3.908	3.223	4.489	3.984	3.275
HCM Lane V/C Ratio	0.121	0.082	0.026	0.316	0.038	0.335	0.055	0.042	0.031
HCM Control Delay	10.3	9.3	9.1	10.7	9.2	11	9.9	9.3	8.5
HCM Lane LOS	B	A	A	B	A	B	A	A	A
HCM 95th-tile Q	0.4	0.3	0.1	1.4	0.1	1.5	0.2	0.1	0.1

Lanes, Volumes, Timings

2: 5th St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	111	12	34	162	61	5	63	11	17	34	32
Future Volume (vph)	25	111	12	34	162	61	5	63	11	17	34	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.968			0.981				0.850
Flt Protected		0.992			0.993			0.997			0.984	
Satd. Flow (prot)	0	1828	0	0	1791	0	0	1822	0	0	1833	1583
Flt Permitted		0.992			0.993			0.997			0.984	
Satd. Flow (perm)	0	1828	0	0	1791	0	0	1822	0	0	1833	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1359			918			1174			1074	
Travel Time (s)		30.9			20.9			26.7			24.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	111	12	34	162	61	5	63	11	17	34	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	257	0	0	79	0	0	51	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	111	12	34	162	61	5	63	11	17	34	32
Future Vol, veh/h	25	111	12	34	162	61	5	63	11	17	34	32
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	111	12	34	162	61	5	63	11	17	34	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.7	9.5	8.7	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	6%	17%	13%	33%	0%
Vol Thru, %	80%	75%	63%	67%	0%
Vol Right, %	14%	8%	24%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	148	257	51	32
LT Vol	5	25	34	17	0
Through Vol	63	111	162	34	0
RT Vol	11	12	61	0	32
Lane Flow Rate	79	148	257	51	32
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.11	0.19	0.314	0.081	0.043
Departure Headway (Hd)	5	4.618	4.404	5.706	4.832
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	714	776	815	626	738
Service Time	3.05	2.655	2.436	3.455	2.58
HCM Lane V/C Ratio	0.111	0.191	0.315	0.081	0.043
HCM Control Delay	8.7	8.7	9.5	9	7.8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	0.7	1.3	0.3	0.1

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	8	68	38	5	20	129	1268	56	16	1187	119
Future Volume (vph)	123	8	68	38	5	20	129	1268	56	16	1187	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	12	12	11	10	12	12	12	12	12	12
Storage Length (ft)	92		0	0		60	358		0	205		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	60			25			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	1.00	0.98			1.00	0.98		1.00			1.00	
Frt		0.866				0.850		0.994			0.986	
Flt Protected	0.950				0.957		0.950			0.950		
Satd. Flow (prot)	1947	1746	0	0	1723	1478	1770	5049	0	1770	5000	0
Flt Permitted	0.727				0.723		0.950			0.950		
Satd. Flow (perm)	1484	1746	0	0	1297	1455	1770	5049	0	1770	5000	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74				101		9			20	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		498			562			1142			537	
Travel Time (s)		13.6			15.3			19.5			9.2	
Confl. Peds. (#/hr)	3		4	4		3			2			3
Confl. Bikes (#/hr)			1						3			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	9	74	41	5	22	140	1378	61	17	1290	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	83	0	0	46	22	140	1439	0	17	1419	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		15			18			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.88	0.88	1.00	1.00	1.04	1.09	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100		20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	3.0	12.0		3.0	12.0	
Minimum Split (s)	33.0	33.0		33.0	33.0	33.0	15.0	26.3		15.0	26.3	
Total Split (s)	36.0	36.0		36.0	36.0	36.0	20.0	69.0		15.0	64.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%	30.0%	16.7%	57.5%		12.5%	53.3%	
Maximum Green (s)	32.0	32.0		32.0	32.0	32.0	16.5	63.7		11.5	58.7	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.3		3.0	4.3	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	-1.3		0.0	-1.3	
Total Lost Time (s)	4.0	4.0			4.0	4.0	3.5	4.0		3.5	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		2.0	2.0	2.0	1.5	5.0		1.5	5.0	
Minimum Gap (s)	3.0	3.0		2.0	2.0	2.0	1.5	3.0		1.5	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	12.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	12.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0	22.0		14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)	16.2	16.2			16.2	16.2	16.5	91.8		5.3	75.8	
Actuated g/C Ratio	0.14	0.14			0.14	0.14	0.14	0.76		0.04	0.63	
v/c Ratio	0.67	0.28			0.26	0.08	0.58	0.37		0.22	0.45	
Control Delay	65.1	14.2			48.3	0.6	49.1	4.9		61.4	12.2	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	65.1	14.2			48.3	0.6	49.1	4.9		61.4	12.2	
LOS	E	B			D	A	D	A		E	B	
Approach Delay		45.6			32.9			8.9			12.8	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 113 (94%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.5

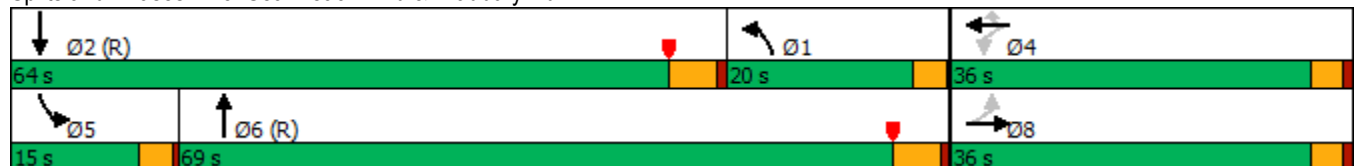
Intersection LOS: B

Intersection Capacity Utilization 57.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Seal Beach Blvd & Bradbury Rd



Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	3	120	4	3	10	140	1209	19	27	1186	158
Future Volume (vph)	178	3	120	4	3	10	140	1209	19	27	1186	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	8	12	12	8
Storage Length (ft)	80		0	0		0	80		60	150		150
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			100			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.98		1.00	0.99				0.95			0.96
Frt		0.853			0.882				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1562	0	1770	1626	0	1770	5085	1372	1770	5085	1372
Flt Permitted	0.748			0.557			0.950			0.950		
Satd. Flow (perm)	1393	1562	0	1034	1626	0	1770	5085	1308	1770	5085	1314
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		130			11				52			143
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		538			406			892			1142	
Travel Time (s)		14.7			9.2			15.2			19.5	
Confl. Peds. (#/hr)			4	4					5			4
Confl. Bikes (#/hr)			1			1			3			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	193	3	130	4	3	11	152	1314	21	29	1289	172
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	133	0	4	14	0	152	1314	21	29	1289	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	100		20	100		20	100	20	20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		3.0	10.0	10.0	3.0	10.0	10.0
Minimum Split (s)	36.2	36.2		15.0	15.0		15.0	17.5	17.5	15.0	18.5	18.5
Total Split (s)	36.0	36.0		36.0	36.0		24.0	69.0	69.0	15.0	60.0	60.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		20.0%	57.5%	57.5%	12.5%	50.0%	50.0%
Maximum Green (s)	31.8	31.8		31.8	31.8		19.5	63.5	63.5	10.5	54.5	54.5
Yellow Time (s)	3.2	3.2		3.2	3.2		3.5	4.5	4.5	3.5	4.5	4.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.2	-0.2		-0.2	-0.2		-0.5	-1.5	-1.5	-0.5	-1.5	-1.5
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	7.0
Flash Dont Walk (s)	25.0	25.0						5.0	5.0		6.0	6.0
Pedestrian Calls (#/hr)	0	0						0	0		0	0
Act Effect Green (s)	22.2	22.2		22.2	22.2		20.0	82.6	82.6	7.0	65.8	65.8
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.17	0.69	0.69	0.06	0.55	0.55
v/c Ratio	0.75	0.34		0.02	0.05		0.52	0.38	0.02	0.28	0.46	0.22
Control Delay	63.3	9.0		35.8	20.0		40.4	4.0	0.1	85.9	9.8	1.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	9.0		35.8	20.0		40.4	4.0	0.1	85.9	9.8	1.4
LOS	E	A		D	B		D	A	A	F	A	A
Approach Delay		41.1			23.5			7.7			10.4	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 111 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 12.2

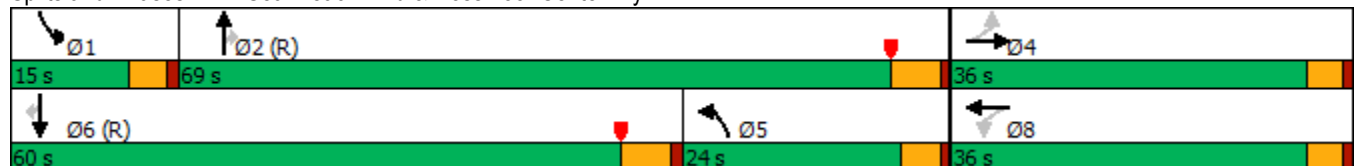
Intersection LOS: B

Intersection Capacity Utilization 58.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Seal Beach Blvd & Rossmoor Center Wy



Lanes, Volumes, Timings

5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	66	43	167	149	47	59	162	1064	77	32	1019	80
Future Volume (vph)	66	43	167	149	47	59	162	1064	77	32	1019	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	75		0	179		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			110			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99				0.99			1.00			1.00	
Frt		0.881			0.917			0.990			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1641	0	1770	1688	0	1770	5025	0	1770	5015	0
Flt Permitted	0.624			0.398			0.950			0.950		
Satd. Flow (perm)	1153	1641	0	741	1688	0	1770	5025	0	1770	5015	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		158			51			13			15	
Link Speed (mph)		15			15			40			40	
Link Distance (ft)		340			303			598			892	
Travel Time (s)		15.5			13.8			10.2			15.2	
Confl. Peds. (#/hr)	8					8			2			12
Confl. Bikes (#/hr)									1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	47	182	162	51	64	176	1157	84	35	1108	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	229	0	162	115	0	176	1241	0	35	1195	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	100		20	100		20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												

Lanes, Volumes, Timings

5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	15.0	15.0		34.0	34.0		15.0	22.5		15.0	22.5	
Total Split (s)	36.0	36.0		36.0	36.0		21.0	63.0		21.0	63.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		17.5%	52.5%		17.5%	52.5%	
Maximum Green (s)	32.0	32.0		32.0	32.0		16.5	57.5		16.5	57.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				23.0	23.0			10.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effect Green (s)	27.0	27.0		27.0	27.0		15.3	77.5		7.4	65.8	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.13	0.65		0.06	0.55	
v/c Ratio	0.28	0.47		0.98	0.28		0.79	0.38		0.32	0.43	
Control Delay	39.5	15.5		109.5	22.0		95.0	2.2		82.8	2.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.5	15.5		109.5	22.0		95.0	2.2		82.8	2.6	
LOS	D	B		F	C		F	A		F	A	
Approach Delay		21.2			73.2			13.8			4.8	
Approach LOS		C			E			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 16.2

Intersection LOS: B

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Seal Beach Blvd & Towne Center Dr

 Ø1	 Ø2 (R)	 Ø4
21 s	63 s	36 s
 Ø5	 Ø6 (R)	 Ø8
21 s	63 s	36 s

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	  			  	
Traffic Volume (vph)	93	0	370	189	34	5	338	1584	166	7	1245	77
Future Volume (vph)	93	0	370	189	34	5	338	1584	166	7	1245	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	107		0	0		0	206		0	78		0
Storage Lanes	1		2	1		0	2		0	1		0
Taper Length (ft)	40			25			120			110		
Lane Util. Factor	1.00	1.00	0.88	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99				1.00			1.00			1.00	
Frt			0.850		0.995			0.986			0.991	
Flt Protected	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (prot)	1770	0	2787	1681	1700	0	3433	5001	0	1770	5034	0
Flt Permitted	0.662			0.950	0.966		0.950			0.950		
Satd. Flow (perm)	1224	0	2787	1681	1700	0	3433	5001	0	1770	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102		1			21			10	
Link Speed (mph)		25			15			40			40	
Link Distance (ft)		526			300			909			598	
Travel Time (s)		14.3			13.6			15.5			10.2	
Confl. Peds. (#/hr)	4					1			1			3
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	0	402	205	37	5	367	1722	180	8	1353	84
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	101	0	402	105	142	0	367	1902	0	8	1437	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1	1	1		1	1		1	1	
Detector Template	Left		Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20		20	20	100		20	100		20	100	
Trailing Detector (ft)	0		0	0	0		0	0		0	0	
Detector 1 Position(ft)	0		0	0	0		0	0		0	0	
Detector 1 Size(ft)	20		20	20	100		20	100		20	100	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm		pm+ov	Split	NA		Prot	NA		Prot	NA	
Protected Phases			5	3	3		5	2		1	6	
Permitted Phases	4		4									
Detector Phase	4		4	3	3		5	2		1	6	
Switch Phase												

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0		10.0	5.0	5.0		10.0	10.0		3.0	10.0	
Minimum Split (s)	15.0		15.0	15.0	15.0		15.0	22.5		15.0	28.5	
Total Split (s)	20.0		25.0	22.0	22.0		25.0	63.0		15.0	53.0	
Total Split (%)	16.7%		20.8%	18.3%	18.3%		20.8%	52.5%		12.5%	44.2%	
Maximum Green (s)	16.0		20.5	18.0	18.0		20.5	57.5		10.5	47.5	
Yellow Time (s)	3.0		3.5	3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0		-0.5	0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag		Lead	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0		2.0	4.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None		None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								10.0			16.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)	14.2		35.5	15.3	15.3		17.4	76.4		5.7	57.2	
Actuated g/C Ratio	0.12		0.30	0.13	0.13		0.14	0.64		0.05	0.48	
v/c Ratio	0.70		0.45	0.49	0.66		0.74	0.60		0.10	0.60	
Control Delay	75.7		26.0	56.2	63.7		67.3	8.5		65.9	15.3	
Queue Delay	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	75.7		26.0	56.2	63.7		67.3	8.5		65.9	15.3	
LOS	E		C	E	E		E	A		E	B	
Approach Delay		36.0			60.5			18.0			15.6	
Approach LOS		D			E			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 4 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 21.6

Intersection LOS: C

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Seal Beach Blvd & St. Cloud Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	63 s	22 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	53 s	42 s	

Lane Group	Ø8
Minimum Initial (s)	2.0
Minimum Split (s)	35.0
Total Split (s)	42.0
Total Split (%)	35%
Maximum Green (s)	39.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	25.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

7: Seal Beach Blvd & Lampson Ave

05/29/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  		 	  
Traffic Volume (vph)	322	447	1508	413	447	1202
Future Volume (vph)	322	447	1508	413	447	1202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	147		299	319	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				150	
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Ped Bike Factor		0.98		0.98		
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	5085	1583	3433	5085
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1558	5085	1555	3433	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		3		61		
Link Speed (mph)	45		45			40
Link Distance (ft)	707		802			909
Travel Time (s)	10.7		12.2			15.5
Confl. Peds. (#/hr)		2		5		
Confl. Bikes (#/hr)		4		2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	486	1639	449	486	1307
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	486	1639	449	486	1307
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	36		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	100	20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						

Lanes, Volumes, Timings

7: Seal Beach Blvd & Lampson Ave

05/29/2025



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	38.3	15.0	35.5	38.3	15.0	15.0
Total Split (s)	38.0	31.0	51.0	38.0	31.0	82.0
Total Split (%)	31.7%	25.8%	42.5%	31.7%	25.8%	68.3%
Maximum Green (s)	33.0	26.5	45.5	33.0	26.5	76.5
Yellow Time (s)	4.0	3.5	4.5	4.0	3.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-0.5	-1.5	-1.3	-0.5	-1.5
Total Lost Time (s)	3.7	4.0	4.0	3.7	4.0	4.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	2.0	5.0	3.0	2.0	5.0
Recall Mode	None	None	C-Max	None	None	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	26.0		23.0	26.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effect Green (s)	20.8	47.5	60.5	81.6	27.0	91.5
Actuated g/C Ratio	0.17	0.40	0.50	0.68	0.22	0.76
v/c Ratio	0.59	0.78	0.64	0.42	0.63	0.34
Control Delay	48.0	36.5	20.8	3.3	33.8	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	36.5	20.8	3.3	33.8	3.2
LOS	D	D	C	A	C	A
Approach Delay	41.3		17.0			11.5
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 19.2

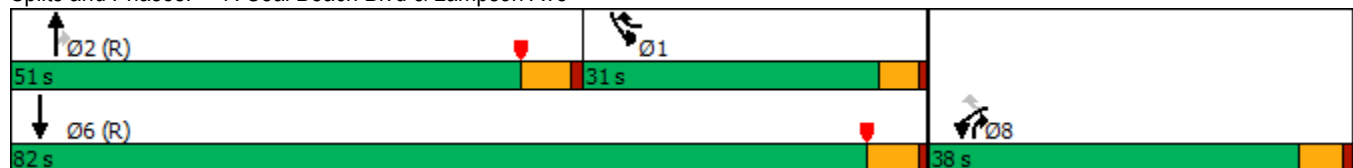
Intersection LOS: B

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Seal Beach Blvd & Lampson Ave



Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	43	48	328	18	525	29	1263	548	217	1120	254
Future Volume (vph)	28	43	48	328	18	525	29	1263	548	217	1120	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		117	0		217	124		0	260		392
Storage Lanes	1		1	2		2	2		1	2		1
Taper Length (ft)	25			25			60			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850		0.861	0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1524	1504	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1524	1504	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		246	325			542			276
Link Speed (mph)		30			35			45			45	
Link Distance (ft)		663			410			1873			802	
Travel Time (s)		15.1			8.0			28.4			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	47	52	357	20	571	32	1373	596	236	1217	276
Shared Lane Traffic (%)						43%						
Lane Group Flow (vph)	30	47	52	357	266	325	32	1373	596	236	1217	276
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8		2	2			6
Detector Phase	7	7	7	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	10.0	10.0	10.0	8.0	10.0	10.0	8.0	10.0	10.0
Minimum Split (s)	12.2	12.2	12.2	44.2	44.2	44.2	12.2	15.3	15.3	12.2	35.3	35.3
Total Split (s)	14.0	14.0	14.0	45.0	45.0	45.0	13.0	37.0	37.0	24.0	48.0	48.0

Lanes, Volumes, Timings
8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.7%	11.7%	11.7%	37.5%	37.5%	37.5%	10.8%	30.8%	30.8%	20.0%	40.0%	40.0%
Maximum Green (s)	9.8	9.8	9.8	40.8	40.8	40.8	8.8	31.7	31.7	19.8	42.7	42.7
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.7	-0.7	-0.7	-1.1	-1.1	-1.1	-0.2	-1.8	-1.8	-0.2	-1.8	-1.8
Total Lost Time (s)	3.5	3.5	3.5	3.1	3.1	3.1	4.0	3.5	3.5	4.0	3.5	3.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	5.0	2.0	5.0	5.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	35.0	35.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				5.0	5.0	5.0					5.0	5.0
Flash Dont Walk (s)				35.0	35.0	35.0					25.0	25.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effect Green (s)	9.2	9.2	9.2	19.9	19.9	19.9	8.7	66.5	66.5	12.8	75.5	75.5
Actuated g/C Ratio	0.08	0.08	0.08	0.17	0.17	0.17	0.07	0.55	0.55	0.11	0.63	0.63
v/c Ratio	0.22	0.33	0.20	0.63	0.58	0.62	0.13	0.49	0.53	0.64	0.38	0.25
Control Delay	55.9	58.8	1.8	51.1	12.2	10.1	30.6	5.9	2.8	62.3	10.1	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	58.8	1.8	51.1	12.2	10.1	30.6	5.9	2.8	62.3	10.1	2.6
LOS	E	E	A	D	B	B	C	A	A	E	B	A
Approach Delay		35.1			26.1			5.4			16.0	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 46 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 14.1

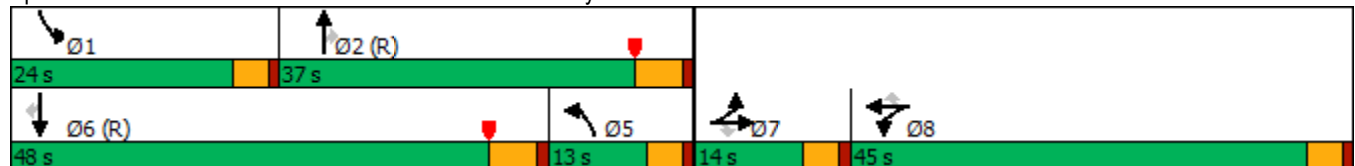
Intersection LOS: B

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Seal Beach Blvd & Old Ranch Pkwy



Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	7	16	434	6	440	7	1276	314	348	1192	25
Future Volume (vph)	24	7	16	434	6	440	7	1276	314	348	1192	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		100	86		225	650		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			83			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.950				0.850			0.850		0.997	
Flt Protected		0.975		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	3278	0	1681	1688	1583	1770	5085	1583	1770	5070	0
Flt Permitted		0.975		0.950	0.954		0.950			0.950		
Satd. Flow (perm)	0	3278	0	1681	1688	1583	1770	5085	1583	1770	5070	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				333			289		3	
Link Speed (mph)		35			40			50			50	
Link Distance (ft)		991			994			1529			1873	
Travel Time (s)		19.3			16.9			20.9			25.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	8	17	472	7	478	8	1387	341	378	1296	27
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	51	0	264	215	478	8	1387	341	378	1323	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100		20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	Free	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						Free			2			
Detector Phase	4	4		3	3		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)	12.2	12.2		12.2	12.2		12.2	15.7	15.7	12.2	23.7	
Total Split (s)	21.0	21.0		25.0	25.0		13.0	40.0	40.0	34.0	61.0	

Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	17.5%	17.5%		20.8%	20.8%		10.8%	33.3%	33.3%	28.3%	50.8%	
Maximum Green (s)	16.8	16.8		20.8	20.8		8.8	34.3	34.3	29.8	55.3	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	4.7	4.7	3.2	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.1		-1.4	-1.4		-0.2	-2.2	-2.2	-0.2	-2.2	
Total Lost Time (s)		3.1		2.8	2.8		4.0	3.5	3.5	4.0	3.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	5.0	5.0	2.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	1.5	1.5	2.0	1.5	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	20.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)												5.0
Flash Dont Walk (s)												13.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)		9.1		21.4	21.4	120.0	8.2	48.6	48.6	30.0	80.1	
Actuated g/C Ratio		0.08		0.18	0.18	1.00	0.07	0.40	0.40	0.25	0.67	
v/c Ratio		0.19		0.88	0.72	0.30	0.07	0.67	0.42	0.86	0.39	
Control Delay		39.7		77.9	60.5	0.5	53.7	32.1	6.8	55.8	4.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		39.7		77.9	60.5	0.5	53.7	32.1	6.8	55.8	4.3	
LOS		D		E	E	A	D	C	A	E	A	
Approach Delay		39.7			35.3			27.3			15.8	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 33 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 24.7

Intersection LOS: C

Intersection Capacity Utilization 72.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Seal Beach Blvd & N Gate Rd



Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Lane Configurations			↰	↑↑↑	↑↑↑	↱		
Traffic Volume (vph)	0	0	58	1792	1122	212		
Future Volume (vph)	0	0	58	1792	1122	212		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	0			115		
Storage Lanes	0	0	1			1		
Taper Length (ft)	25		25					
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00		
Ped Bike Factor						0.98		
Frt						0.850		
Flt Protected			0.950					
Satd. Flow (prot)	0	0	1770	5085	5085	1583		
Flt Permitted			0.950					
Satd. Flow (perm)	0	0	1770	5085	5085	1557		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)						230		
Link Speed (mph)	15			50	50			
Link Distance (ft)	370			174	1529			
Travel Time (s)	16.8			2.4	20.9			
Confl. Peds. (#/hr)						1		
Confl. Bikes (#/hr)						8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	0	0	63	1948	1220	230		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	63	1948	1220	230		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			16	16			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	1	1	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	100	100	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Turn Type			Prot	NA	NA	Perm		
Protected Phases			5	2 4	6		2	4
Permitted Phases						6		
Detector Phase			5	2 4	6	6		
Switch Phase								

Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Minimum Initial (s)			4.0		10.0	10.0	10.0	5.0
Minimum Split (s)			8.0		26.7	26.7	15.7	15.0
Total Split (s)			8.0		31.0	31.0	47.0	23.0
Total Split (%)			11.4%		44.3%	44.3%	67%	33%
Maximum Green (s)			6.0		25.3	25.3	41.3	19.0
Yellow Time (s)			2.0		4.7	4.7	4.7	3.0
All-Red Time (s)			0.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			-0.5		-1.7	0.0		
Total Lost Time (s)			1.5		4.0	5.7		
Lead/Lag			Lead		Lag	Lag		
Lead-Lag Optimize?			Yes		Yes	Yes		
Vehicle Extension (s)			3.0		4.0	4.0	4.0	4.0
Recall Mode			None		C-Max	C-Max	C-Max	None
Walk Time (s)					7.0	7.0		
Flash Dont Walk (s)					14.0	14.0		
Pedestrian Calls (#/hr)					0	0		
Act Effect Green (s)			6.4	70.0	38.2	36.5		
Actuated g/C Ratio			0.09	1.00	0.55	0.52		
v/c Ratio			0.39	0.38	0.44	0.25		
Control Delay			46.0	1.5	10.7	2.4		
Queue Delay			0.3	0.0	0.0	0.0		
Total Delay			46.3	1.5	10.7	2.4		
LOS			D	A	B	A		
Approach Delay				2.9	9.4			
Approach LOS				A	A			

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 17 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 5.6

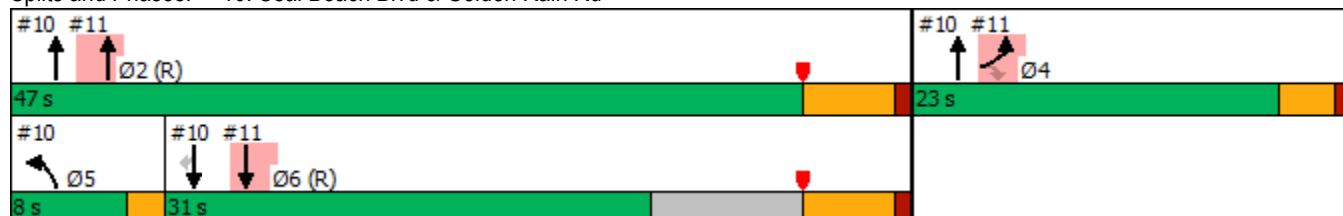
Intersection LOS: A

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations	↔↔	↔		↑↑↑	↑↑↑		
Traffic Volume (vph)	234	51	0	1619	1123	0	
Future Volume (vph)	234	51	0	1619	1123	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	16	12	12	12	12	
Storage Length (ft)	0	0	91			0	
Storage Lanes	2	1	1			0	
Taper Length (ft)	25		90				
Lane Util. Factor	0.97	1.00	1.00	0.86	0.91	1.00	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3547	1794	0	6408	5085	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3547	1794	0	6408	5085	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		55					
Link Speed (mph)	15			50	50		
Link Distance (ft)	316			1806	174		
Travel Time (s)	14.4			24.6	2.4		
Confl. Peds. (#/hr)						1	
Confl. Bikes (#/hr)						8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	254	55	0	1760	1221	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	254	55	0	1760	1221	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	26			4	4		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		1	1		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		100	100		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Turn Type	Prot	Perm		NA	NA		
Protected Phases	4			2	6	5	
Permitted Phases		4					
Detector Phase	4	4		2	6		

Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Switch Phase							
Minimum Initial (s)	5.0	5.0		10.0	10.0		4.0
Minimum Split (s)	15.0	15.0		15.7	26.7		8.0
Total Split (s)	23.0	23.0		47.0	31.0		8.0
Total Split (%)	32.9%	32.9%		67.1%	44.3%		11%
Maximum Green (s)	19.0	19.0		41.3	25.3		6.0
Yellow Time (s)	3.0	3.0		4.7	4.7		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)	0.0	0.0		-1.7	-1.7		
Total Lost Time (s)	4.0	4.0		4.0	4.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		C-Max	C-Max		None
Walk Time (s)					7.0		
Flash Dont Walk (s)					14.0		
Pedestrian Calls (#/hr)					0		
Act Effect Green (s)	19.0	19.0		43.0	38.2		
Actuated g/C Ratio	0.27	0.27		0.61	0.55		
v/c Ratio	0.26	0.10		0.45	0.44		
Control Delay	20.9	6.8		12.7	1.6		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	20.9	6.8		12.7	1.6		
LOS	C	A		B	A		
Approach Delay	18.4			12.7	1.6		
Approach LOS	B			B	A		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 17 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 9.1

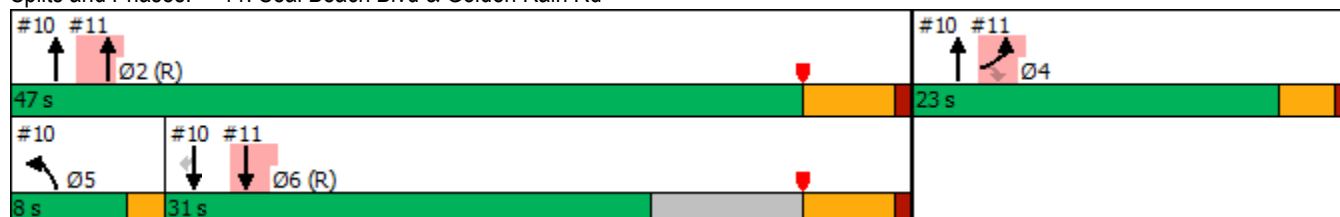
Intersection LOS: A

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings
12: Seal Beach Blvd & St. Andrews Dr

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				  	  	
Traffic Volume (vph)	163	78	73	1315	1203	57
Future Volume (vph)	163	78	73	1315	1203	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	70		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor					1.00	
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	5085	5044	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	5085	5044	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		85			13	
Link Speed (mph)	15			50	50	
Link Distance (ft)	538			1002	1806	
Travel Time (s)	24.5			13.7	24.6	
Confl. Peds. (#/hr)						1
Confl. Bikes (#/hr)						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	85	79	1429	1308	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	85	79	1429	1370	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	100	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						

Lanes, Volumes, Timings

12: Seal Beach Blvd & St. Andrews Dr

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	4.0	4.0	2.0	15.0	15.0	
Minimum Split (s)	15.0	15.0	15.0	20.7	21.7	
Total Split (s)	18.0	18.0	17.0	52.0	35.0	
Total Split (%)	25.7%	25.7%	24.3%	74.3%	50.0%	
Maximum Green (s)	14.0	14.0	12.5	46.3	29.3	
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	5.0	5.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)					7.0	
Flash Dont Walk (s)					9.0	
Pedestrian Calls (#/hr)					0	
Act Effect Green (s)	10.9	10.9	8.0	51.1	40.9	
Actuated g/C Ratio	0.16	0.16	0.11	0.73	0.58	
v/c Ratio	0.64	0.27	0.39	0.39	0.46	
Control Delay	38.3	8.7	33.0	3.9	4.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.3	8.7	33.0	3.9	4.4	
LOS	D	A	C	A	A	
Approach Delay	28.7			5.4	4.4	
Approach LOS	C			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 48 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 6.9

Intersection LOS: A

Intersection Capacity Utilization 47.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: Seal Beach Blvd & St. Andrews Dr



Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	411	522	35	245	638	246	87	957	162	178	797	244
Future Volume (vph)	411	522	35	245	638	246	87	957	162	178	797	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	280		0	265		0	284		187
Storage Lanes	2		0	2		0	1		0	2		1
Taper Length (ft)	90			125			95			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	0.95	1.00	0.91	0.91	0.97	0.91	1.00
Ped Bike Factor								1.00				0.98
Frt		0.991			0.958			0.978				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5040	0	3433	3391	0	1770	4962	0	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5040	0	3433	3391	0	1770	4962	0	3433	5085	1559
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					46			24				
Link Speed (mph)		45			45			25			50	
Link Distance (ft)		1322			799			861			1002	
Travel Time (s)		20.0			12.1			23.5			13.7	
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												5
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
Adj. Flow (vph)	437	555	37	261	679	262	93	1018	172	189	848	260
Shared Lane Traffic (%)												
Lane Group Flow (vph)	437	592	0	261	941	0	93	1190	0	189	848	260
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												

Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

05/29/2025

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	5.0
Minimum Split (s)	8.0	39.2		8.0	36.0		8.0	31.2		7.7	35.7	35.7
Total Split (s)	22.0	51.0		26.0	55.0		17.0	45.0		18.0	46.0	46.0
Total Split (%)	15.7%	36.4%		18.6%	39.3%		12.1%	32.1%		12.9%	32.9%	32.9%
Maximum Green (s)	17.0	45.0		21.0	49.0		12.0	39.3		13.3	40.3	40.3
Yellow Time (s)	3.0	5.0		3.0	5.0		3.0	4.7		3.0	4.7	4.7
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		1.7	1.0	1.0
Lost Time Adjust (s)	-1.7	-2.8		-1.7	-2.8		-1.7	-3.2		-1.7	-3.2	-3.2
Total Lost Time (s)	3.3	3.2		3.3	3.2		3.3	2.5		3.0	2.5	2.5
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Minimum Gap (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Time Before Reduce (s)	3.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	20.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			7.0	7.0
Flash Dont Walk (s)		28.0			25.0			20.0			23.0	23.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	21.6	52.2		16.7	47.3		13.7	45.8		13.3	45.1	45.1
Actuated g/C Ratio	0.15	0.37		0.12	0.34		0.10	0.33		0.10	0.32	0.32
v/c Ratio	0.83	0.31		0.64	0.80		0.54	0.73		0.58	0.52	0.52
Control Delay	71.2	31.9		65.8	45.4		67.3	40.3		58.1	39.7	42.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	71.2	31.9		65.8	45.4		67.3	40.3		58.1	39.7	42.5
LOS	E	C		E	D		E	D		E	D	D
Approach Delay		48.6			49.8			42.2			42.9	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 45.7

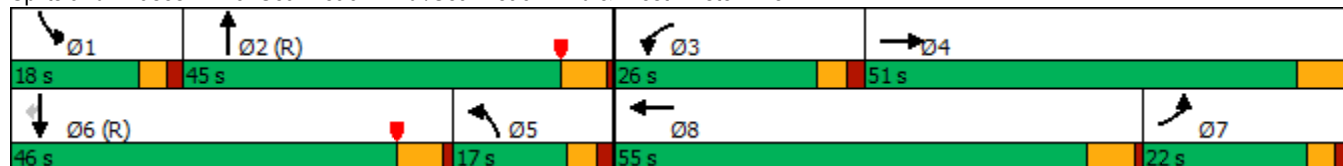
Intersection LOS: D

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations								  				  
Traffic Volume (vph)	12	0	63	0	0	0	21	1081	0	0	0	891
Future Volume (vph)	12	0	63	0	0	0	21	1081	0	0	0	891
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	15	12	12	12	12	12	12	12	12	12
Storage Length (ft)	0		50	0		0	192		0		196	
Storage Lanes	1		1	0		0	1		0		1	
Taper Length (ft)	25			25			60				80	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	0.91
Ped Bike Factor												
Frt			0.850									
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1711	0	1742	0	0	0	1770	5085	0	1863	0	5085
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1711	0	1742	0	0	0	1770	5085	0	1863	0	5085
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			201									
Link Speed (mph)		15			15			50				50
Link Distance (ft)		316			163			1791				695
Travel Time (s)		14.4			7.4			24.4				9.5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	0	68	0	0	0	23	1175	0	0	0	968
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	0	68	0	0	0	23	1175	0	0	0	968
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		11			11			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.04	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1		1				1	1		1		1
Detector Template	Left		Right				Left	Thru		Left		Thru
Leading Detector (ft)	20		20				20	100		20		100
Trailing Detector (ft)	0		0				0	0		0		0
Detector 1 Position(ft)	0		0				0	0		0		0
Detector 1 Size(ft)	20		20				20	100		20		100
Detector 1 Type	Cl+Ex		Cl+Ex				Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0		0.0				0.0	0.0		0.0		0.0
Turn Type	Perm		Perm				Prot	NA		Prot		NA
Protected Phases							5	2		1		6
Permitted Phases	4		4									
Detector Phase	4		4				5	2		1		6
Switch Phase												

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

Lane Group	SBR	Ø8
↑↑↑ Lane Configurations	↑	
Traffic Volume (vph)	17	
Future Volume (vph)	17	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	12	
Storage Length (ft)	99	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Ped Bike Factor	0.98	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1545	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	86	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Bikes (#/hr)	5	
Peak Hour Factor	0.92	
Adj. Flow (vph)	18	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	18	
Enter Blocked Intersection	No	
Lane Alignment	Right	
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor	1.00	
Turning Speed (mph)	9	
Number of Detectors	1	
Detector Template	Right	
Leading Detector (ft)	20	
Trailing Detector (ft)	0	
Detector 1 Position(ft)	0	
Detector 1 Size(ft)	20	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Minimum Initial (s)	4.0		4.0				3.0	10.0		3.0		10.0
Minimum Split (s)	15.0		15.0				15.0	15.7		15.0		22.7
Total Split (s)	22.0		22.0				15.0	33.0		15.0		33.0
Total Split (%)	31.4%		31.4%				21.4%	47.1%		21.4%		47.1%
Maximum Green (s)	18.0		18.0				10.5	27.3		10.5		27.3
Yellow Time (s)	3.0		3.0				3.5	4.7		3.5		4.7
All-Red Time (s)	1.0		1.0				1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0		0.0				-0.5	-1.7		-0.5		-1.7
Total Lost Time (s)	4.0		4.0				4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lead		Lag		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0		3.0				2.0	5.0		2.0		5.0
Recall Mode	None		None				None	C-Max		None		C-Max
Walk Time (s)												5.0
Flash Dont Walk (s)												12.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)	6.2		6.2				6.0	61.2				56.8
Actuated g/C Ratio	0.09		0.09				0.09	0.87				0.81
v/c Ratio	0.09		0.20				0.15	0.26				0.23
Control Delay	30.2		1.3				31.9	1.4				0.4
Queue Delay	0.0		0.0				0.0	0.0				0.0
Total Delay	30.2		1.3				31.9	1.4				0.4
LOS	C		A				C	A				A
Approach Delay		6.0						2.0				0.4
Approach LOS		A						A				A

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 5 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 1.4

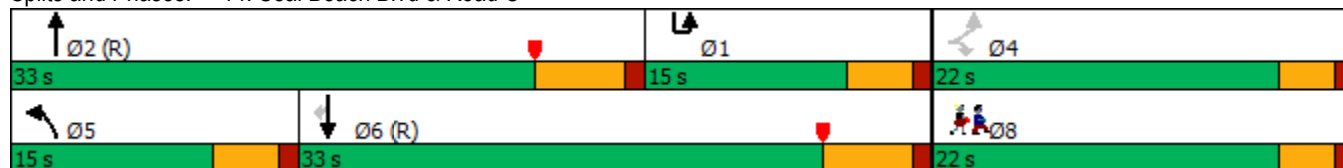
Intersection LOS: A

Intersection Capacity Utilization 30.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: Seal Beach Blvd & Road C



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025



Lane Group	SBR	Ø8
Minimum Initial (s)	10.0	5.0
Minimum Split (s)	22.7	39.0
Total Split (s)	33.0	22.0
Total Split (%)	47.1%	31%
Maximum Green (s)	27.3	18.0
Yellow Time (s)	4.7	3.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)	-1.7	
Total Lost Time (s)	4.0	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	5.0	2.0
Recall Mode	C-Max	None
Walk Time (s)	5.0	5.0
Flash Dont Walk (s)	12.0	30.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)	56.8	
Actuated g/C Ratio	0.81	
v/c Ratio	0.01	
Control Delay	0.0	
Queue Delay	0.0	
Total Delay	0.0	
LOS	A	
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
15: Seal Beach Blvd & Apollo Dr

05/29/2025

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		  	  			
Traffic Volume (vph)	4	1080	976	12	40	15
Future Volume (vph)	4	1080	976	12	40	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	16
Storage Length (ft)	180			162	0	92
Storage Lanes	1			1	1	1
Taper Length (ft)	60				25	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor				0.97		
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	5085	5085	1583	1711	1794
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	5085	5085	1539	1711	1794
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				13		16
Link Speed (mph)		50	50		25	
Link Distance (ft)		577	1791		717	
Travel Time (s)		7.9	24.4		19.6	
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)				6		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	1174	1061	13	43	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	1174	1061	13	43	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		16	12		21	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						

Lanes, Volumes, Timings

15: Seal Beach Blvd & Apollo Dr

05/29/2025



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	15.0	17.7	26.7	26.7	15.0	15.0
Total Split (s)	15.0	51.0	36.0	36.0	19.0	19.0
Total Split (%)	21.4%	72.9%	51.4%	51.4%	27.1%	27.1%
Maximum Green (s)	10.5	45.3	30.3	30.3	15.0	15.0
Yellow Time (s)	3.5	4.7	4.7	4.7	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-1.7	-1.7	-1.7	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	2.0	5.0	5.0	5.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)			5.0	5.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effect Green (s)	8.5	60.3	57.8	57.8	7.3	7.3
Actuated g/C Ratio	0.12	0.86	0.83	0.83	0.10	0.10
v/c Ratio	0.02	0.27	0.25	0.01	0.24	0.08
Control Delay	46.0	0.5	0.6	0.1	31.6	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	0.5	0.6	0.1	31.6	14.7
LOS	D	A	A	A	C	B
Approach Delay		0.6	0.6		27.0	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 53 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 1.3

Intersection LOS: A

Intersection Capacity Utilization 31.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 15: Seal Beach Blvd & Apollo Dr



Existing PM Seal Beach Boulevard TSSP 3:32 pm 03/26/2025 Existing Conditions
Iteris, Inc.

Synchro 11 Report
Page 34

Lanes, Volumes, Timings
16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	10	9	1052	977	14
Future Volume (vph)	32	10	9	1052	977	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	16	12	12	12	12
Storage Length (ft)	0	240	191			90
Storage Lanes	1	1	1			1
Taper Length (ft)	25		60			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1829	1794	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1829	1794	1770	5085	5085	1540
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		11				15
Link Speed (mph)	25			50	50	
Link Distance (ft)	715			1223	577	
Travel Time (s)	19.5			16.7	7.9	
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	11	10	1143	1062	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	11	10	1143	1062	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			16	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						

Lanes, Volumes, Timings
16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



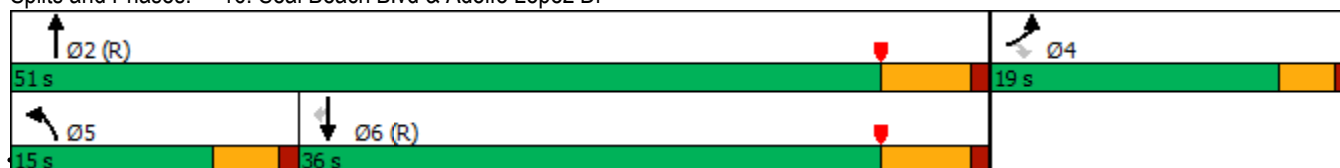
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	8.0	12.0	12.0	12.0
Minimum Split (s)	15.0	15.0	15.0	17.7	26.7	26.7
Total Split (s)	19.0	19.0	15.0	51.0	36.0	36.0
Total Split (%)	27.1%	27.1%	21.4%	72.9%	51.4%	51.4%
Maximum Green (s)	15.0	15.0	10.5	45.3	30.3	30.3
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	5.0	5.0	5.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)					5.0	5.0
Flash Dont Walk (s)					16.0	16.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	7.9	7.9	8.5	60.0	57.5	57.5
Actuated g/C Ratio	0.11	0.11	0.12	0.86	0.82	0.82
v/c Ratio	0.17	0.05	0.05	0.26	0.25	0.01
Control Delay	29.5	15.4	29.6	1.9	0.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	15.4	29.6	1.9	0.3	0.0
LOS	C	B	C	A	A	A
Approach Delay	26.1			2.1	0.3	
Approach LOS	C			A	A	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 53 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.26
Intersection Signal Delay: 1.8
Intersection Capacity Utilization 31.2%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 16: Seal Beach Blvd & Adolfo Lopez Dr



Existing PM Seal Beach Boulevard TSSP 3:32 pm 03/26/2025 Existing Conditions
Iteris, Inc.

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↑↑↑		↖	↑↑↑	
Traffic Volume (vph)	28	0	14	39	0	73	8	960	8	16	941	26
Future Volume (vph)	28	0	14	39	0	73	8	960	8	16	941	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		120	289		0	192		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor								1.00			1.00	
Frt			0.850			0.850		0.999			0.996	
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	5080	0	1770	5063	0
Flt Permitted		0.730			0.738		0.950			0.950		
Satd. Flow (perm)	0	1360	1583	0	1375	1583	1770	5080	0	1770	5063	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			206		2			7	
Link Speed (mph)		15			15			40			50	
Link Distance (ft)		253			838			2064			1223	
Travel Time (s)		11.5			38.1			35.2			16.7	
Confl. Peds. (#/hr)												3
Confl. Bikes (#/hr)									1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	0	15	42	0	79	9	1043	9	17	1023	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	15	0	42	79	9	1052	0	17	1051	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	10.0		3.0	10.0	
Minimum Split (s)	15.0	15.0	15.0	36.0	36.0	36.0	15.0	25.0		15.0	24.7	
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	16.0	33.0		15.0	32.0	
Total Split (%)	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	22.9%	47.1%		21.4%	45.7%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	11.5	27.0		10.5	26.3	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	5.0		3.5	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	-0.5	-2.0		-0.5	-1.7	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)				27.0	27.0	27.0		14.0			14.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effect Green (s)		7.7	7.7		7.7	7.7	6.6	54.8		5.8	53.8	
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.09	0.78		0.08	0.77	
v/c Ratio		0.20	0.04		0.28	0.22	0.05	0.26		0.12	0.27	
Control Delay		30.6	0.2		32.5	1.4	27.2	2.9		26.5	3.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		30.6	0.2		32.5	1.4	27.2	2.9		26.5	3.3	
LOS		C	A		C	A	C	A		C	A	
Approach Delay		20.5			12.2			3.1			3.7	
Approach LOS		C			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 4.2

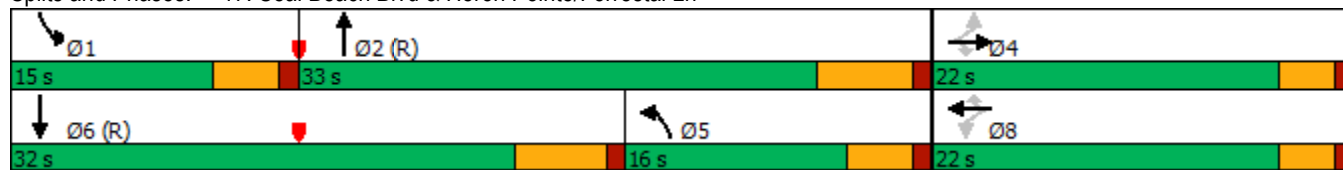
Intersection LOS: A

Intersection Capacity Utilization 36.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 17: Seal Beach Blvd & Heron Pointe/Forrestal Ln



Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	11	16	11	8	26	13	761	9	32	692	266
Future Volume (vph)	187	11	16	11	8	26	13	761	9	32	692	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	167		0	189		0	198		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			95			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.94					1.00			0.99	
Frt			0.850		0.886			0.998			0.958	
Flt Protected		0.955		0.950			0.950			0.950		
Satd. Flow (prot)	0	1779	1583	1770	1650	0	1770	5073	0	1770	4831	0
Flt Permitted		0.955		0.950			0.950			0.950		
Satd. Flow (perm)	0	1779	1483	1770	1650	0	1770	5073	0	1770	4831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		28			1			85	
Link Speed (mph)		30			15			50			50	
Link Distance (ft)		1498			1062			1153			2064	
Travel Time (s)		34.0			48.3			15.7			28.1	
Confl. Peds. (#/hr)			49						4			3
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	12	17	12	9	28	14	827	10	35	752	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	215	17	12	37	0	14	837	0	35	1041	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			15			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	3	3		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		3.0	18.0		3.0	18.0	
Minimum Split (s)	44.6	44.6	44.6	15.0	15.0		15.0	31.0		15.0	26.0	
Total Split (s)	46.0	46.0	46.0	16.0	16.0		16.0	61.0		17.0	62.0	
Total Split (%)	32.9%	32.9%	32.9%	11.4%	11.4%		11.4%	43.6%		12.1%	44.3%	
Maximum Green (s)	41.4	41.4	41.4	12.0	12.0		11.5	55.0		12.5	56.0	
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0		3.5	5.0		3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-0.6	-0.6	0.0	0.0		-0.5	-2.0		-0.5	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	33.0	33.0	33.0					18.0			13.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effect Green (s)		23.8	23.8	7.9	7.9		6.2	84.7		11.4	93.8	
Actuated g/C Ratio		0.17	0.17	0.06	0.06		0.04	0.60		0.08	0.67	
v/c Ratio		0.71	0.05	0.12	0.31		0.18	0.27		0.24	0.32	
Control Delay		67.3	0.2	64.4	34.1		78.3	11.6		55.2	8.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		67.3	0.2	64.4	34.1		78.3	11.6		55.2	8.1	
LOS		E	A	E	C		E	B		E	A	
Approach Delay		62.4			41.5			12.7			9.6	
Approach LOS		E			D			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 85 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 17.1

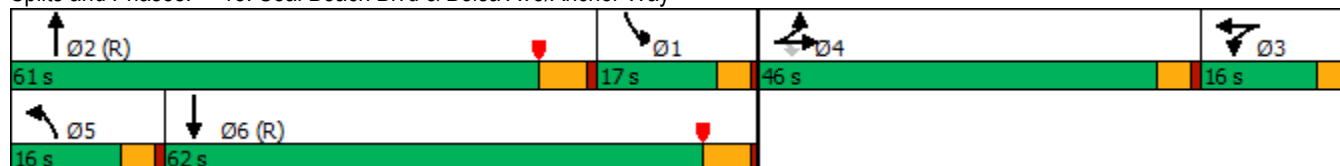
Intersection LOS: B

Intersection Capacity Utilization 63.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 18: Seal Beach Blvd & Bolsa Ave/Anchor Way



Lanes, Volumes, Timings
19: Seal Beach Blvd & Marlin Ave

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				  	  	
Traffic Volume (vph)	13	12	17	638	770	37
Future Volume (vph)	13	12	17	638	770	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		85			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt	0.935				0.993	
Flt Protected	0.975		0.950			
Satd. Flow (prot)	1698	0	1770	5085	5050	0
Flt Permitted	0.975		0.950			
Satd. Flow (perm)	1698	0	1770	5085	5050	0
Link Speed (mph)	25			50	50	
Link Distance (ft)	591			614	1153	
Travel Time (s)	16.1			8.4	15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	13	12	17	638	770	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	17	638	807	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	12	17	638	770	37
Future Vol, veh/h	13	12	17	638	770	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	12	17	638	770	37

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1078	404	807	0	-	0
Stage 1	789	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	284	509	485	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	274	509	485	-	-	-
Mov Cap-2 Maneuver	274	-	-	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	485	-	352	-	-
HCM Lane V/C Ratio	0.035	-	0.071	-	-
HCM Control Delay (s)	12.7	-	16	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	830	21	60	785	453	17	128	56	375	189	232
Future Volume (vph)	225	830	21	60	785	453	17	128	56	375	189	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		78	159		496	97		99	200		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			90			60			60		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt			0.850			0.850		0.954				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3376	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3376	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			145		40				252
Link Speed (mph)		40			40			50			50	
Link Distance (ft)		1196			1066			687			614	
Travel Time (s)		20.4			18.2			9.4			8.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	902	23	65	853	492	18	139	61	408	205	252
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	902	23	65	853	492	18	200	0	408	205	252
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			24			29	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2	3	4	4		3	3	
Permitted Phases			6			2						3

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	3	4	4		3	3	3
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	7.0	5.0	5.0		7.0	7.0	7.0
Minimum Split (s)	10.6	44.0	44.0	10.6	44.0	43.3	11.3	11.3		43.3	43.3	43.3
Total Split (s)	21.0	63.0	63.0	18.0	60.0	37.0	22.0	22.0		37.0	37.0	37.0
Total Split (%)	15.0%	45.0%	45.0%	12.9%	42.9%	26.4%	15.7%	15.7%		26.4%	26.4%	26.4%
Maximum Green (s)	15.4	56.0	56.0	12.4	53.0	30.7	15.7	15.7		30.7	30.7	30.7
Yellow Time (s)	3.6	5.0	5.0	3.6	5.0	4.3	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.6	7.0	7.0	5.6	7.0	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	2.5	2.5	2.5		2.5	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		30.0	30.0		22.0	30.0				30.0	30.0	30.0
Pedestrian Calls (#/hr)		0	0		0	0				0	0	0
Act Effect Green (s)	15.4	70.7	70.7	10.1	63.0	94.8	11.6	11.6		24.8	24.8	24.8
Actuated g/C Ratio	0.11	0.50	0.50	0.07	0.45	0.68	0.08	0.08		0.18	0.18	0.18
v/c Ratio	1.26	0.50	0.03	0.51	0.54	0.44	0.12	0.63		0.67	0.62	0.52
Control Delay	201.5	26.7	0.0	76.2	30.7	8.6	59.9	58.5		55.7	57.5	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	201.5	26.7	0.0	76.2	30.7	8.6	59.9	58.5		55.7	57.5	20.1
LOS	F	C	A	E	C	A	E	E		E	E	C
Approach Delay		62.8			25.1			58.6			45.8	
Approach LOS		E			C			E			D	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 105 (75%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 44.0

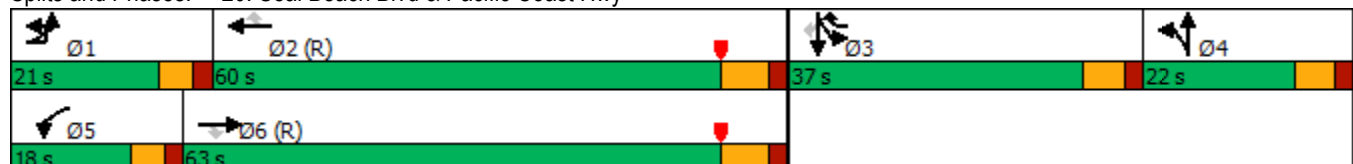
Intersection LOS: D

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 20: Seal Beach Blvd & Pacific Coast Hwy



Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	822	34	7	727	0	42	0	10	0	1	0
Future Volume (vph)	4	822	34	7	727	0	42	0	10	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		150	105		0	0		35	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	80			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected	0.950			0.950				0.950				
Satd. Flow (prot)	1770	3539	1583	1770	3539	0	0	1770	1583	0	1863	0
Flt Permitted	0.950			0.950				0.757				
Satd. Flow (perm)	1770	3539	1583	1770	3539	0	0	1410	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45						57			
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		707			2617			340			327	
Travel Time (s)		10.7			39.7			9.3			8.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	822	34	7	727	0	42	0	10	0	1	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	822	34	7	727	0	0	42	10	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm		NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4		4	8		

Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.3	22.3	8.0	20.0		26.0	26.0	26.0	26.0	26.0	
Total Split (s)	33.0	51.0	51.0	33.0	51.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	27.5%	42.5%	42.5%	27.5%	42.5%		30.0%	30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	29.0	45.7	45.7	29.0	45.7		32.0	32.0	32.0	32.0	32.0	
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.3	5.3	4.0	5.3			4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		12.0	12.0		6.0		17.0	17.0	17.0	17.0	17.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	5.9	102.4	102.4	6.1	102.5			9.1	9.1		9.1	
Actuated g/C Ratio	0.05	0.85	0.85	0.05	0.85			0.08	0.08		0.08	
v/c Ratio	0.05	0.27	0.03	0.08	0.24			0.40	0.06		0.01	
Control Delay	52.8	2.7	0.7	55.7	2.8			62.8	0.6		49.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	52.8	2.7	0.7	55.7	2.8			62.8	0.6		49.0	
LOS	D	A	A	E	A			E	A		D	
Approach Delay		2.8			3.3			50.8			49.0	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 4.6

Intersection LOS: A

Intersection Capacity Utilization 40.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Old Ranch Plaza & Lampson Ave



Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	638	116	11	568	3	124	0	10	4	3	38
Future Volume (vph)	26	638	116	11	568	3	124	0	10	4	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	175		0	85		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	100			75			60			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.999			0.850			0.886	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1770	3458	0	1770	3536	0	1770	1583	0	0	1644	0
Flt Permitted	0.950			0.950			0.728				0.979	
Satd. Flow (perm)	1770	3458	0	1770	3536	0	1356	1583	0	0	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			1			371			38	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		2617			1278			620			461	
Travel Time (s)		39.7			19.4			16.9			12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	26	638	116	11	568	3	124	0	10	4	3	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	754	0	11	571	0	124	10	0	0	45	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		

Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.0	20.0		9.0	21.3		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	30.0		20.0	45.0		30.0	30.0		30.0	30.0	
Total Split (%)	16.7%	33.3%		22.2%	50.0%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	11.0	24.7		16.0	39.7		26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.0	5.3		4.0	5.3		4.0	4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		7.0			11.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	6.5	22.4		5.4	22.2		9.8	9.8			9.5	
Actuated g/C Ratio	0.17	0.57		0.14	0.57		0.25	0.25			0.24	
v/c Ratio	0.09	0.38		0.04	0.28		0.36	0.01			0.11	
Control Delay	17.8	8.0		19.1	8.1		17.1	0.0			7.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	17.8	8.0		19.1	8.1		17.1	0.0			7.3	
LOS	B	A		B	A		B	A			A	
Approach Delay		8.3			8.3			15.8			7.3	
Approach LOS		A			A			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 39

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 8.9

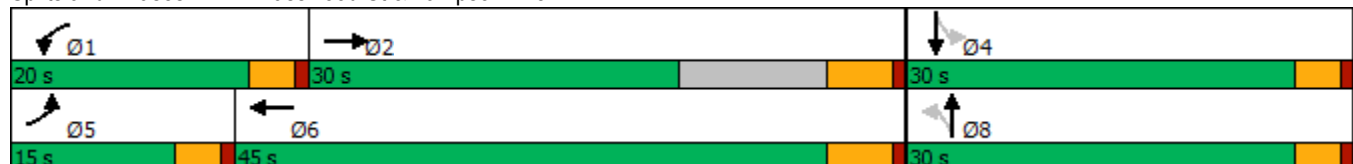
Intersection LOS: A

Intersection Capacity Utilization 42.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Basswood St & Lampson Ave



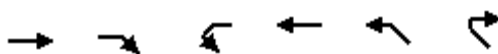
Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

05/29/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	541	111	24	512	70	18
Future Volume (vph)	541	111	24	512	70	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			75		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.974				0.972	
Flt Protected			0.950		0.962	
Satd. Flow (prot)	3447	0	1770	3539	1742	0
Flt Permitted			0.404		0.962	
Satd. Flow (perm)	3447	0	753	3539	1742	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	49				18	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1278			2619	927	
Travel Time (s)	19.4			39.7	25.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	541	111	24	512	70	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	652	0	24	512	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	7			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

05/29/2025



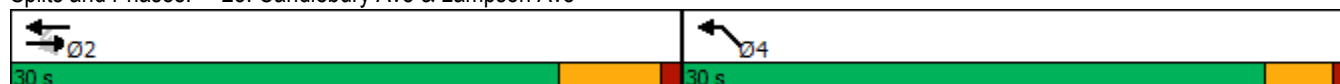
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	24.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	26.0	
Yellow Time (s)	4.5		4.5	4.5	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	7.0		7.0	7.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effect Green (s)	39.1		39.1	39.1	7.5	
Actuated g/C Ratio	0.79		0.79	0.79	0.15	
v/c Ratio	0.24		0.04	0.18	0.32	
Control Delay	3.1		3.8	3.1	18.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.1		3.8	3.1	18.7	
LOS	A		A	A	B	
Approach Delay	3.1			3.1	18.7	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 4.2
Intersection Capacity Utilization 32.8%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 23: Candlebury Ave & Lampson Ave



Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

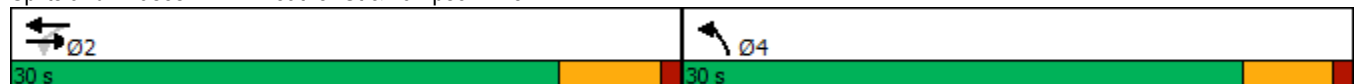
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖	
Traffic Volume (vph)	499	60	65	484	52	46
Future Volume (vph)	499	60	65	484	52	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.984				0.937	
Flt Protected			0.950		0.974	
Satd. Flow (prot)	3483	0	1770	3539	1700	0
Flt Permitted			0.442		0.974	
Satd. Flow (perm)	3483	0	823	3539	1700	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	26				46	
Link Speed (mph)	45			45	25	
Link Distance (ft)	2619			1584	691	
Travel Time (s)	39.7			24.0	18.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	499	60	65	484	52	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	559	0	65	484	98	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	25.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	25.0	
Yellow Time (s)	4.5		4.5	4.5	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	38.0		38.0	38.0	7.2	
Actuated g/C Ratio	0.78		0.78	0.78	0.15	
v/c Ratio	0.21		0.10	0.18	0.34	
Control Delay	3.3		4.3	3.4	14.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.3		4.3	3.4	14.7	
LOS	A		A	A	B	
Approach Delay	3.3			3.5	14.7	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 48.8						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.34						
Intersection Signal Delay: 4.3				Intersection LOS: A		
Intersection Capacity Utilization 43.1%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 24: Heather St & Lampson Ave



Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

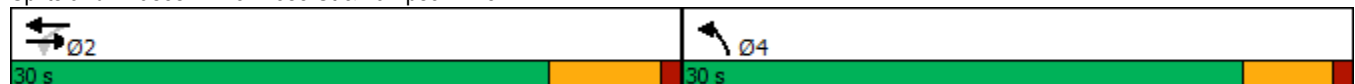
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖	
Traffic Volume (vph)	528	33	65	489	28	51
Future Volume (vph)	528	33	65	489	28	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			65		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.991				0.913	
Flt Protected			0.950		0.983	
Satd. Flow (prot)	3507	0	1770	3539	1672	0
Flt Permitted			0.442		0.983	
Satd. Flow (perm)	3507	0	823	3539	1672	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13				51	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1584			1257	867	
Travel Time (s)	24.0			19.0	23.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	528	33	65	489	28	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	561	0	65	489	79	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	
Minimum Split (s)	20.0		20.0	20.0	28.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.0		24.0	24.0	25.0	
Yellow Time (s)	5.0		5.0	5.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	18.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	39.1		39.1	39.1	7.5	
Actuated g/C Ratio	0.79		0.79	0.79	0.15	
v/c Ratio	0.20		0.10	0.18	0.27	
Control Delay	3.3		4.1	3.2	12.4	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.3		4.1	3.2	12.4	
LOS	A		A	A	B	
Approach Delay	3.3			3.4	12.4	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 49.7						
Natural Cycle: 50						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.27						
Intersection Signal Delay: 3.9				Intersection LOS: A		
Intersection Capacity Utilization 44.0%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 25: Rose St & Lampson Ave



Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

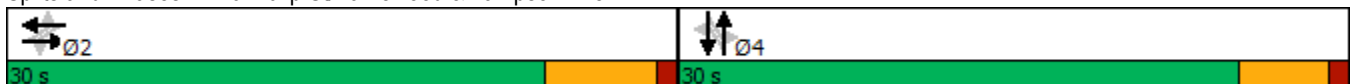
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	545	27	76	516	17	27	0	60	8	0	11
Future Volume (vph)	7	545	27	76	516	17	27	0	60	8	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	80		0	65		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	85			80			35			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.995			0.850			0.922	
Flt Protected	0.950			0.950			0.950				0.979	
Satd. Flow (prot)	1770	3514	0	1770	3522	0	1770	1583	0	0	1681	0
Flt Permitted	0.454			0.437			0.930				0.836	
Satd. Flow (perm)	846	3514	0	814	3522	0	1732	1583	0	0	1436	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			6			183			55	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		1257			1023			510			526	
Travel Time (s)		19.0			15.5			13.9			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	545	27	76	516	17	27	0	60	8	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	572	0	76	533	0	27	60	0	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		

Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		28.0	28.0		28.0	28.0	
Total Split (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	24.0	24.0		24.0	24.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	35.1	35.1		35.1	35.1		7.2	7.2			7.2	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.16	0.16			0.16	
v/c Ratio	0.01	0.21		0.12	0.20		0.10	0.15			0.07	
Control Delay	4.0	3.5		4.6	3.5		17.0	0.8			2.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	4.0	3.5		4.6	3.5		17.0	0.8			2.2	
LOS	A	A		A	A		B	A			A	
Approach Delay		3.6			3.6			5.8			2.2	
Approach LOS		A			A			A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 60												
Actuated Cycle Length: 46												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.21												
Intersection Signal Delay: 3.7												
Intersection Capacity Utilization 46.2%												
Analysis Period (min) 15												
Intersection LOS: A												
ICU Level of Service A												

Splits and Phases: 26: Tulip St/Parkewood & Lampson Ave



Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (vph)	859	13	40	1027	146	99
Future Volume (vph)	859	13	40	1027	146	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		207	220		0	90
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1529	1770	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		14				108
Link Speed (mph)	50			45	25	
Link Distance (ft)	1365			937	502	
Travel Time (s)	18.6			14.2	13.7	
Confl. Peds. (#/hr)		3				
Confl. Bikes (#/hr)		10				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	934	14	43	1116	159	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	934	14	43	1116	159	108
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						

Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

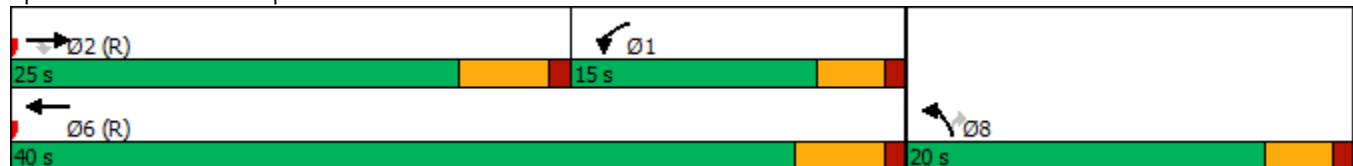
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	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Initial (s)	10.0	10.0	3.0	10.0	4.0	4.0
Minimum Split (s)	23.0	23.0	7.7	16.2	8.6	8.6
Total Split (s)	25.0	25.0	15.0	40.0	20.0	20.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%
Maximum Green (s)	20.0	20.0	11.0	35.0	16.0	16.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.2	-3.2	-1.7	-2.8	-1.6	-1.6
Total Lost Time (s)	1.8	1.8	2.3	2.2	2.4	2.4
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	5.0	5.0				
Flash Dont Walk (s)	13.0	13.0				
Pedestrian Calls (#/hr)	0	0				
Act Effect Green (s)	40.8	40.8	9.2	46.4	11.3	11.3
Actuated g/C Ratio	0.68	0.68	0.15	0.77	0.19	0.19
v/c Ratio	0.39	0.01	0.16	0.41	0.48	0.28
Control Delay	8.2	5.5	19.5	2.9	25.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	5.5	19.5	2.9	25.8	6.7
LOS	A	A	B	A	C	A
Approach Delay	8.2			3.5	18.0	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 15 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 7.0
 Intersection LOS: A
 Intersection Capacity Utilization 45.2%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 27: Apollo Dr & Westminster Ave



Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	961	7	5	1260	0	13	2	22	7	2	39
Future Volume (vph)	1	961	7	5	1260	0	13	2	22	7	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	715		0	75		55	0		75
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98									
Frt			0.850						0.850		0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	0	1770	1863	1583	1770	1596	0
Flt Permitted	0.950			0.950			0.728			0.757		
Satd. Flow (perm)	1770	3539	1544	1770	3539	0	1356	1863	1583	1410	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91						155			43
Link Speed (mph)		45			60			25			25	
Link Distance (ft)		799			6309			1679			2824	
Travel Time (s)		12.1			71.7			45.8			77.0	
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)			4			2						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	1068	8	6	1400	0	14	2	24	8	2	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1068	8	6	1400	0	14	2	24	8	45	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4				8
Permitted Phases			2				4		4	8		
Detector Phase	5	2	2	1	6		4	4	4	8	8	
Switch Phase												

Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	7.0	31.5	31.5	7.0	27.5		8.0	8.0	8.0	36.0	36.0	
Total Split (s)	14.0	28.0	28.0	10.0	24.0		22.0	22.0	22.0	22.0	22.0	
Total Split (%)	23.3%	46.7%	46.7%	16.7%	40.0%		36.7%	36.7%	36.7%	36.7%	36.7%	
Maximum Green (s)	10.0	20.5	20.5	6.0	16.5		18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.7	-3.8	-3.8	-1.7	-4.9		-1.7	-1.7	-1.7	-1.7	-1.7	
Total Lost Time (s)	2.3	3.7	3.7	2.3	2.6		2.3	2.3	2.3	2.3	2.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0					5.0	5.0	
Flash Dont Walk (s)		19.0	19.0		15.0					27.0	27.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effect Green (s)	6.3	49.4	49.4	6.5	50.1		8.0	8.0	8.0	8.0	8.0	
Actuated g/C Ratio	0.10	0.82	0.82	0.11	0.84		0.13	0.13	0.13	0.13	0.13	
v/c Ratio	0.01	0.37	0.01	0.03	0.47		0.08	0.01	0.07	0.04	0.18	
Control Delay	24.0	3.6	0.0	24.2	3.9		23.2	22.0	0.4	22.4	10.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.0	3.6	0.0	24.2	3.9		23.2	22.0	0.4	22.4	10.6	
LOS	C	A	A	C	A		C	C	A	C	B	
Approach Delay		3.6			4.0			9.4			12.3	
Approach LOS		A			A			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 11 (18%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 4.1

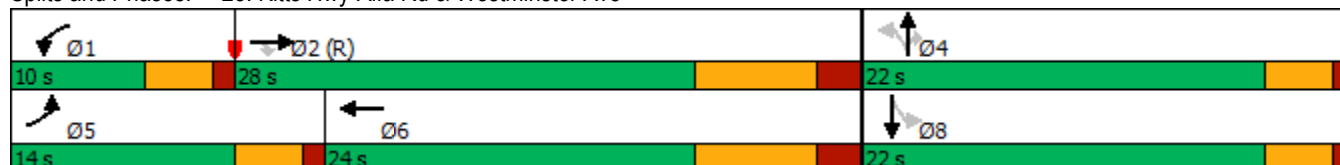
Intersection LOS: A

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Kitts Hwy-Alfa Rd & Westminster Ave



Future Year Conditions

Lanes, Volumes, Timings

1: 1st St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	75	25	20	125	55	50	25	5	25	20	10
Future Volume (vph)	5	75	25	20	125	55	50	25	5	25	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	65		0	70		0	50		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	120			70			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.954			0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1777	0	1770	1816	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1792	0	1770	1777	0	1770	1816	0	1770	1863	1583
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		745			1359			938			991	
Travel Time (s)		16.9			30.9			21.3			16.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	75	25	20	125	55	50	25	5	25	20	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	100	0	20	180	0	50	30	0	25	20	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	26.6%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Intersection Delay, s/veh	9											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	75	25	20	125	55	50	25	5	25	20	10
Future Vol, veh/h	5	75	25	20	125	55	50	25	5	25	20	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	75	25	20	125	55	50	25	5	25	20	10
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	2
HCM Control Delay	8.8	9.2	9	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	83%	0%	75%	0%	69%	0%	100%	0%
Vol Right, %	0%	17%	0%	25%	0%	31%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	30	5	100	20	180	25	20	10
LT Vol	50	0	5	0	20	0	25	0	0
Through Vol	0	25	0	75	0	125	0	20	0
RT Vol	0	5	0	25	0	55	0	0	10
Lane Flow Rate	50	30	5	100	20	180	25	20	10
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.083	0.045	0.008	0.144	0.031	0.247	0.042	0.031	0.013
Departure Headway (Hd)	6.011	5.389	5.845	5.168	5.661	4.946	6.061	5.558	4.853
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	662	612	693	632	725	589	642	734
Service Time	3.761	3.14	3.586	2.909	3.397	2.681	3.816	3.312	2.608
HCM Lane V/C Ratio	0.084	0.045	0.008	0.144	0.032	0.248	0.042	0.031	0.014
HCM Control Delay	9.3	8.4	8.6	8.8	8.6	9.3	9.1	8.5	7.7
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0	0.5	0.1	1	0.1	0.1	0

Lanes, Volumes, Timings

2: 5th St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	75	5	15	145	45	5	45	25	15	20	15
Future Volume (vph)	10	75	5	15	145	45	5	45	25	15	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.970			0.955				0.850
Flt Protected		0.994			0.996			0.997			0.979	
Satd. Flow (prot)	0	1837	0	0	1800	0	0	1774	0	0	1824	1583
Flt Permitted		0.994			0.996			0.997			0.979	
Satd. Flow (perm)	0	1837	0	0	1800	0	0	1774	0	0	1824	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1359			918			1174			1074	
Travel Time (s)		30.9			20.9			26.7			24.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	75	5	15	145	45	5	45	25	15	20	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	205	0	0	75	0	0	35	15
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.7%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	75	5	15	145	45	5	45	25	15	20	15
Future Vol, veh/h	10	75	5	15	145	45	5	45	25	15	20	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	75	5	15	145	45	5	45	25	15	20	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8	8.6	8.1	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	7%	11%	7%	43%	0%
Vol Thru, %	60%	83%	71%	57%	0%
Vol Right, %	33%	6%	22%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	90	205	35	15
LT Vol	5	10	15	15	0
Through Vol	45	75	145	20	0
RT Vol	25	5	45	0	15
Lane Flow Rate	75	90	205	35	15
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.095	0.111	0.24	0.053	0.019
Departure Headway (Hd)	4.569	4.443	4.222	5.475	4.555
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	785	809	853	655	786
Service Time	2.592	2.459	2.235	3.199	2.279
HCM Lane V/C Ratio	0.096	0.111	0.24	0.053	0.019
HCM Control Delay	8.1	8	8.6	8.5	7.4
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.9	0.2	0.1

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	160	10	70	45	10	10	75	1015	20	1	15	920
Future Volume (vph)	160	10	70	45	10	10	75	1015	20	1	15	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	12	12	11	10	12	12	12	12	12	12
Storage Length (ft)	92		0	0		60	358		0		205	
Storage Lanes	1		0	0		1	1		0		1	
Taper Length (ft)	60			25			75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00	0.98			1.00	0.98		1.00				1.00
Frt		0.869				0.850		0.997				0.985
Flt Protected	0.950				0.961		0.950				0.950	
Satd. Flow (prot)	1947	1753	0	0	1730	1478	1770	5067	0	0	1770	4994
Flt Permitted	0.718				0.738		0.950				0.950	
Satd. Flow (perm)	1466	1753	0	0	1324	1455	1770	5067	0	0	1770	4994
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		76				101		3				20
Link Speed (mph)		25			25			40				40
Link Distance (ft)		498			562			1142				537
Travel Time (s)		13.6			15.3			19.5				9.2
Confl. Peds. (#/hr)	3		4	4		3			2			
Confl. Bikes (#/hr)			1						3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	11	76	49	11	11	82	1103	22	1	16	1000
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	87	0	0	60	11	82	1125	0	0	17	1114
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		15			18			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	0.88	0.88	1.00	1.00	1.04	1.09	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Left	Thru
Leading Detector (ft)	20	100		20	100	20	20	100		20	20	100
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100		20	100	20	20	100		20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	Prot	NA
Protected Phases		8			4		1	6		5	5	2
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	5	2

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	105
Future Volume (vph)	105
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.91
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	2
Peak Hour Factor	0.92
Adj. Flow (vph)	114
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	3.0	12.0		3.0	3.0	12.0
Minimum Split (s)	33.0	33.0		33.0	33.0	33.0	15.0	26.3		15.0	15.0	26.3
Total Split (s)	46.0	46.0		46.0	46.0	46.0	21.0	57.0		17.0	17.0	53.0
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	17.5%	47.5%		14.2%	14.2%	44.2%
Maximum Green (s)	42.0	42.0		42.0	42.0	42.0	17.5	51.7		13.5	13.5	47.7
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.3		3.0	3.0	4.3
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	0.5	1.0		0.5	0.5	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	-1.3			0.0	-1.3
Total Lost Time (s)	4.0	4.0			4.0	4.0	3.5	4.0			3.5	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	2.0	2.0	1.5	5.0		1.5	1.5	5.0
Minimum Gap (s)	3.0	3.0		2.0	2.0	2.0	1.5	3.0		1.5	1.5	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	0.0	12.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	0.0	12.0
Recall Mode	None	None		None	None	None	None	C-Max		None	None	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0				7.0
Flash Dont Walk (s)	22.0	22.0		22.0	22.0	22.0		14.0				14.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0				0
Act Effct Green (s)	19.8	19.8			19.8	19.8	15.0	88.3			5.3	75.4
Actuated g/C Ratio	0.16	0.16			0.16	0.16	0.12	0.74			0.04	0.63
v/c Ratio	0.72	0.25			0.28	0.03	0.37	0.30			0.22	0.35
Control Delay	63.7	12.8			44.9	0.2	46.4	7.1			61.4	12.5
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	63.7	12.8			44.9	0.2	46.4	7.1			61.4	12.5
LOS	E	B			D	A	D	A			E	B
Approach Delay		46.7			38.0			9.8				13.3
Approach LOS		D			D			A				B

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 73 (61%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.6

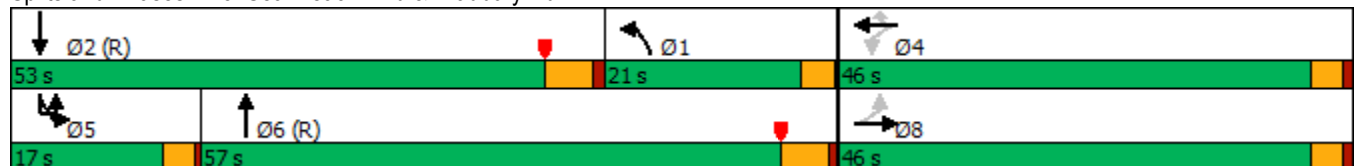
Intersection LOS: B

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Seal Beach Blvd & Bradbury Rd



Lanes, Volumes, Timings
3: Seal Beach Blvd & Bradbury Rd

05/29/2025



Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Minimum Gap (s)	
Time Before Reduce (s)	
Time To Reduce (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	85	5	155	60	15	120	35	1015	5	9	5	930
Future Volume (vph)	85	5	155	60	15	120	35	1015	5	9	5	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	8	12	12	12
Storage Length (ft)	80		0	0		0	80		60		150	
Storage Lanes	1		0	1		0	1		1		1	
Taper Length (ft)	25			25			100				60	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	0.91
Ped Bike Factor		0.98		1.00	0.99				0.95			
Frt		0.854			0.866				0.850			
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1770	1564	0	1770	1595	0	1770	5085	1372	0	1770	5085
Flt Permitted	0.444			0.355			0.950				0.851	
Satd. Flow (perm)	827	1564	0	659	1595	0	1770	5085	1308	0	1585	5085
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		168			130				52			
Link Speed (mph)		25			30			40				40
Link Distance (ft)		538			406			892				1142
Travel Time (s)		14.7			9.2			15.2				19.5
Confl. Peds. (#/hr)			4	4					5			
Confl. Bikes (#/hr)			1			1			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	5	168	65	16	130	38	1103	5	10	5	1011
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	173	0	65	146	0	38	1103	5	0	15	1011
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		12			12			16				16
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Left	Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20	20	100
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	100		20	100		20	100	20	20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	custom	Prot	NA
Protected Phases		4			8		5	2			1	6
Permitted Phases	4			8					2	1		
Detector Phase	4	4		8	8		5	2	2	1	1	6

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

Lane Group	SBR
▲▲▲ Configurations	↗
Traffic Volume (vph)	35
Future Volume (vph)	35
Ideal Flow (vphpl)	1900
Lane Width (ft)	8
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	0.96
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1372
Flt Permitted	
Satd. Flow (perm)	1314
Right Turn on Red	Yes
Satd. Flow (RTOR)	61
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	6
Peak Hour Factor	0.92
Adj. Flow (vph)	38
Shared Lane Traffic (%)	
Lane Group Flow (vph)	38
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.20
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		3.0	10.0	10.0	3.0	3.0	10.0
Minimum Split (s)	36.2	36.2		15.0	15.0		15.0	17.5	17.5	15.0	15.0	18.5
Total Split (s)	36.0	36.0		36.0	36.0		16.0	69.0	69.0	15.0	15.0	68.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		13.3%	57.5%	57.5%	12.5%	12.5%	56.7%
Maximum Green (s)	31.8	31.8		31.8	31.8		11.5	63.5	63.5	10.5	10.5	62.5
Yellow Time (s)	3.2	3.2		3.2	3.2		3.5	4.5	4.5	3.5	3.5	4.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.2	-0.2		-0.2	-0.2		-0.5	-1.5	-1.5		-0.5	-1.5
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0	4.0	2.0	2.0	4.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	None	C-Max
Walk Time (s)	7.0	7.0						7.0	7.0			7.0
Flash Dont Walk (s)	25.0	25.0						5.0	5.0			6.0
Pedestrian Calls (#/hr)	0	0						0	0			0
Act Effect Green (s)	15.7	15.7		15.7	15.7		9.5	90.4	90.4		8.0	86.7
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.08	0.75	0.75		0.07	0.72
v/c Ratio	0.86	0.49		0.76	0.45		0.27	0.29	0.01		0.14	0.28
Control Delay	104.5	12.1		95.8	14.5		39.1	0.9	0.0		79.3	2.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	104.5	12.1		95.8	14.5		39.1	0.9	0.0		79.3	2.9
LOS	F	B		F	B		D	A	A		E	A
Approach Delay		44.2			39.6			2.2				3.9
Approach LOS		D			D			A				A

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 9.9

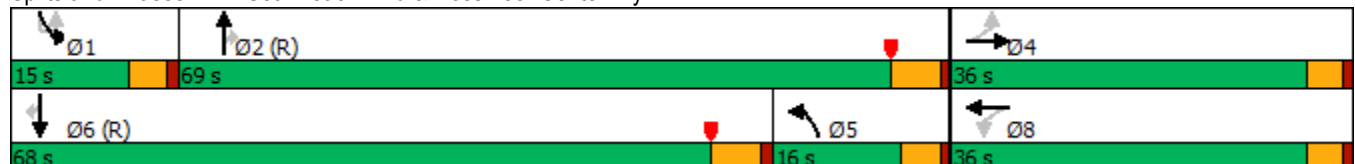
Intersection LOS: A

Intersection Capacity Utilization 52.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Seal Beach Blvd & Rossmoor Center Wy



Lanes, Volumes, Timings
4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025



Lane Group	SBR
Switch Phase	
Minimum Initial (s)	10.0
Minimum Split (s)	18.5
Total Split (s)	68.0
Total Split (%)	56.7%
Maximum Green (s)	62.5
Yellow Time (s)	4.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	-1.5
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	C-Max
Walk Time (s)	7.0
Flash Dont Walk (s)	6.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	86.7
Actuated g/C Ratio	0.72
v/c Ratio	0.04
Control Delay	0.2
Queue Delay	0.0
Total Delay	0.2
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	20	45	5	15	30	1080	40	15	865	15
Future Volume (vph)	5	5	20	45	5	15	30	1080	40	15	865	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	75		0	179		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			110			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99				0.98			1.00			1.00	
Frt		0.878			0.886			0.995			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1635	0	1770	1623	0	1770	5055	0	1770	5067	0
Flt Permitted	0.744			0.740			0.950			0.950		
Satd. Flow (perm)	1373	1635	0	1378	1623	0	1770	5055	0	1770	5067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			16			7			3	
Link Speed (mph)		15			15			40			40	
Link Distance (ft)		340			303			598			892	
Travel Time (s)		15.5			13.8			10.2			15.2	
Confl. Peds. (#/hr)	8					8			2			12
Confl. Bikes (#/hr)									1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	22	49	5	16	33	1174	43	16	940	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	27	0	49	21	0	33	1217	0	16	956	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	100		20	100		20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												

Lanes, Volumes, Timings

5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	15.0	15.0		34.0	34.0		15.0	22.5		15.0	22.5	
Total Split (s)	35.0	35.0		35.0	35.0		17.0	65.0		20.0	68.0	
Total Split (%)	29.2%	29.2%		29.2%	29.2%		14.2%	54.2%		16.7%	56.7%	
Maximum Green (s)	31.0	31.0		31.0	31.0		12.5	59.5		15.5	62.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				23.0	23.0			10.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effect Green (s)	9.7	9.7		9.7	9.7		7.3	100.5		6.2	97.6	
Actuated g/C Ratio	0.08	0.08		0.08	0.08		0.06	0.84		0.05	0.81	
v/c Ratio	0.05	0.18		0.45	0.14		0.31	0.29		0.18	0.23	
Control Delay	49.4	24.9		64.0	27.3		68.3	0.7		63.3	2.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.4	24.9		64.0	27.3		68.3	0.7		63.3	2.0	
LOS	D	C		E	C		E	A		E	A	
Approach Delay		28.7			53.0			2.5			3.1	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 4.6

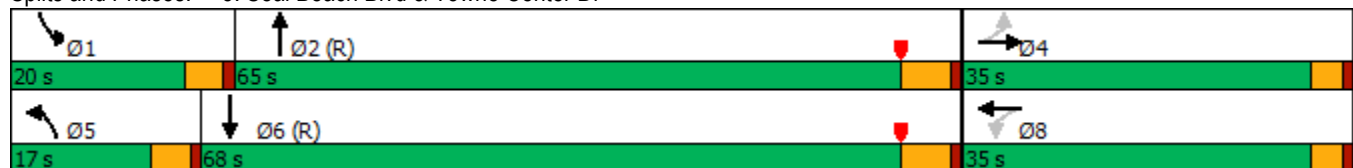
Intersection LOS: A

Intersection Capacity Utilization 44.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Seal Beach Blvd & Towne Center Dr



Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	  			  	
Traffic Volume (vph)	110	0	665	55	10	0	380	1415	65	5	1220	45
Future Volume (vph)	110	0	665	55	10	0	380	1415	65	5	1220	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	107		0	0		0	206		0	78		0
Storage Lanes	1		2	1		0	2		0	1		0
Taper Length (ft)	40			25			120			110		
Lane Util. Factor	1.00	1.00	0.88	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99							1.00			1.00	
Fr't			0.850					0.993			0.995	
Flt Protected	0.950			0.950	0.965		0.950			0.950		
Satd. Flow (prot)	1770	0	2787	1681	1708	0	3433	5044	0	1770	5057	0
Flt Permitted	0.730			0.950	0.965		0.950			0.950		
Satd. Flow (perm)	1352	0	2787	1681	1708	0	3433	5044	0	1770	5057	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			300					7			5	
Link Speed (mph)		25			15			40			40	
Link Distance (ft)		526			300			909			598	
Travel Time (s)		14.3			13.6			15.5			10.2	
Confl. Peds. (#/hr)	4					1			1			3
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	0	723	60	11	0	413	1538	71	5	1326	49
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	120	0	723	31	40	0	413	1609	0	5	1375	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1	1	1		1	1		1	1	
Detector Template	Left		Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20		20	20	100		20	100		20	100	
Trailing Detector (ft)	0		0	0	0		0	0		0	0	
Detector 1 Position(ft)	0		0	0	0		0	0		0	0	
Detector 1 Size(ft)	20		20	20	100		20	100		20	100	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm		pm+ov	Split	NA		Prot	NA		Prot	NA	
Protected Phases			5	3	3		5	2		1	6	
Permitted Phases	4		4									
Detector Phase	4		4	3	3		5	2		1	6	
Switch Phase												

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0		10.0	5.0	5.0		10.0	10.0		3.0	10.0	
Minimum Split (s)	15.0		15.0	15.0	15.0		15.0	22.5		15.0	28.5	
Total Split (s)	27.0		24.0	20.0	20.0		24.0	58.0		15.0	49.0	
Total Split (%)	22.5%		20.0%	16.7%	16.7%		20.0%	48.3%		12.5%	40.8%	
Maximum Green (s)	23.0		19.5	16.0	16.0		19.5	52.5		10.5	43.5	
Yellow Time (s)	3.0		3.5	3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0		-0.5	0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag		Lead	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0		2.0	4.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None		None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								10.0			16.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)	20.5		42.9	9.2	9.2		18.4	78.3		5.5	58.0	
Actuated g/C Ratio	0.17		0.36	0.08	0.08		0.15	0.65		0.05	0.48	
v/c Ratio	0.52		0.61	0.24	0.31		0.79	0.49		0.06	0.56	
Control Delay	52.5		19.2	55.7	57.6		66.0	6.2		62.8	20.4	
Queue Delay	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.5		19.2	55.7	57.6		66.0	6.2		62.8	20.4	
LOS	D		B	E	E		E	A		E	C	
Approach Delay		24.0			56.7			18.4			20.5	
Approach LOS		C			E			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 69 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Seal Beach Blvd & St. Cloud Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	58 s	20 s	27 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
24 s	49 s	47 s	

Lane Group	Ø8
Minimum Initial (s)	2.0
Minimum Split (s)	35.0
Total Split (s)	47.0
Total Split (%)	39%
Maximum Green (s)	44.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	25.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
7: Seal Beach Blvd & Lampson Ave

05/29/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  		 	  
Traffic Volume (vph)	380	575	1170	260	375	1435
Future Volume (vph)	380	575	1170	260	375	1435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	147		299	319	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				150	
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Ped Bike Factor		0.98		0.98		
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	5085	1583	3433	5085
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1558	5085	1555	3433	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		10		40		
Link Speed (mph)	45		45			40
Link Distance (ft)	707		802			909
Travel Time (s)	10.7		12.2			15.5
Confl. Peds. (#/hr)		2		5		
Confl. Bikes (#/hr)		4		2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	625	1272	283	408	1560
Shared Lane Traffic (%)						
Lane Group Flow (vph)	413	625	1272	283	408	1560
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	36		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	100	20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						

Lanes, Volumes, Timings

7: Seal Beach Blvd & Lampson Ave

05/29/2025



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	38.3	15.0	35.5	38.3	15.0	15.0
Total Split (s)	47.0	24.0	49.0	47.0	24.0	73.0
Total Split (%)	39.2%	20.0%	40.8%	39.2%	20.0%	60.8%
Maximum Green (s)	42.0	19.5	43.5	42.0	19.5	67.5
Yellow Time (s)	4.0	3.5	4.5	4.0	3.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-0.5	-1.5	-1.3	-0.5	-1.5
Total Lost Time (s)	3.7	4.0	4.0	3.7	4.0	4.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	2.0	5.0	3.0	2.0	5.0
Recall Mode	None	None	C-Max	None	None	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	26.0		23.0	26.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effect Green (s)	35.5	55.2	52.8	88.6	20.0	76.8
Actuated g/C Ratio	0.30	0.46	0.44	0.74	0.17	0.64
v/c Ratio	0.41	0.86	0.57	0.24	0.71	0.48
Control Delay	31.7	36.4	26.7	2.4	46.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	36.4	26.7	2.4	46.8	7.5
LOS	C	D	C	A	D	A
Approach Delay	34.5		22.3			15.6
Approach LOS	C		C			B

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 22.2

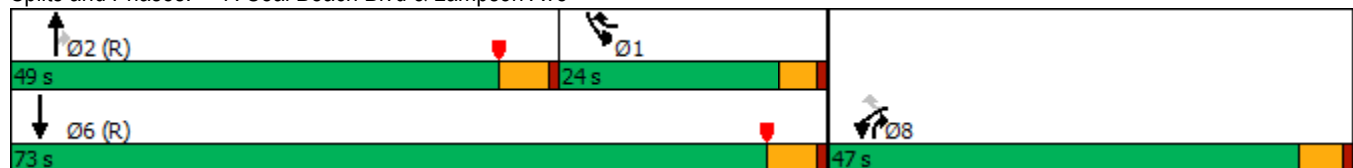
Intersection LOS: C

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Seal Beach Blvd & Lampson Ave



Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	10	330	30	425	75	760	425	300	995	295
Future Volume (vph)	5	5	10	330	30	425	75	760	425	300	995	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		117	0		217	124		0	260		392
Storage Lanes	1		1	2		2	2		1	2		1
Taper Length (ft)	25			25			60			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850		0.871	0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1541	1504	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1541	1504	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		199	263			462			321
Link Speed (mph)		30			35			45			45	
Link Distance (ft)		663			410			1873			802	
Travel Time (s)		15.1			8.0			28.4			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	359	33	462	82	826	462	326	1082	321
Shared Lane Traffic (%)						43%						
Lane Group Flow (vph)	5	5	11	359	232	263	82	826	462	326	1082	321
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8		2	2			6
Detector Phase	7	7	7	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	10.0	10.0	10.0	8.0	10.0	10.0	8.0	10.0	10.0
Minimum Split (s)	12.2	12.2	12.2	44.2	44.2	44.2	12.2	15.3	15.3	12.2	35.3	35.3
Total Split (s)	14.0	14.0	14.0	45.0	45.0	45.0	13.0	33.0	33.0	28.0	48.0	48.0

Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.7%	11.7%	11.7%	37.5%	37.5%	37.5%	10.8%	27.5%	27.5%	23.3%	40.0%	40.0%
Maximum Green (s)	9.8	9.8	9.8	40.8	40.8	40.8	8.8	27.7	27.7	23.8	42.7	42.7
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.7	-0.7	-0.7	-1.1	-1.1	-1.1	-0.2	-1.8	-1.8	-0.2	-1.8	-1.8
Total Lost Time (s)	3.5	3.5	3.5	3.1	3.1	3.1	4.0	3.5	3.5	4.0	3.5	3.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	5.0	2.0	5.0	5.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	35.0	35.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				5.0	5.0	5.0					5.0	5.0
Flash Dont Walk (s)				35.0	35.0	35.0					25.0	25.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effect Green (s)	8.7	8.7	8.7	19.4	19.4	19.4	8.8	69.2	69.2	15.9	78.7	78.7
Actuated g/C Ratio	0.07	0.07	0.07	0.16	0.16	0.16	0.07	0.58	0.58	0.13	0.66	0.66
v/c Ratio	0.04	0.04	0.04	0.65	0.56	0.57	0.33	0.28	0.42	0.72	0.32	0.28
Control Delay	52.6	52.6	0.3	52.1	14.4	10.0	33.2	5.7	2.7	44.8	10.8	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	52.6	0.3	52.1	14.4	10.0	33.2	5.7	2.7	44.8	10.8	4.7
LOS	D	D	A	D	B	B	C	A	A	D	B	A
Approach Delay		25.2			28.9			6.3			16.1	
Approach LOS		C			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 9 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.5

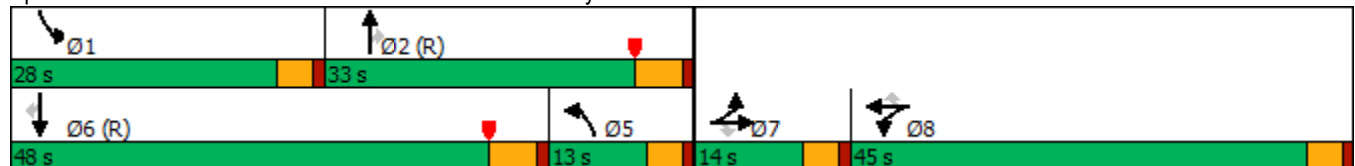
Intersection LOS: B

Intersection Capacity Utilization 52.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Seal Beach Blvd & Old Ranch Pkwy



Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	5	620	15	345	10	915	240	335	965	30
Future Volume (vph)	5	5	5	620	15	345	10	915	240	335	965	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		100	86		225	650		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			83			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.950				0.850			0.850		0.995	
Flt Protected		0.984		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	3308	0	1681	1690	1583	1770	5085	1583	1770	5060	0
Flt Permitted		0.984		0.950	0.955		0.950			0.950		
Satd. Flow (perm)	0	3308	0	1681	1690	1583	1770	5085	1583	1770	5060	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				191			261		5	
Link Speed (mph)		35			40			50			50	
Link Distance (ft)		991			994			1529			1873	
Travel Time (s)		19.3			16.9			20.9			25.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	5	674	16	375	11	995	261	364	1049	33
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	15	0	377	313	375	11	995	261	364	1082	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100		20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	Free	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						Free			2			
Detector Phase	4	4		3	3		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)	12.2	12.2		12.2	12.2		12.2	15.7	15.7	12.2	23.7	
Total Split (s)	17.0	17.0		27.0	27.0		13.0	37.0	37.0	39.0	63.0	

Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	14.2%	14.2%		22.5%	22.5%		10.8%	30.8%	30.8%	32.5%	52.5%	
Maximum Green (s)	12.8	12.8		22.8	22.8		8.8	31.3	31.3	34.8	57.3	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	4.7	4.7	3.2	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.1		-1.4	-1.4		-0.2	-2.2	-2.2	-0.2	-2.2	
Total Lost Time (s)		3.1		2.8	2.8		4.0	3.5	3.5	4.0	3.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	5.0	5.0	2.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	1.5	1.5	2.0	1.5	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	20.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)												5.0
Flash Dont Walk (s)												13.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)		9.1		24.2	24.2	120.0	8.2	45.6	45.6	35.0	82.2	
Actuated g/C Ratio		0.08		0.20	0.20	1.00	0.07	0.38	0.38	0.29	0.68	
v/c Ratio		0.06		1.11	0.92	0.24	0.09	0.52	0.34	0.71	0.31	
Control Delay		40.9		127.0	79.8	0.4	54.3	30.8	4.9	51.4	6.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		40.9		127.0	79.8	0.4	54.3	30.8	4.9	51.4	6.8	
LOS		D		F	E	A	D	C	A	D	A	
Approach Delay		40.9			68.5			25.6			18.0	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 119 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 34.8

Intersection LOS: C

Intersection Capacity Utilization 70.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Seal Beach Blvd & N Gate Rd



Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Lane Configurations			↰	↑↑↑	↑↑↑	↱		
Traffic Volume (vph)	0	0	35	1250	1655	175		
Future Volume (vph)	0	0	35	1250	1655	175		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	0			115		
Storage Lanes	0	0	1			1		
Taper Length (ft)	25		25					
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00		
Ped Bike Factor						0.98		
Frt						0.850		
Flt Protected			0.950					
Satd. Flow (prot)	0	0	1770	5085	5085	1583		
Flt Permitted			0.950					
Satd. Flow (perm)	0	0	1770	5085	5085	1555		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)						143		
Link Speed (mph)	15			50	50			
Link Distance (ft)	370			174	1529			
Travel Time (s)	16.8			2.4	20.9			
Confl. Peds. (#/hr)						1		
Confl. Bikes (#/hr)						8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	0	0	38	1359	1799	190		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	38	1359	1799	190		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			16	16			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	1	1	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	100	100	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Turn Type			Prot	NA	NA	Perm		
Protected Phases			5	2 4	6		2	4
Permitted Phases						6		
Detector Phase			5	2 4	6	6		
Switch Phase								

Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Minimum Initial (s)			3.0		10.0	10.0	10.0	5.0
Minimum Split (s)			15.0		26.7	26.7	15.7	15.0
Total Split (s)			18.0		30.0	30.0	48.0	17.0
Total Split (%)			27.7%		46.2%	46.2%	74%	26%
Maximum Green (s)			13.5		24.3	24.3	42.3	13.0
Yellow Time (s)			3.5		4.7	4.7	4.7	3.0
All-Red Time (s)			1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			-0.5		-1.7	0.0		
Total Lost Time (s)			4.0		4.0	5.7		
Lead/Lag			Lead		Lag	Lag		
Lead-Lag Optimize?			Yes		Yes	Yes		
Vehicle Extension (s)			2.0		4.0	4.0	4.0	4.0
Recall Mode			None		C-Max	C-Max	C-Max	None
Walk Time (s)					7.0	7.0		
Flash Dont Walk (s)					14.0	14.0		
Pedestrian Calls (#/hr)					0	0		
Act Effect Green (s)			6.5	65.0	39.4	37.7		
Actuated g/C Ratio			0.10	1.00	0.61	0.58		
v/c Ratio			0.22	0.27	0.58	0.20		
Control Delay			31.5	0.7	10.0	3.7		
Queue Delay			0.0	0.0	0.0	0.0		
Total Delay			31.5	0.7	10.0	3.7		
LOS			C	A	A	A		
Approach Delay				1.5	9.4			
Approach LOS				A	A			

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 60 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 6.1

Intersection LOS: A

Intersection Capacity Utilization 42.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations	↰↰	↱		↑↑↑↑	↑↑↑↑		
Traffic Volume (vph)	150	45	0	1125	1650	0	
Future Volume (vph)	150	45	0	1125	1650	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	16	12	12	12	12	
Storage Length (ft)	0	0	91			0	
Storage Lanes	2	1	1			0	
Taper Length (ft)	25		90				
Lane Util. Factor	0.97	1.00	1.00	0.86	0.91	1.00	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3547	1794	0	6408	5085	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3547	1794	0	6408	5085	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		49					
Link Speed (mph)	15			50	50		
Link Distance (ft)	316			1806	174		
Travel Time (s)	14.4			24.6	2.4		
Confl. Peds. (#/hr)						1	
Confl. Bikes (#/hr)						8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	163	49	0	1223	1793	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	163	49	0	1223	1793	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	26			4	4		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		1	1		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		100	100		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Turn Type	Prot	Perm		NA	NA		
Protected Phases	4			2	6		5
Permitted Phases		4					
Detector Phase	4	4		2	6		

Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Switch Phase							
Minimum Initial (s)	5.0	5.0		10.0	10.0		3.0
Minimum Split (s)	15.0	15.0		15.7	26.7		15.0
Total Split (s)	17.0	17.0		48.0	30.0		18.0
Total Split (%)	26.2%	26.2%		73.8%	46.2%		28%
Maximum Green (s)	13.0	13.0		42.3	24.3		13.5
Yellow Time (s)	3.0	3.0		4.7	4.7		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		-1.7	-1.7		
Total Lost Time (s)	4.0	4.0		4.0	4.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0
Recall Mode	None	None		C-Max	C-Max		None
Walk Time (s)					7.0		
Flash Dont Walk (s)					14.0		
Pedestrian Calls (#/hr)					0		
Act Effect Green (s)	12.9	12.9		44.1	39.4		
Actuated g/C Ratio	0.20	0.20		0.68	0.61		
v/c Ratio	0.23	0.12		0.28	0.58		
Control Delay	22.9	8.3		6.1	1.6		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	22.9	8.3		6.1	1.6		
LOS	C	A		A	A		
Approach Delay	19.5			6.1	1.6		
Approach LOS	B			A	A		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 60 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 4.5

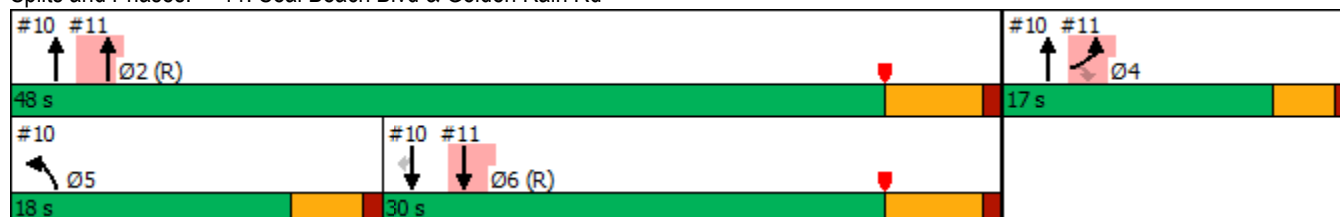
Intersection LOS: A

Intersection Capacity Utilization 42.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 11: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings
12: Seal Beach Blvd & St. Andrews Dr

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	60	40	945	1350	50
Future Volume (vph)	40	60	40	945	1350	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	70		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor					1.00	
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	5085	5056	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	5085	5056	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		65			11	
Link Speed (mph)	15			50	50	
Link Distance (ft)	538			1002	1806	
Travel Time (s)	24.5			13.7	24.6	
Confl. Peds. (#/hr)						1
Confl. Bikes (#/hr)						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	65	43	1027	1467	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	65	43	1027	1521	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	100	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						

Lanes, Volumes, Timings
12: Seal Beach Blvd & St. Andrews Dr

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	4.0	4.0	2.0	15.0	15.0	
Minimum Split (s)	15.0	15.0	15.0	20.7	21.7	
Total Split (s)	17.0	17.0	15.0	48.0	33.0	
Total Split (%)	26.2%	26.2%	23.1%	73.8%	50.8%	
Maximum Green (s)	13.0	13.0	10.5	42.3	27.3	
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	5.0	5.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)					7.0	
Flash Dont Walk (s)					9.0	
Pedestrian Calls (#/hr)					0	
Act Effect Green (s)	6.1	6.1	6.6	53.4	46.4	
Actuated g/C Ratio	0.09	0.09	0.10	0.82	0.71	
v/c Ratio	0.26	0.31	0.24	0.25	0.42	
Control Delay	30.6	12.3	37.0	1.5	1.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.6	12.3	37.0	1.5	1.5	
LOS	C	B	D	A	A	
Approach Delay	19.6			2.9	1.5	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 27 (42%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 2.8

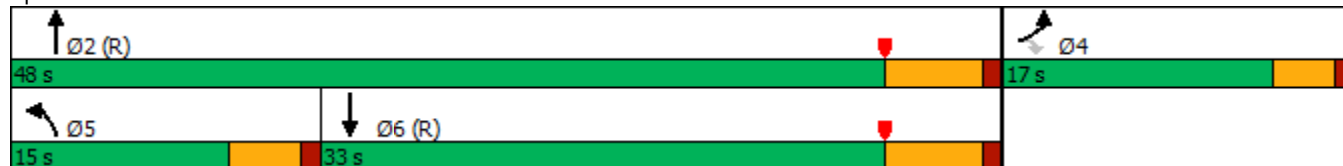
Intersection LOS: A

Intersection Capacity Utilization 43.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: Seal Beach Blvd & St. Andrews Dr



Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	255	25	220	555	130	50	820	100	180	1060	445
Future Volume (vph)	125	255	25	220	555	130	50	820	100	180	1060	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	280		0	265		0	284		187
Storage Lanes	2		0	2		0	1		0	2		1
Taper Length (ft)	90			125			95			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	0.95	1.00	0.91	0.91	0.97	0.91	1.00
Ped Bike Factor								1.00				0.98
Frt		0.986			0.972			0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5014	0	3433	3440	0	1770	4996	0	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5014	0	3433	3440	0	1770	4996	0	3433	5085	1558
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					26			15				
Link Speed (mph)		45			45			25			50	
Link Distance (ft)		1322			799			861			1002	
Travel Time (s)		20.0			12.1			23.5			13.7	
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												5
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
Adj. Flow (vph)	133	271	27	234	590	138	53	872	106	191	1128	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	298	0	234	728	0	53	978	0	191	1128	473
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												

Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	5.0
Minimum Split (s)	8.0	39.2		8.0	36.0		8.0	31.2		7.7	35.7	35.7
Total Split (s)	17.0	49.0		24.0	56.0		18.0	32.0		25.0	39.0	39.0
Total Split (%)	13.1%	37.7%		18.5%	43.1%		13.8%	24.6%		19.2%	30.0%	30.0%
Maximum Green (s)	12.0	43.0		19.0	50.0		13.0	26.3		20.3	33.3	33.3
Yellow Time (s)	3.0	5.0		3.0	5.0		3.0	4.7		3.0	4.7	4.7
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		1.7	1.0	1.0
Lost Time Adjust (s)	-1.7	-2.8		-1.7	-2.8		-1.7	-3.2		-1.7	-3.2	-3.2
Total Lost Time (s)	3.3	3.2		3.3	3.2		3.3	2.5		3.0	2.5	2.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Minimum Gap (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Time Before Reduce (s)	3.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	20.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			7.0	7.0
Flash Dont Walk (s)		28.0			25.0			20.0			23.0	23.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	12.5	35.2		14.9	37.6		13.0	54.6		13.3	56.5	56.5
Actuated g/C Ratio	0.10	0.27		0.11	0.29		0.10	0.42		0.10	0.43	0.43
v/c Ratio	0.40	0.22		0.60	0.72		0.30	0.46		0.54	0.51	0.70
Control Delay	58.8	36.5		58.3	41.5		55.9	27.6		52.7	37.7	47.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.8	36.5		58.3	41.5		55.9	27.6		52.7	37.7	47.9
LOS	E	D		E	D		E	C		D	D	D
Approach Delay		43.4			45.6			29.0			42.0	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 39.8

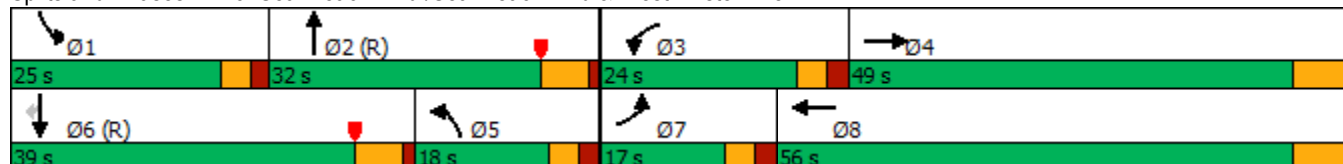
Intersection LOS: D

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations								  				  
Traffic Volume (vph)	10	0	65	0	0	0	75	835	0	2	0	845
Future Volume (vph)	10	0	65	0	0	0	75	835	0	2	0	845
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	15	12	12	12	12	12	12	12	12	12
Storage Length (ft)	0		50	0		0	192		0		196	
Storage Lanes	1		1	0		0	1		0		1	
Taper Length (ft)	25			25			60				80	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	0.91
Ped Bike Factor												
Frt			0.850									
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1711	0	1742	0	0	0	1770	5085	0	1770	0	5085
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	1711	0	1742	0	0	0	1770	5085	0	1770	0	5085
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			217									
Link Speed (mph)		15			15			50				50
Link Distance (ft)		316			163			1791				695
Travel Time (s)		14.4			7.4			24.4				9.5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	71	0	0	0	82	908	0	2	0	918
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	0	71	0	0	0	82	908	0	2	0	918
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		11			11			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.04	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1		1				1	1		1		1
Detector Template	Left		Right				Left	Thru		Left		Thru
Leading Detector (ft)	20		20				20	100		20		100
Trailing Detector (ft)	0		0				0	0		0		0
Detector 1 Position(ft)	0		0				0	0		0		0
Detector 1 Size(ft)	20		20				20	100		20		100
Detector 1 Type	Cl+Ex		Cl+Ex				Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0		0.0				0.0	0.0		0.0		0.0
Turn Type	Perm		Perm				Prot	NA		Prot		NA
Protected Phases							5	2		1		6
Permitted Phases	4		4									
Detector Phase	4		4				5	2		1		6
Switch Phase												

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

Lane Group	SBR	Ø8
↑↑↑ Lane Configurations	↑	
Traffic Volume (vph)	45	
Future Volume (vph)	45	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	12	
Storage Length (ft)	99	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Ped Bike Factor	0.97	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1544	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	92	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Bikes (#/hr)	5	
Peak Hour Factor	0.92	
Adj. Flow (vph)	49	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	49	
Enter Blocked Intersection	No	
Lane Alignment	Right	
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor	1.00	
Turning Speed (mph)	9	
Number of Detectors	1	
Detector Template	Right	
Leading Detector (ft)	20	
Trailing Detector (ft)	0	
Detector 1 Position(ft)	0	
Detector 1 Size(ft)	20	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Minimum Initial (s)	4.0		4.0				3.0	10.0		3.0		10.0
Minimum Split (s)	15.0		15.0				15.0	15.7		15.0		22.7
Total Split (s)	22.0		22.0				15.0	28.0		15.0		28.0
Total Split (%)	33.8%		33.8%				23.1%	43.1%		23.1%		43.1%
Maximum Green (s)	18.0		18.0				10.5	22.3		10.5		22.3
Yellow Time (s)	3.0		3.0				3.5	4.7		3.5		4.7
All-Red Time (s)	1.0		1.0				1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0		0.0				-0.5	-1.7		-0.5		-1.7
Total Lost Time (s)	4.0		4.0				4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lead		Lag		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0		3.0				2.0	5.0		2.0		5.0
Recall Mode	None		None				None	C-Max		None		C-Max
Walk Time (s)												5.0
Flash Dont Walk (s)												12.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)	6.0		6.0				7.9	53.4		6.2		45.5
Actuated g/C Ratio	0.09		0.09				0.12	0.82		0.10		0.70
v/c Ratio	0.07		0.20				0.38	0.22		0.01		0.26
Control Delay	27.6		1.2				45.1	1.0		24.0		5.1
Queue Delay	0.0		0.0				0.0	0.0		0.0		0.0
Total Delay	27.6		1.2				45.1	1.0		24.0		5.1
LOS	C		A				D	A		C		A
Approach Delay		4.8						4.7				5.0
Approach LOS		A						A				A

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 57 (88%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 4.8

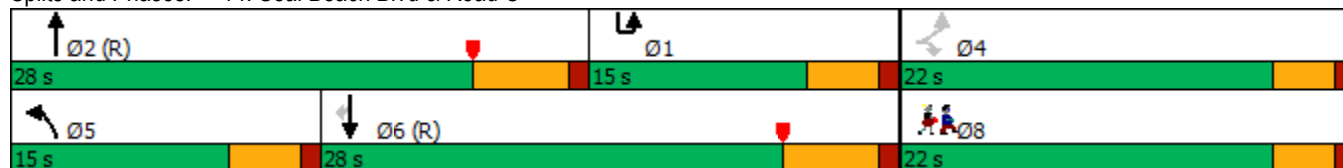
Intersection LOS: A

Intersection Capacity Utilization 33.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: Seal Beach Blvd & Road C



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025



Lane Group	SBR	Ø8
Minimum Initial (s)	10.0	5.0
Minimum Split (s)	22.7	39.0
Total Split (s)	28.0	22.0
Total Split (%)	43.1%	34%
Maximum Green (s)	22.3	18.0
Yellow Time (s)	4.7	3.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)	-1.7	
Total Lost Time (s)	4.0	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	5.0	2.0
Recall Mode	C-Max	None
Walk Time (s)	5.0	5.0
Flash Dont Walk (s)	12.0	30.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)	45.5	
Actuated g/C Ratio	0.70	
v/c Ratio	0.04	
Control Delay	2.8	
Queue Delay	0.0	
Total Delay	2.8	
LOS	A	
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
15: Seal Beach Blvd & Apollo Dr

05/29/2025

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		  	  			
Traffic Volume (vph)	5	915	890	30	0	0
Future Volume (vph)	5	915	890	30	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	16
Storage Length (ft)	180			162	0	92
Storage Lanes	1			1	1	1
Taper Length (ft)	60				25	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor				0.97		
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	1770	5085	5085	1583	1801	2111
Flt Permitted	0.950					
Satd. Flow (perm)	1770	5085	5085	1539	1801	2111
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				33		
Link Speed (mph)		50	50		25	
Link Distance (ft)		577	1791		717	
Travel Time (s)		7.9	24.4		19.6	
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)				6		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	995	967	33	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	995	967	33	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		16	12		21	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						

Lanes, Volumes, Timings

15: Seal Beach Blvd & Apollo Dr

05/29/2025



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	15.0	17.7	26.7	26.7	15.0	15.0
Total Split (s)	15.0	48.0	33.0	33.0	17.0	17.0
Total Split (%)	23.1%	73.8%	50.8%	50.8%	26.2%	26.2%
Maximum Green (s)	10.5	42.3	27.3	27.3	13.0	13.0
Yellow Time (s)	3.5	4.7	4.7	4.7	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-1.7	-1.7	-1.7	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	2.0	5.0	5.0	5.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)			5.0	5.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effect Green (s)	8.5	65.0	61.7	61.7		
Actuated g/C Ratio	0.13	1.00	0.95	0.95		
v/c Ratio	0.02	0.20	0.20	0.02		
Control Delay	35.0	0.1	0.6	0.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	35.0	0.1	0.6	0.2		
LOS	C	A	A	A		
Approach Delay		0.3	0.6			
Approach LOS		A	A			

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 50 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.20

Intersection Signal Delay: 0.4

Intersection LOS: A

Intersection Capacity Utilization 30.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 15: Seal Beach Blvd & Apollo Dr



Future AM Seal Beach Boulevard TSSP 1:10 pm 03/12/2025 Future Conditions

Iteris, Inc.

Synchro 11 Report

Page 38

Lanes, Volumes, Timings
16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	20	15	910	855	35
Future Volume (vph)	15	20	15	910	855	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	16	12	12	12	12
Storage Length (ft)	0	240	191			90
Storage Lanes	1	1	1			1
Taper Length (ft)	25		60			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1829	1794	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1829	1794	1770	5085	5085	1540
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		22				38
Link Speed (mph)	25			50	50	
Link Distance (ft)	715			1223	577	
Travel Time (s)	19.5			16.7	7.9	
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	22	16	989	929	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	22	16	989	929	38
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			16	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						

Lanes, Volumes, Timings

16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



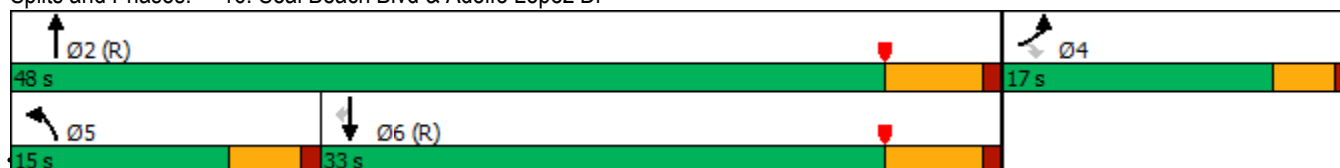
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	8.0	12.0	12.0	12.0
Minimum Split (s)	15.0	15.0	15.0	17.7	26.7	26.7
Total Split (s)	17.0	17.0	15.0	48.0	33.0	33.0
Total Split (%)	26.2%	26.2%	23.1%	73.8%	50.8%	50.8%
Maximum Green (s)	13.0	13.0	10.5	42.3	27.3	27.3
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	5.0	5.0	5.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)					5.0	5.0
Flash Dont Walk (s)					16.0	16.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	7.2	7.2	8.5	58.6	56.1	56.1
Actuated g/C Ratio	0.11	0.11	0.13	0.90	0.86	0.86
v/c Ratio	0.08	0.10	0.07	0.22	0.21	0.03
Control Delay	26.5	13.0	27.2	0.4	0.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	13.0	27.2	0.4	0.7	0.2
LOS	C	B	C	A	A	A
Approach Delay	18.7			0.8	0.6	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 50 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.22
 Intersection Signal Delay: 1.1
 Intersection Capacity Utilization 30.8%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 16: Seal Beach Blvd & Adolfo Lopez Dr



Future AM Seal Beach Boulevard TSSP 1:10 pm 03/12/2025 Future Conditions
 Iteris, Inc.

Synchro 11 Report
 Page 40

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	35	0	10	5	0	15	10	875	30	1	40	800
Future Volume (vph)	35	0	10	5	0	15	10	875	30	1	40	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		120	289		0		192	
Storage Lanes	0		1	0		1	1		0		1	
Taper Length (ft)	25			25			60				60	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91
Ped Bike Factor								1.00				1.00
Frt			0.850			0.850		0.995				0.995
Flt Protected		0.950			0.950		0.950				0.950	
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	5058	0	0	1770	5057
Flt Permitted		0.800			0.800		0.950				0.548	
Satd. Flow (perm)	0	1490	1583	0	1490	1583	1770	5058	0	0	1021	5057
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			222			222		9				8
Link Speed (mph)		15			15			40				50
Link Distance (ft)		253			838			2064				1223
Travel Time (s)		11.5			38.1			35.2				16.7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	0	11	5	0	16	11	951	33	1	43	870
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	11	0	5	16	11	984	0	0	44	897
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		12			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1	1	1	1	1	1	1	2		1	1	2
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94				94
Detector 2 Size(ft)								6				6
Detector 2 Type								Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)								0.0				0.0

Lanes, Volumes, Timings
17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

Lane Group	SBR
▲▲▲ Configurations	
Traffic Volume (vph)	25
Future Volume (vph)	25
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.91
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	3
Peak Hour Factor	0.92
Adj. Flow (vph)	27
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		custom	Prot	NA
Protected Phases		4			8		5	2			1	6
Permitted Phases	4		4	8		8				1		
Detector Phase	4	4	4	8	8	8	5	2		1	1	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	10.0		3.0	3.0	10.0
Minimum Split (s)	15.0	15.0	15.0	36.0	36.0	36.0	15.0	25.0		15.0	15.0	24.7
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	16.0	28.0		15.0	15.0	27.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	33.8%	33.8%	24.6%	43.1%		23.1%	23.1%	41.5%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	11.5	22.0		10.5	10.5	21.3
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	5.0		3.5	3.5	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	-0.5	-2.0			-0.5	-1.7
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	4.0		2.0	2.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	None	C-Max
Walk Time (s)				5.0	5.0	5.0		5.0				5.0
Flash Dont Walk (s)				27.0	27.0	27.0		14.0				14.0
Pedestrian Calls (#/hr)				0	0	0		0				0
Act Effect Green (s)		7.3	7.3		7.2	7.2	6.6	45.7			9.4	52.0
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.10	0.70			0.14	0.80
v/c Ratio		0.23	0.03		0.03	0.04	0.06	0.28			0.30	0.22
Control Delay		28.8	0.1		24.8	0.2	24.9	5.7			28.3	1.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		28.8	0.1		24.8	0.2	24.9	5.7			28.3	1.7
LOS		C	A		C	A	C	A			C	A
Approach Delay		22.4			6.1			5.9				3.0
Approach LOS		C			A			A				A

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 64 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 4.9

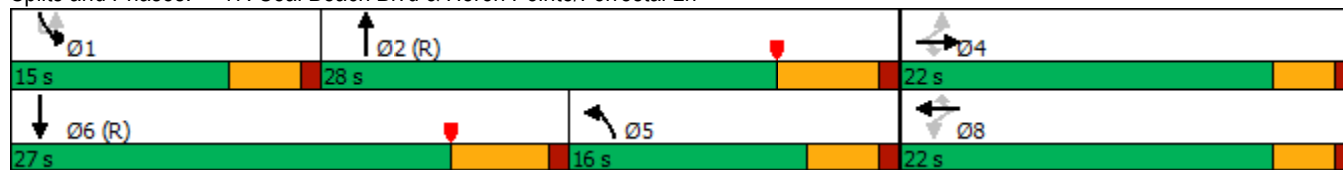
Intersection LOS: A

Intersection Capacity Utilization 40.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 17: Seal Beach Blvd & Heron Pointe/Forrestal Ln





Lane Group	SBR
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	180	5	70	25	15	80	15	640	5	25	645	165
Future Volume (vph)	180	5	70	25	15	80	15	640	5	25	645	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	167		0	189		0	198		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			95			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.94					1.00			0.99	
Frt			0.850		0.873			0.999			0.969	
Flt Protected		0.954		0.950			0.950			0.950		
Satd. Flow (prot)	0	1777	1583	1770	1626	0	1770	5079	0	1770	4898	0
Flt Permitted		0.954		0.950			0.950			0.950		
Satd. Flow (perm)	0	1777	1489	1770	1626	0	1770	5079	0	1770	4898	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			147		87			1			47	
Link Speed (mph)		30			15			50			50	
Link Distance (ft)		1498			1062			1153			2064	
Travel Time (s)		34.0			48.3			15.7			28.1	
Confl. Peds. (#/hr)			49						4			3
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	5	76	27	16	87	16	696	5	27	701	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	201	76	27	103	0	16	701	0	27	880	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			15			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	3	3		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		3.0	18.0		3.0	18.0	
Minimum Split (s)	44.6	44.6	44.6	15.0	15.0		15.0	31.0		15.0	26.0	
Total Split (s)	56.0	56.0	56.0	21.0	21.0		15.0	37.0		16.0	38.0	
Total Split (%)	43.1%	43.1%	43.1%	16.2%	16.2%		11.5%	28.5%		12.3%	29.2%	
Maximum Green (s)	51.4	51.4	51.4	17.0	17.0		10.5	31.0		11.5	32.0	
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0		3.5	5.0		3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-0.6	-0.6	0.0	0.0		-0.5	-2.0		-0.5	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	33.0	33.0	33.0					18.0			13.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effect Green (s)		22.0	22.0	9.1	9.1		6.3	77.3		9.4	82.3	
Actuated g/C Ratio		0.17	0.17	0.07	0.07		0.05	0.59		0.07	0.63	
v/c Ratio		0.67	0.20	0.22	0.53		0.19	0.23		0.21	0.28	
Control Delay		61.0	1.2	59.9	25.6		72.5	8.9		54.6	10.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		61.0	1.2	59.9	25.6		72.5	8.9		54.6	10.4	
LOS		E	A	E	C		E	A		D	B	
Approach Delay		44.6			32.7			10.4			11.7	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 78 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 17.1

Intersection LOS: B

Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 18: Seal Beach Blvd & Bolsa Ave/Anchor Way

 Ø2 (R) 37 s	 Ø1 16 s	 Ø4 56 s	 Ø3 21 s
 Ø5 15 s	 Ø6 (R) 38 s		

Lanes, Volumes, Timings
19: Seal Beach Blvd & Marlin Ave

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	30	25	710	790	55
Future Volume (vph)	40	30	25	710	790	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		85			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt	0.942				0.990	
Flt Protected	0.972		0.950			
Satd. Flow (prot)	1706	0	1770	5085	5034	0
Flt Permitted	0.972		0.950			
Satd. Flow (perm)	1706	0	1770	5085	5034	0
Link Speed (mph)	25			50	50	
Link Distance (ft)	591			614	1153	
Travel Time (s)	16.1			8.4	15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	30	25	710	790	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	25	710	845	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.5%			ICU Level of Service A		
Analysis Period (min)	15					

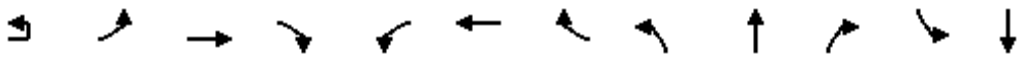
HCM 6th TWSC
19: Seal Beach Blvd & Marlin Ave

05/29/2025

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	30	25	710	790	55
Future Vol, veh/h	40	30	25	710	790	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	30	25	710	790	55
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1152	423	845	0	-	0
Stage 1	818	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	260	495	465	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	246	495	465	-	-	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	295	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.7	0.4		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	465	-	314	-	-	
HCM Lane V/C Ratio	0.054	-	0.223	-	-	
HCM Control Delay (s)	13.2	-	19.7	-	-	
HCM Lane LOS	B	-	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-	

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	5	185	635	50	65	575	410	10	160	50	420	275
Future Volume (vph)	5	185	635	50	65	575	410	10	160	50	420	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		170		78	159		496	97		99	200	
Storage Lanes		1		1	1		1	1		1	1	
Taper Length (ft)		60			90			60			60	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00
Frt				0.850			0.850		0.964			
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1770	3539	1583	1770	3539	1583	1770	3412	0	3433	1863
Flt Permitted		0.950			0.950			0.950			0.950	
Satd. Flow (perm)	0	1770	3539	1583	1770	3539	1583	1770	3412	0	3433	1863
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				128			243		27			
Link Speed (mph)			40			40			50			50
Link Distance (ft)			1196			1066			687			614
Travel Time (s)			20.4			18.2			9.4			8.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	201	690	54	71	625	446	11	174	54	457	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	206	690	54	71	625	446	11	228	0	457	299
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			18			24			29
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1	1	1	1	1	1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	20	100	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	100	20	20	100	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Prot	Prot	NA	Perm	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	1	1	6		5	2	3	4	4		3	3
Permitted Phases				6			2					

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	235
Future Volume (vph)	235
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	255
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Adj. Flow (vph)	255
Shared Lane Traffic (%)	
Lane Group Flow (vph)	255
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	3

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	1	1	6	6	5	2	3	4	4		3	3
Switch Phase												
Minimum Initial (s)	5.0	5.0	15.0	15.0	5.0	15.0	7.0	5.0	5.0		7.0	7.0
Minimum Split (s)	10.6	10.6	44.0	44.0	10.6	44.0	43.3	11.3	11.3		43.3	43.3
Total Split (s)	26.0	26.0	39.0	39.0	26.0	39.0	37.0	28.0	28.0		37.0	37.0
Total Split (%)	20.0%	20.0%	30.0%	30.0%	20.0%	30.0%	28.5%	21.5%	21.5%		28.5%	28.5%
Maximum Green (s)	20.4	20.4	32.0	32.0	20.4	32.0	30.7	21.7	21.7		30.7	30.7
Yellow Time (s)	3.6	3.6	5.0	5.0	3.6	5.0	4.3	4.3	4.3		4.3	4.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.6	7.0	7.0	5.6	7.0	6.3	6.3	6.3		6.3	6.3
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	8.0	8.0	3.0	8.0	2.5	2.5	2.5		2.5	2.5
Recall Mode	None	None	C-Max	C-Max	None	C-Max	None	None	None		None	None
Walk Time (s)			7.0	7.0		7.0	7.0				7.0	7.0
Flash Dont Walk (s)			30.0	30.0		22.0	30.0				30.0	30.0
Pedestrian Calls (#/hr)			0	0		0	0				0	0
Act Effect Green (s)		18.6	56.8	56.8	10.6	46.4	80.6	12.6	12.6		27.2	27.2
Actuated g/C Ratio		0.14	0.44	0.44	0.08	0.36	0.62	0.10	0.10		0.21	0.21
v/c Ratio		0.82	0.45	0.07	0.49	0.49	0.42	0.06	0.64		0.64	0.77
Control Delay		78.5	29.5	0.2	68.0	36.2	7.1	52.3	58.0		41.7	52.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		78.5	29.5	0.2	68.0	36.2	7.1	52.3	58.0		41.7	52.3
LOS		E	C	A	E	D	A	D	E		D	D
Approach Delay			38.4			26.8			57.7			36.8
Approach LOS			D			C			E			D

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 77 (59%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 35.3

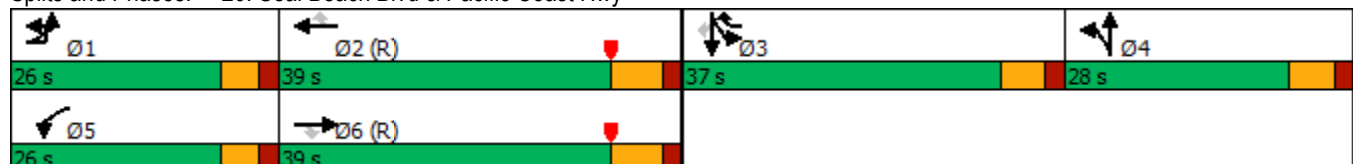
Intersection LOS: D

Intersection Capacity Utilization 66.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 20: Seal Beach Blvd & Pacific Coast Hwy



Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025



Lane Group	SBR
Detector Phase	3
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	43.3
Total Split (s)	37.0
Total Split (%)	28.5%
Maximum Green (s)	30.7
Yellow Time (s)	4.3
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.3
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	2.5
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	30.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	27.2
Actuated g/C Ratio	0.21
v/c Ratio	0.48
Control Delay	9.9
Queue Delay	0.0
Total Delay	9.9
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	630	35	10	940	5	30	5	10	5	0	5
Future Volume (vph)	10	630	35	10	940	5	30	5	10	5	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		150	105		0	0		35	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	80			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.932	
Flt Protected	0.950			0.950				0.959			0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3536	0	0	1786	1583	0	1694	0
Flt Permitted	0.950			0.950				0.750			0.836	
Satd. Flow (perm)	1770	3539	1583	1770	3536	0	0	1397	1583	0	1451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		1				94		94	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		707			2617			340			327	
Travel Time (s)		10.7			39.7			9.3			8.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	630	35	10	940	5	30	5	10	5	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	630	35	10	945	0	0	35	10	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4		4	8		

Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.3	22.3	8.0	20.0		26.0	26.0	26.0	26.0	26.0	
Total Split (s)	24.0	64.0	64.0	31.0	71.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	20.0%	53.3%	53.3%	25.8%	59.2%		20.8%	20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	20.0	58.7	58.7	27.0	65.7		21.0	21.0	21.0	21.0	21.0	
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.3	5.3	4.0	5.3			4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		12.0	12.0		6.0		17.0	17.0	17.0	17.0	17.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	6.3	106.3	106.3	6.3	106.3			8.3	8.3		8.0	
Actuated g/C Ratio	0.05	0.89	0.89	0.05	0.89			0.07	0.07		0.07	
v/c Ratio	0.11	0.20	0.02	0.11	0.30			0.36	0.05		0.05	
Control Delay	79.0	2.1	0.5	56.2	2.6			62.9	0.5		0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	79.0	2.1	0.5	56.2	2.6			62.9	0.5		0.6	
LOS	E	A	A	E	A			E	A		A	
Approach Delay		3.2			3.2			49.0			0.6	
Approach LOS		A			A			D			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 4.4

Intersection LOS: A

Intersection Capacity Utilization 39.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Old Ranch Plaza & Lampson Ave



Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	450	80	10	780	10	205	5	5	5	0	10
Future Volume (vph)	20	450	80	10	780	10	205	5	5	5	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	175		0	85		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	100			75			60			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.925			0.910	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3458	0	1770	3532	0	1770	1723	0	0	1668	0
Flt Permitted	0.950			0.950			0.748				0.948	
Satd. Flow (perm)	1770	3458	0	1770	3532	0	1393	1723	0	0	1607	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			2			5			125	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		2617			1278			620			461	
Travel Time (s)		39.7			19.4			16.9			12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	450	80	10	780	10	205	5	5	5	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	530	0	10	790	0	205	10	0	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		

Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.0	20.0		9.0	21.3		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	30.0		20.0	45.0		30.0	30.0		30.0	30.0	
Total Split (%)	16.7%	33.3%		22.2%	50.0%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	11.0	24.7		16.0	39.7		26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.0	5.3		4.0	5.3		4.0	4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		7.0			11.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	5.7	22.4		5.4	22.3		13.3	13.3			13.3	
Actuated g/C Ratio	0.12	0.48		0.12	0.48		0.28	0.28			0.28	
v/c Ratio	0.09	0.32		0.05	0.47		0.52	0.02			0.03	
Control Delay	23.9	9.1		24.2	10.9		20.0	11.3			0.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	23.9	9.1		24.2	10.9		20.0	11.3			0.1	
LOS	C	A		C	B		C	B			A	
Approach Delay		9.6			11.1			19.6			0.1	
Approach LOS		A			B			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 46.8

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 11.6

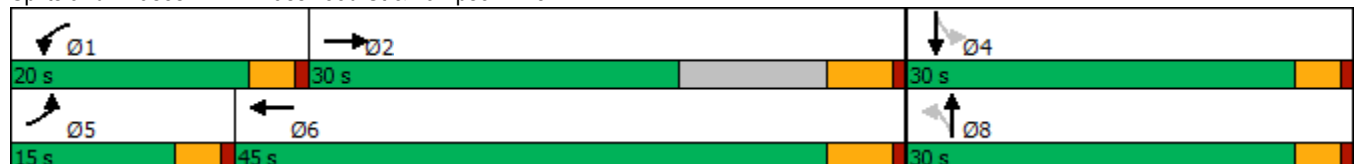
Intersection LOS: B

Intersection Capacity Utilization 47.7%

ICU Level of Service A

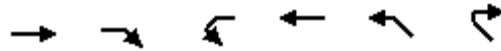
Analysis Period (min) 15

Splits and Phases: 22: Basswood St & Lampson Ave



Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

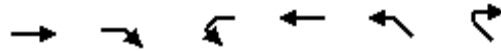
05/29/2025



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑		↵	↑↑	↵	
Traffic Volume (vph)	370	80	20	615	175	30
Future Volume (vph)	370	80	20	615	175	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			75		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.973				0.980	
Flt Protected			0.950		0.959	
Satd. Flow (prot)	3444	0	1770	3539	1751	0
Flt Permitted			0.492		0.959	
Satd. Flow (perm)	3444	0	916	3539	1751	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	52				18	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1278			2619	927	
Travel Time (s)	19.4			39.7	25.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	370	80	20	615	175	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	450	0	20	615	205	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	7			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

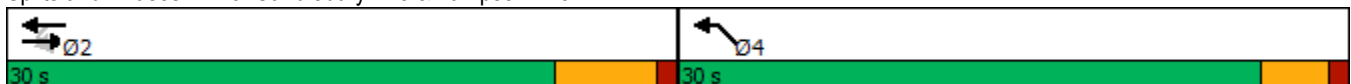
Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

05/29/2025



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	24.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	26.0	
Yellow Time (s)	4.5		4.5	4.5	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	7.0		7.0	7.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	30.7		30.7	30.7	10.2	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.20		0.03	0.27	0.52	
Control Delay	4.8		5.7	5.6	19.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	4.8		5.7	5.6	19.1	
LOS	A		A	A	B	
Approach Delay	4.8			5.6	19.1	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 47.1						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.52						
Intersection Signal Delay: 7.5				Intersection LOS: A		
Intersection Capacity Utilization 36.4%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 23: Candlebury Ave & Lampson Ave



Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

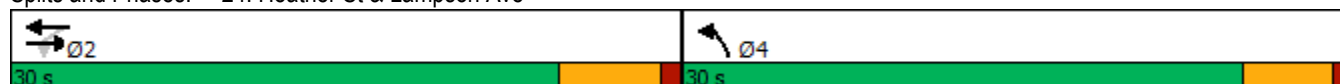
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↖	
Traffic Volume (vph)	335	65	30	545	85	55
Future Volume (vph)	335	65	30	545	85	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.976				0.947	
Flt Protected			0.950		0.971	
Satd. Flow (prot)	3454	0	1770	3539	1713	0
Flt Permitted			0.516		0.971	
Satd. Flow (perm)	3454	0	961	3539	1713	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	45				55	
Link Speed (mph)	45			45	25	
Link Distance (ft)	2619			1584	691	
Travel Time (s)	39.7			24.0	18.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	335	65	30	545	85	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	400	0	30	545	140	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	25.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	25.0	
Yellow Time (s)	4.5		4.5	4.5	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	33.7		33.7	33.7	8.0	
Actuated g/C Ratio	0.69		0.69	0.69	0.16	
v/c Ratio	0.17		0.05	0.22	0.43	
Control Delay	4.0		4.8	4.6	15.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	4.0		4.8	4.6	15.5	
LOS	A		A	A	B	
Approach Delay	4.0			4.6	15.5	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 48.8						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.43						
Intersection Signal Delay: 5.7				Intersection LOS: A		
Intersection Capacity Utilization 41.1%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 24: Heather St & Lampson Ave



Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

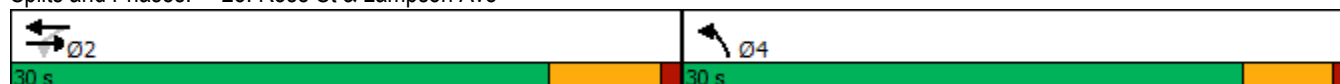
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↖	
Traffic Volume (vph)	360	25	25	540	40	50
Future Volume (vph)	360	25	25	540	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			65		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.990				0.925	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	3504	0	1770	3539	1685	0
Flt Permitted			0.524		0.978	
Satd. Flow (perm)	3504	0	976	3539	1685	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	14				50	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1584			1257	867	
Travel Time (s)	24.0			19.0	23.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	360	25	25	540	40	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	385	0	25	540	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	
Minimum Split (s)	20.0		20.0	20.0	28.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.0		24.0	24.0	25.0	
Yellow Time (s)	5.0		5.0	5.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	18.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	38.2		38.2	38.2	7.6	
Actuated g/C Ratio	0.78		0.78	0.78	0.15	
v/c Ratio	0.14		0.03	0.20	0.30	
Control Delay	3.3		4.1	3.5	13.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.3		4.1	3.5	13.2	
LOS	A		A	A	B	
Approach Delay	3.3			3.5	13.2	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 49.1						
Natural Cycle: 50						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.30						
Intersection Signal Delay: 4.2				Intersection LOS: A		
Intersection Capacity Utilization 35.8%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 25: Rose St & Lampson Ave



Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

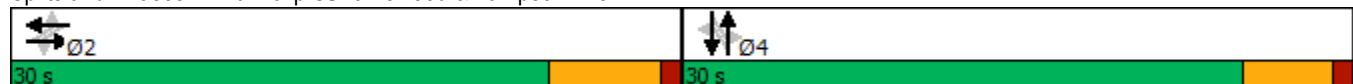
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	390	15	35	510	10	40	5	75	10	5	15
Future Volume (vph)	5	390	15	35	510	10	40	5	75	10	5	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	80		0	65		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	85			80			35			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997			0.859			0.932	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3518	0	1770	3529	0	1770	1600	0	0	1708	0
Flt Permitted	0.460			0.514			0.738				0.858	
Satd. Flow (perm)	857	3518	0	957	3529	0	1375	1600	0	0	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			4			75			15	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		1257			1023			510			526	
Travel Time (s)		19.0			15.5			13.9			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	390	15	35	510	10	40	5	75	10	5	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	405	0	35	520	0	40	80	0	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		

Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		28.0	28.0		28.0	28.0	
Total Split (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	24.0	24.0		24.0	24.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.0	32.0		32.0	32.0		7.5	7.5			7.5	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.16	0.16			0.16	
v/c Ratio	0.01	0.17		0.05	0.22		0.18	0.25			0.12	
Control Delay	4.2	4.1		4.5	4.3		17.9	7.6			11.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	4.2	4.1		4.5	4.3		17.9	7.6			11.9	
LOS	A	A		A	A		B	A			B	
Approach Delay		4.1			4.4			11.0			11.9	
Approach LOS		A			A			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 60												
Actuated Cycle Length: 46.8												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.25												
Intersection Signal Delay: 5.2						Intersection LOS: A						
Intersection Capacity Utilization 45.3%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 26: Tulip St/Parkewood & Lampson Ave



Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	825	60	175	1110	15	20
Future Volume (vph)	825	60	175	1110	15	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		207	220		0	90
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1529	1770	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		65				22
Link Speed (mph)	50			45	25	
Link Distance (ft)	1365			937	502	
Travel Time (s)	18.6			14.2	13.7	
Confl. Peds. (#/hr)		3				
Confl. Bikes (#/hr)		10				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	897	65	190	1207	16	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	897	65	190	1207	16	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						

Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Initial (s)	10.0	10.0	3.0	10.0	4.0	4.0
Minimum Split (s)	23.0	23.0	7.7	16.2	8.6	8.6
Total Split (s)	25.0	25.0	15.0	40.0	20.0	20.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%
Maximum Green (s)	20.0	20.0	11.0	35.0	16.0	16.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.2	-3.2	-1.7	-2.8	-1.6	-1.6
Total Lost Time (s)	1.8	1.8	2.3	2.2	2.4	2.4
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	5.0	5.0				
Flash Dont Walk (s)	13.0	13.0				
Pedestrian Calls (#/hr)	0	0				
Act Effect Green (s)	39.2	39.2	12.7	55.2	6.8	6.8
Actuated g/C Ratio	0.65	0.65	0.21	0.92	0.11	0.11
v/c Ratio	0.39	0.06	0.51	0.37	0.08	0.11
Control Delay	6.3	2.2	24.0	1.0	24.3	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	2.2	24.0	1.0	24.3	12.6
LOS	A	A	C	A	C	B
Approach Delay	6.0			4.2	17.5	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 33 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 5.1

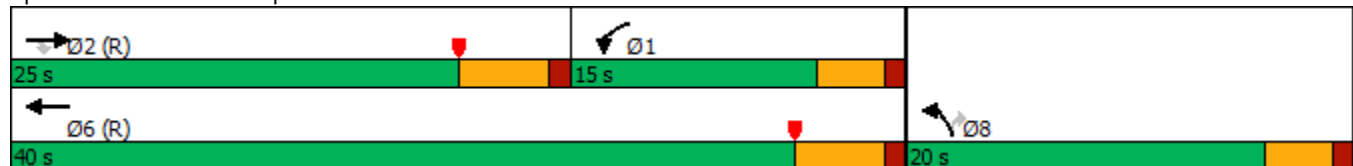
Intersection LOS: A

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 27: Apollo Dr & Westminster Ave



Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	885	50	65	1140	5	5	10	5	5	5	10
Future Volume (vph)	10	885	50	65	1140	5	5	10	5	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	715		0	75		55	0		75
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		1.00							
Frt			0.850		0.999				0.850		0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3535	0	1770	1863	1583	1770	1682	0
Flt Permitted	0.950			0.950			0.746			0.750		
Satd. Flow (perm)	1770	3539	1543	1770	3535	0	1390	1863	1583	1397	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			56		1				71		11	
Link Speed (mph)		45			60			25			25	
Link Distance (ft)		799			6309			1679			2824	
Travel Time (s)		12.1			71.7			45.8			77.0	
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)			4			2						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	983	56	72	1267	6	6	11	6	6	6	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	983	56	72	1273	0	6	11	6	6	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4				8
Permitted Phases			2				4		4	8		
Detector Phase	5	2	2	1	6		4	4	4	8	8	
Switch Phase												

Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	7.0	31.5	31.5	7.0	27.5		8.0	8.0	8.0	36.0	36.0	
Total Split (s)	28.0	72.0	72.0	28.0	72.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	21.5%	55.4%	55.4%	21.5%	55.4%		23.1%	23.1%	23.1%	23.1%	23.1%	
Maximum Green (s)	24.0	64.5	64.5	24.0	64.5		26.0	26.0	26.0	26.0	26.0	
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.7	-3.8	-3.8	-1.7	-4.9		-1.7	-1.7	-1.7	-1.7	-1.7	
Total Lost Time (s)	2.3	3.7	3.7	2.3	2.6		2.3	2.3	2.3	2.3	2.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0					5.0	5.0	
Flash Dont Walk (s)		19.0	19.0		15.0					27.0	27.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effect Green (s)	7.1	108.7	108.7	11.4	117.7		8.1	8.1	8.1	8.1	8.1	
Actuated g/C Ratio	0.05	0.84	0.84	0.09	0.91		0.06	0.06	0.06	0.06	0.06	
v/c Ratio	0.11	0.33	0.04	0.46	0.40		0.07	0.09	0.04	0.07	0.15	
Control Delay	53.7	6.6	3.1	65.4	2.3		58.6	58.7	0.4	58.4	36.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	6.6	3.1	65.4	2.3		58.6	58.7	0.4	58.4	36.6	
LOS	D	A	A	E	A		E	E	A	E	D	
Approach Delay		6.9			5.7			43.5			42.3	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 90 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 6.9

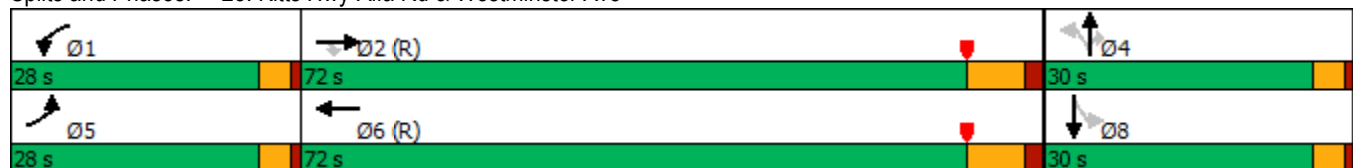
Intersection LOS: A

Intersection Capacity Utilization 49.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Kitts Hwy-Alfa Rd & Westminster Ave



Lanes, Volumes, Timings

1: 1st St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	235	80	20	165	60	65	40	15	40	20	20
Future Volume (vph)	20	235	80	20	165	60	65	40	15	40	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	65		0	70		0	50		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	120			70			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.960			0.959				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1788	0	1770	1786	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1792	0	1770	1788	0	1770	1786	0	1770	1863	1583
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		745			1359			938			991	
Travel Time (s)		16.9			30.9			21.3			16.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	235	80	20	165	60	65	40	15	40	20	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	315	0	20	225	0	65	55	0	40	20	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	34.2%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	235	80	20	165	60	65	40	15	40	20	20
Future Vol, veh/h	20	235	80	20	165	60	65	40	15	40	20	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	235	80	20	165	60	65	40	15	40	20	20
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	2
HCM Control Delay	13.6	11.8	10.4	10
HCM LOS	B	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	73%	0%	75%	0%	73%	0%	100%	0%
Vol Right, %	0%	27%	0%	25%	0%	27%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	55	20	315	20	225	40	20	20
LT Vol	65	0	20	0	20	0	40	0	0
Through Vol	0	40	0	235	0	165	0	20	0
RT Vol	0	15	0	80	0	60	0	0	20
Lane Flow Rate	65	55	20	315	20	225	40	20	20
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.128	0.098	0.035	0.496	0.036	0.366	0.08	0.037	0.033
Departure Headway (Hd)	7.089	6.387	6.354	5.673	6.549	5.858	7.194	6.686	5.976
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	506	560	564	636	547	614	498	535	598
Service Time	4.833	4.131	4.087	3.405	4.285	3.593	4.942	4.434	3.723
HCM Lane V/C Ratio	0.128	0.098	0.035	0.495	0.037	0.366	0.08	0.037	0.033
HCM Control Delay	10.9	9.8	9.3	13.9	9.5	12	10.6	9.7	8.9
HCM Lane LOS	B	A	A	B	A	B	B	A	A
HCM 95th-tile Q	0.4	0.3	0.1	2.8	0.1	1.7	0.3	0.1	0.1

Lanes, Volumes, Timings

2: 5th St & Marina Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	145	50	25	140	25	15	60	10	10	35	45
Future Volume (vph)	65	145	50	25	140	25	15	60	10	10	35	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.982			0.984				0.850
Flt Protected		0.988			0.993			0.991			0.989	
Satd. Flow (prot)	0	1793	0	0	1816	0	0	1816	0	0	1842	1583
Flt Permitted		0.988			0.993			0.991			0.989	
Satd. Flow (perm)	0	1793	0	0	1816	0	0	1816	0	0	1842	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1359			918			1174			1074	
Travel Time (s)		30.9			20.9			26.7			24.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	145	50	25	140	25	15	60	10	10	35	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	260	0	0	190	0	0	85	0	0	45	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	42.7%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Traffic Vol, veh/h	65	145	50	25	140	25	15	60	10	10	35	45
Future Vol, veh/h	65	145	50	25	140	25	15	60	10	10	35	45
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	145	50	25	140	25	15	60	10	10	35	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	9.8	9.2	8.9	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	18%	25%	13%	22%	0%
Vol Thru, %	71%	56%	74%	78%	0%
Vol Right, %	12%	19%	13%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	260	190	45	45
LT Vol	15	65	25	10	0
Through Vol	60	145	140	35	0
RT Vol	10	50	25	0	45
Lane Flow Rate	85	260	190	45	45
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.122	0.328	0.244	0.072	0.062
Departure Headway (Hd)	5.159	4.537	4.627	5.775	4.955
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	691	790	773	617	718
Service Time	3.222	2.58	2.674	3.537	2.717
HCM Lane V/C Ratio	0.123	0.329	0.246	0.073	0.063
HCM Control Delay	8.9	9.8	9.2	9	8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	1.4	1	0.2	0.2

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	10	70	40	5	20	130	1350	60	20	1260	120
Future Volume (vph)	125	10	70	40	5	20	130	1350	60	20	1260	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	12	12	11	10	12	12	12	12	12	12
Storage Length (ft)	92		0	0		60	358		0	205		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	60			25			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	1.00	0.98			1.00	0.98		1.00			1.00	
Frt		0.869				0.850		0.994			0.987	
Flt Protected	0.950				0.957		0.950			0.950		
Satd. Flow (prot)	1947	1753	0	0	1723	1478	1770	5049	0	1770	5006	0
Flt Permitted	0.726				0.716		0.950			0.950		
Satd. Flow (perm)	1482	1753	0	0	1284	1455	1770	5049	0	1770	5006	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76				101		9			19	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		498			562			1142			537	
Travel Time (s)		13.6			15.3			19.5			9.2	
Confl. Peds. (#/hr)	3		4	4		3			2			3
Confl. Bikes (#/hr)			1						3			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	11	76	43	5	22	141	1467	65	22	1370	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	87	0	0	48	22	141	1532	0	22	1500	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		15			18			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.88	0.88	1.00	1.00	1.04	1.09	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100		20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	

Lanes, Volumes, Timings

3: Seal Beach Blvd & Bradbury Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	3.0	12.0		3.0	12.0	
Minimum Split (s)	33.0	33.0		33.0	33.0	33.0	15.0	26.3		15.0	26.3	
Total Split (s)	36.0	36.0		36.0	36.0	36.0	20.0	69.0		15.0	64.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%	30.0%	16.7%	57.5%		12.5%	53.3%	
Maximum Green (s)	32.0	32.0		32.0	32.0	32.0	16.5	63.7		11.5	58.7	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.3		3.0	4.3	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	-1.3		0.0	-1.3	
Total Lost Time (s)	4.0	4.0			4.0	4.0	3.5	4.0		3.5	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		2.0	2.0	2.0	1.5	5.0		1.5	5.0	
Minimum Gap (s)	3.0	3.0		2.0	2.0	2.0	1.5	3.0		1.5	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	12.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	12.0		0.0	12.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0	22.0		14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)	16.3	16.3			16.3	16.3	16.5	89.7		5.6	75.7	
Actuated g/C Ratio	0.14	0.14			0.14	0.14	0.14	0.75		0.05	0.63	
v/c Ratio	0.68	0.29			0.28	0.08	0.58	0.41		0.27	0.47	
Control Delay	65.1	14.5			48.5	0.6	49.5	5.8		62.7	12.7	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	65.1	14.5			48.5	0.6	49.5	5.8		62.7	12.7	
LOS	E	B			D	A	D	A		E	B	
Approach Delay		45.4			33.4			9.5			13.4	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 113 (94%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 14.0

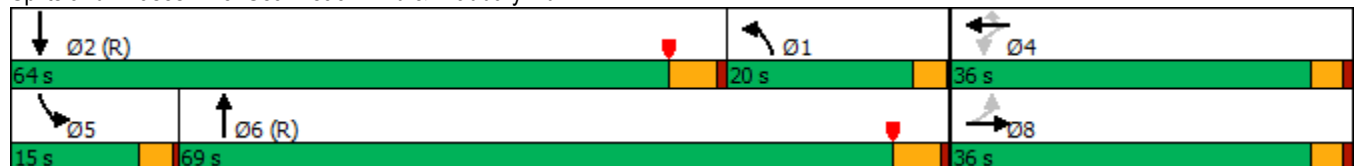
Intersection LOS: B

Intersection Capacity Utilization 59.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Seal Beach Blvd & Bradbury Rd



Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	15	135	10	10	25	195	1180	80	105	1280	210
Future Volume (vph)	170	15	135	10	10	25	195	1180	80	105	1280	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	8	12	12	8
Storage Length (ft)	80		0	0		0	80		60	150		150
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			100			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.98		1.00	0.99				0.95			0.96
Frt		0.865			0.893				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1586	0	1770	1648	0	1770	5085	1372	1770	5085	1372
Flt Permitted	0.732			0.482			0.950			0.950		
Satd. Flow (perm)	1364	1586	0	895	1648	0	1770	5085	1308	1770	5085	1314
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		147			27				52			176
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		538			406			892			1142	
Travel Time (s)		14.7			9.2			15.2			19.5	
Confl. Peds. (#/hr)			4	4					5			4
Confl. Bikes (#/hr)			1			1			3			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	16	147	11	11	27	212	1283	87	114	1391	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	163	0	11	38	0	212	1283	87	114	1391	228
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	100		20	100		20	100	20	20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6

Lanes, Volumes, Timings

4: Seal Beach Blvd & Rossmoor Center Wy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		3.0	10.0	10.0	3.0	10.0	10.0
Minimum Split (s)	36.2	36.2		15.0	15.0		15.0	17.5	17.5	15.0	18.5	18.5
Total Split (s)	36.0	36.0		36.0	36.0		24.0	69.0	69.0	15.0	60.0	60.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		20.0%	57.5%	57.5%	12.5%	50.0%	50.0%
Maximum Green (s)	31.8	31.8		31.8	31.8		19.5	63.5	63.5	10.5	54.5	54.5
Yellow Time (s)	3.2	3.2		3.2	3.2		3.5	4.5	4.5	3.5	4.5	4.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.2	-0.2		-0.2	-0.2		-0.5	-1.5	-1.5	-0.5	-1.5	-1.5
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	7.0
Flash Dont Walk (s)	25.0	25.0						5.0	5.0		6.0	6.0
Pedestrian Calls (#/hr)	0	0						0	0		0	0
Act Effect Green (s)	21.9	21.9		21.9	21.9		20.0	74.3	74.3	11.8	66.1	66.1
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.17	0.62	0.62	0.10	0.55	0.55
v/c Ratio	0.75	0.40		0.07	0.12		0.72	0.41	0.10	0.66	0.50	0.28
Control Delay	63.6	10.9		37.7	18.2		50.6	5.9	2.0	89.6	10.5	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.6	10.9		37.7	18.2		50.6	5.9	2.0	89.6	10.5	1.8
LOS	E	B		D	B		D	A	A	F	B	A
Approach Delay		38.9			22.6			11.6			14.6	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 111 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.7

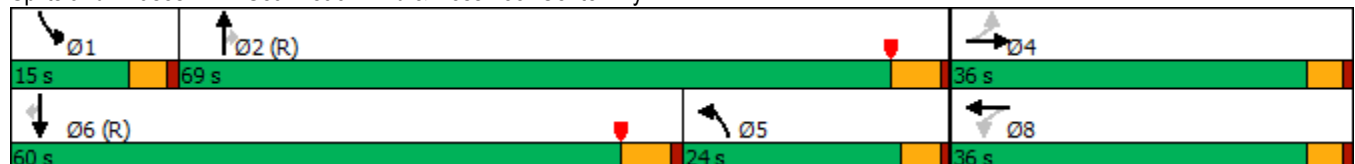
Intersection LOS: B

Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Seal Beach Blvd & Rossmoor Center Wy



Lanes, Volumes, Timings

5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	45	170	150	50	60	165	1130	80	35	1085	80
Future Volume (vph)	70	45	170	150	50	60	165	1130	80	35	1085	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	75		0	179		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			110			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99				0.99			1.00			1.00	
Frt		0.881			0.918			0.990			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1641	0	1770	1690	0	1770	5025	0	1770	5021	0
Flt Permitted	0.617			0.393			0.950			0.950		
Satd. Flow (perm)	1140	1641	0	732	1690	0	1770	5025	0	1770	5021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		154			49			13			14	
Link Speed (mph)		15			15			40			40	
Link Distance (ft)		340			303			598			892	
Travel Time (s)		15.5			13.8			10.2			15.2	
Confl. Peds. (#/hr)	8					8			2			12
Confl. Bikes (#/hr)									1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	49	185	163	54	65	179	1228	87	38	1179	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	234	0	163	119	0	179	1315	0	38	1266	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	100		20	100		20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												

Lanes, Volumes, Timings
5: Seal Beach Blvd & Towne Center Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	15.0	15.0		34.0	34.0		15.0	22.5		15.0	22.5	
Total Split (s)	36.0	36.0		36.0	36.0		21.0	63.0		21.0	63.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		17.5%	52.5%		17.5%	52.5%	
Maximum Green (s)	32.0	32.0		32.0	32.0		16.5	57.5		16.5	57.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				23.0	23.0			10.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effect Green (s)	27.4	27.4		27.4	27.4		15.4	76.9		7.6	65.2	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.13	0.64		0.06	0.54	
v/c Ratio	0.29	0.47		0.98	0.28		0.79	0.41		0.34	0.46	
Control Delay	39.7	16.5		109.9	22.9		93.4	2.3		82.8	3.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.7	16.5		109.9	22.9		93.4	2.3		82.8	3.0	
LOS	D	B		F	C		F	A		F	A	
Approach Delay		22.2			73.2			13.2			5.4	
Approach LOS		C			E			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 16.0

Intersection LOS: B

Intersection Capacity Utilization 66.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Seal Beach Blvd & Towne Center Dr

 Ø1	 Ø2 (R)	 Ø4
21 s	63 s	36 s
 Ø5	 Ø6 (R)	 Ø8
21 s	63 s	36 s

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	  			  	
Traffic Volume (vph)	95	0	370	190	35	5	340	1685	170	10	1325	80
Future Volume (vph)	95	0	370	190	35	5	340	1685	170	10	1325	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	107		0	0		0	206		0	78		0
Storage Lanes	1		2	1		0	2		0	1		0
Taper Length (ft)	40			25			120			110		
Lane Util. Factor	1.00	1.00	0.88	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99				1.00			1.00			1.00	
Frt			0.850		0.995			0.986			0.991	
Flt Protected	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (prot)	1770	0	2787	1681	1700	0	3433	5002	0	1770	5034	0
Flt Permitted	0.661			0.950	0.966		0.950			0.950		
Satd. Flow (perm)	1222	0	2787	1681	1700	0	3433	5002	0	1770	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97		1			20			9	
Link Speed (mph)		25			15			40			40	
Link Distance (ft)		526			300			909			598	
Travel Time (s)		14.3			13.6			15.5			10.2	
Confl. Peds. (#/hr)	4					1			1			3
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	0	402	207	38	5	370	1832	185	11	1440	87
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	103	0	402	106	144	0	370	2017	0	11	1527	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1	1	1		1	1		1	1	
Detector Template	Left		Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20		20	20	100		20	100		20	100	
Trailing Detector (ft)	0		0	0	0		0	0		0	0	
Detector 1 Position(ft)	0		0	0	0		0	0		0	0	
Detector 1 Size(ft)	20		20	20	100		20	100		20	100	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm		pm+ov	Split	NA		Prot	NA		Prot	NA	
Protected Phases			5	3	3		5	2		1	6	
Permitted Phases	4		4									
Detector Phase	4		4	3	3		5	2		1	6	
Switch Phase												

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	

Lanes, Volumes, Timings
6: Seal Beach Blvd & St. Cloud Dr

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0		10.0	5.0	5.0		10.0	10.0		3.0	10.0	
Minimum Split (s)	15.0		15.0	15.0	15.0		15.0	22.5		15.0	28.5	
Total Split (s)	20.0		25.0	22.0	22.0		25.0	63.0		15.0	53.0	
Total Split (%)	16.7%		20.8%	18.3%	18.3%		20.8%	52.5%		12.5%	44.2%	
Maximum Green (s)	16.0		20.5	18.0	18.0		20.5	57.5		10.5	47.5	
Yellow Time (s)	3.0		3.5	3.0	3.0		3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0		-0.5	0.0	0.0		-0.5	-1.5		-0.5	-1.5	
Total Lost Time (s)	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag		Lead	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0		2.0	4.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None		None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								10.0			16.0	
Pedestrian Calls (#/hr)								0			0	
Act Effect Green (s)	14.2		35.7	15.3	15.3		17.4	76.2		5.9	57.0	
Actuated g/C Ratio	0.12		0.30	0.13	0.13		0.14	0.64		0.05	0.48	
v/c Ratio	0.72		0.45	0.50	0.66		0.74	0.63		0.13	0.64	
Control Delay	77.0		26.4	56.2	64.1		68.2	8.6		68.0	15.9	
Queue Delay	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.0		26.4	56.2	64.1		68.2	8.6		68.0	15.9	
LOS	E		C	E	E		E	A		E	B	
Approach Delay		36.7			60.8			17.9			16.2	
Approach LOS		D			E			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 4 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 62.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Seal Beach Blvd & St. Cloud Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	63 s	22 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	53 s	42 s	

Lane Group	Ø8
Minimum Initial (s)	2.0
Minimum Split (s)	35.0
Total Split (s)	42.0
Total Split (%)	35%
Maximum Green (s)	39.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	25.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
7: Seal Beach Blvd & Lampson Ave

05/29/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  		 	  
Traffic Volume (vph)	330	455	1590	440	480	1285
Future Volume (vph)	330	455	1590	440	480	1285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	147		299	319	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				150	
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Ped Bike Factor		0.98		0.98		
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	5085	1583	3433	5085
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1558	5085	1555	3433	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		2		48		
Link Speed (mph)	45		45			40
Link Distance (ft)	707		802			909
Travel Time (s)	10.7		12.2			15.5
Confl. Peds. (#/hr)		2		5		
Confl. Bikes (#/hr)		4		2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	495	1728	478	522	1397
Shared Lane Traffic (%)						
Lane Group Flow (vph)	359	495	1728	478	522	1397
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	36		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	100	20	20	100
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						

Lanes, Volumes, Timings

7: Seal Beach Blvd & Lampson Ave

05/29/2025



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	38.3	15.0	35.5	38.3	15.0	15.0
Total Split (s)	38.0	31.0	51.0	38.0	31.0	82.0
Total Split (%)	31.7%	25.8%	42.5%	31.7%	25.8%	68.3%
Maximum Green (s)	33.0	26.5	45.5	33.0	26.5	76.5
Yellow Time (s)	4.0	3.5	4.5	4.0	3.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-0.5	-1.5	-1.3	-0.5	-1.5
Total Lost Time (s)	3.7	4.0	4.0	3.7	4.0	4.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	2.0	5.0	3.0	2.0	5.0
Recall Mode	None	None	C-Max	None	None	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	26.0		23.0	26.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effect Green (s)	21.4	48.1	59.9	81.6	27.0	90.9
Actuated g/C Ratio	0.18	0.40	0.50	0.68	0.22	0.76
v/c Ratio	0.59	0.79	0.68	0.44	0.68	0.36
Control Delay	47.3	36.5	22.8	3.8	34.5	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	36.5	22.8	3.8	34.5	3.5
LOS	D	D	C	A	C	A
Approach Delay	41.0		18.7			12.0
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 19.9

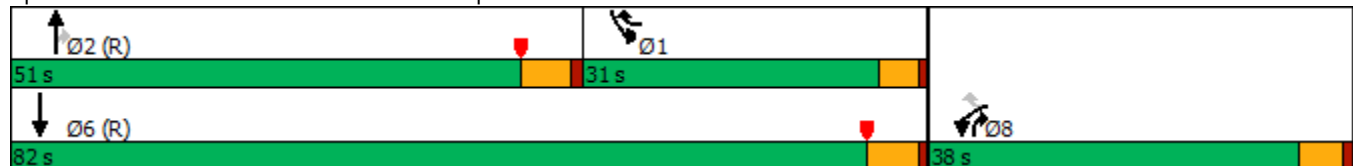
Intersection LOS: B

Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Seal Beach Blvd & Lampson Ave



Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	45	50	325	20	560	30	1335	545	235	1195	250
Future Volume (vph)	30	45	50	325	20	560	30	1335	545	235	1195	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		117	0		217	124		0	260		392
Storage Lanes	1		1	2		2	2		1	2		1
Taper Length (ft)	25			25			60			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850		0.862	0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1525	1504	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1525	1504	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		262	347			509			272
Link Speed (mph)		30			35			45			45	
Link Distance (ft)		663			410			1873			802	
Travel Time (s)		15.1			8.0			28.4			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	49	54	353	22	609	33	1451	592	255	1299	272
Shared Lane Traffic (%)						43%						
Lane Group Flow (vph)	33	49	54	353	284	347	33	1451	592	255	1299	272
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8		2	2			6
Detector Phase	7	7	7	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	10.0	10.0	10.0	8.0	10.0	10.0	8.0	10.0	10.0
Minimum Split (s)	12.2	12.2	12.2	44.2	44.2	44.2	12.2	15.3	15.3	12.2	35.3	35.3
Total Split (s)	14.0	14.0	14.0	45.0	45.0	45.0	13.0	37.0	37.0	24.0	48.0	48.0

Lanes, Volumes, Timings

8: Seal Beach Blvd & Old Ranch Pkwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.7%	11.7%	11.7%	37.5%	37.5%	37.5%	10.8%	30.8%	30.8%	20.0%	40.0%	40.0%
Maximum Green (s)	9.8	9.8	9.8	40.8	40.8	40.8	8.8	31.7	31.7	19.8	42.7	42.7
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.7	-0.7	-0.7	-1.1	-1.1	-1.1	-0.2	-1.8	-1.8	-0.2	-1.8	-1.8
Total Lost Time (s)	3.5	3.5	3.5	3.1	3.1	3.1	4.0	3.5	3.5	4.0	3.5	3.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	5.0	2.0	5.0	5.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	35.0	35.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)				5.0	5.0	5.0					5.0	5.0
Flash Dont Walk (s)				35.0	35.0	35.0					25.0	25.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effect Green (s)	9.2	9.2	9.2	19.8	19.8	19.8	8.7	65.9	65.9	13.5	75.6	75.6
Actuated g/C Ratio	0.08	0.08	0.08	0.16	0.16	0.16	0.07	0.55	0.55	0.11	0.63	0.63
v/c Ratio	0.24	0.34	0.21	0.62	0.61	0.65	0.13	0.52	0.54	0.66	0.41	0.25
Control Delay	56.5	59.2	1.9	51.1	12.5	10.3	31.7	6.5	2.5	62.7	10.1	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	59.2	1.9	51.1	12.5	10.3	31.7	6.5	2.5	62.7	10.1	2.7
LOS	E	E	A	D	B	B	C	A	A	E	B	A
Approach Delay		35.8			25.6			5.8			16.3	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 46 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 14.3

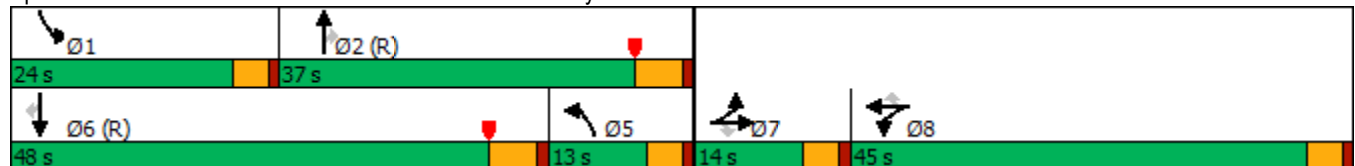
Intersection LOS: B

Intersection Capacity Utilization 65.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Seal Beach Blvd & Old Ranch Pkwy



Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	10	15	405	10	505	10	1275	270	380	1225	30
Future Volume (vph)	30	10	15	405	10	505	10	1275	270	380	1225	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		100	86		225	650		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			83			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.960				0.850			0.850		0.996	
Flt Protected		0.973		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	3306	0	1681	1690	1583	1770	5085	1583	1770	5065	0
Flt Permitted		0.973		0.950	0.955		0.950			0.950		
Satd. Flow (perm)	0	3306	0	1681	1690	1583	1770	5085	1583	1770	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				402			249		4	
Link Speed (mph)		35			40			50			50	
Link Distance (ft)		991			994			1529			1873	
Travel Time (s)		19.3			16.9			20.9			25.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	11	16	440	11	549	11	1386	293	413	1332	33
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	60	0	246	205	549	11	1386	293	413	1365	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100		20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	Free	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						Free			2			
Detector Phase	4	4		3	3		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)	12.2	12.2		12.2	12.2		12.2	15.7	15.7	12.2	23.7	
Total Split (s)	21.0	21.0		25.0	25.0		13.0	40.0	40.0	34.0	61.0	

Lanes, Volumes, Timings
9: Seal Beach Blvd & N Gate Rd

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	17.5%	17.5%		20.8%	20.8%		10.8%	33.3%	33.3%	28.3%	50.8%	
Maximum Green (s)	16.8	16.8		20.8	20.8		8.8	34.3	34.3	29.8	55.3	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	4.7	4.7	3.2	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.1		-1.4	-1.4		-0.2	-2.2	-2.2	-0.2	-2.2	
Total Lost Time (s)		3.1		2.8	2.8		4.0	3.5	3.5	4.0	3.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	5.0	5.0	2.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	1.5	1.5	2.0	1.5	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	20.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)												5.0
Flash Dont Walk (s)												13.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)		9.1		20.7	20.7	120.0	8.2	49.2	49.2	30.0	80.8	
Actuated g/C Ratio		0.08		0.17	0.17	1.00	0.07	0.41	0.41	0.25	0.67	
v/c Ratio		0.23		0.85	0.70	0.35	0.09	0.67	0.37	0.93	0.40	
Control Delay		42.1		73.7	60.2	0.6	54.3	31.6	6.6	66.8	4.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		42.1		73.7	60.2	0.6	54.3	31.6	6.6	66.8	4.0	
LOS		D		E	E	A	D	C	A	E	A	
Approach Delay		42.1			30.8			27.4			18.6	
Approach LOS		D			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 33 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Seal Beach Blvd & N Gate Rd



Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Lane Configurations			↰	↑↑↑	↑↑↑	↱		
Traffic Volume (vph)	0	0	60	1905	1195	215		
Future Volume (vph)	0	0	60	1905	1195	215		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	0			115		
Storage Lanes	0	0	1			1		
Taper Length (ft)	25		25					
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00		
Ped Bike Factor						0.98		
Frt						0.850		
Flt Protected			0.950					
Satd. Flow (prot)	0	0	1770	5085	5085	1583		
Flt Permitted			0.950					
Satd. Flow (perm)	0	0	1770	5085	5085	1557		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)						234		
Link Speed (mph)	15			50	50			
Link Distance (ft)	370			174	1529			
Travel Time (s)	16.8			2.4	20.9			
Confl. Peds. (#/hr)						1		
Confl. Bikes (#/hr)						8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	0	0	65	2071	1299	234		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	65	2071	1299	234		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			16	16			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	1	1	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	100	100	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Turn Type			Prot	NA	NA	Perm		
Protected Phases			5	2 4	6		2	4
Permitted Phases						6		
Detector Phase			5	2 4	6	6		
Switch Phase								

Lanes, Volumes, Timings

10: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2	Ø4
Minimum Initial (s)			4.0		10.0	10.0	10.0	5.0
Minimum Split (s)			8.0		26.7	26.7	15.7	15.0
Total Split (s)			8.0		31.0	31.0	47.0	23.0
Total Split (%)			11.4%		44.3%	44.3%	67%	33%
Maximum Green (s)			6.0		25.3	25.3	41.3	19.0
Yellow Time (s)			2.0		4.7	4.7	4.7	3.0
All-Red Time (s)			0.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)			-0.5		-1.7	0.0		
Total Lost Time (s)			1.5		4.0	5.7		
Lead/Lag			Lead		Lag	Lag		
Lead-Lag Optimize?			Yes		Yes	Yes		
Vehicle Extension (s)			3.0		4.0	4.0	4.0	4.0
Recall Mode			None		C-Max	C-Max	C-Max	None
Walk Time (s)					7.0	7.0		
Flash Dont Walk (s)					14.0	14.0		
Pedestrian Calls (#/hr)					0	0		
Act Effect Green (s)			6.4	70.0	38.2	36.5		
Actuated g/C Ratio			0.09	1.00	0.55	0.52		
v/c Ratio			0.40	0.41	0.47	0.25		
Control Delay			46.3	1.6	11.0	2.5		
Queue Delay			0.3	0.0	0.0	0.0		
Total Delay			46.7	1.6	11.0	2.5		
LOS			D	A	B	A		
Approach Delay				3.0	9.7			
Approach LOS				A	A			

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 17 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 5.8

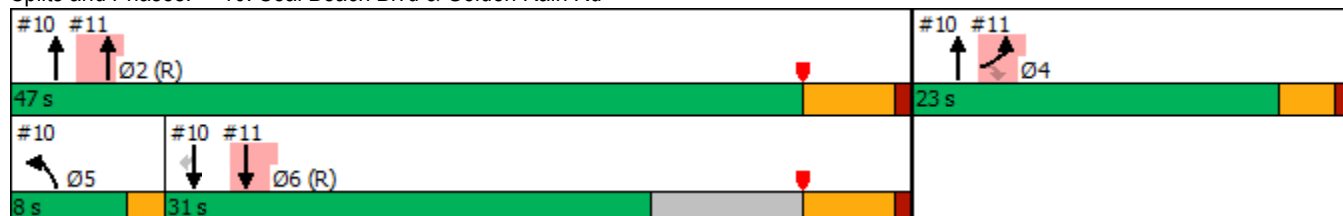
Intersection LOS: A

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations	↔↔	↗		↑↑↑	↑↑↑		
Traffic Volume (vph)	235	55	0	1720	1195	0	
Future Volume (vph)	235	55	0	1720	1195	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	16	12	12	12	12	
Storage Length (ft)	0	0	91			0	
Storage Lanes	2	1	1			0	
Taper Length (ft)	25		90				
Lane Util. Factor	0.97	1.00	1.00	0.86	0.91	1.00	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3547	1794	0	6408	5085	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3547	1794	0	6408	5085	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		60					
Link Speed (mph)	15			50	50		
Link Distance (ft)	316			1806	174		
Travel Time (s)	14.4			24.6	2.4		
Confl. Peds. (#/hr)						1	
Confl. Bikes (#/hr)						8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	255	60	0	1870	1299	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	255	60	0	1870	1299	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	26			4	4		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		1	1		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		100	100		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Turn Type	Prot	Perm		NA	NA		
Protected Phases	4			2	6	5	
Permitted Phases		4					
Detector Phase	4	4		2	6		

Lanes, Volumes, Timings

11: Seal Beach Blvd & Golden Rain Rd

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Switch Phase							
Minimum Initial (s)	5.0	5.0		10.0	10.0		4.0
Minimum Split (s)	15.0	15.0		15.7	26.7		8.0
Total Split (s)	23.0	23.0		47.0	31.0		8.0
Total Split (%)	32.9%	32.9%		67.1%	44.3%		11%
Maximum Green (s)	19.0	19.0		41.3	25.3		6.0
Yellow Time (s)	3.0	3.0		4.7	4.7		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)	0.0	0.0		-1.7	-1.7		
Total Lost Time (s)	4.0	4.0		4.0	4.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		C-Max	C-Max		None
Walk Time (s)					7.0		
Flash Dont Walk (s)					14.0		
Pedestrian Calls (#/hr)					0		
Act Effect Green (s)	19.0	19.0		43.0	38.2		
Actuated g/C Ratio	0.27	0.27		0.61	0.55		
v/c Ratio	0.27	0.11		0.48	0.47		
Control Delay	20.9	6.6		12.9	1.6		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	20.9	6.6		12.9	1.6		
LOS	C	A		B	A		
Approach Delay	18.2			12.9	1.6		
Approach LOS	B			B	A		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 17 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 9.2

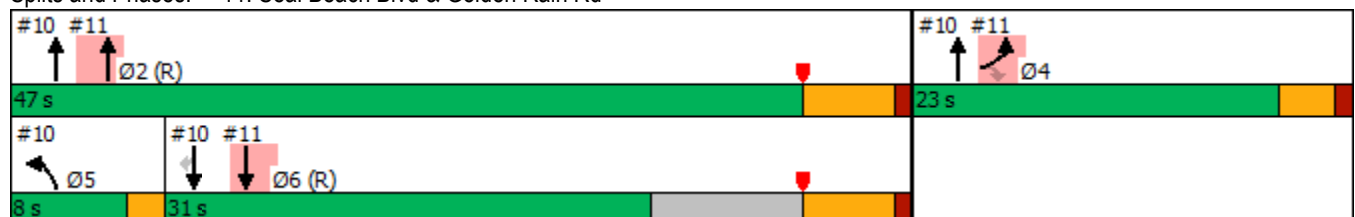
Intersection LOS: A

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Seal Beach Blvd & Golden Rain Rd



Lanes, Volumes, Timings
12: Seal Beach Blvd & St. Andrews Dr

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	165	80	75	1400	1280	60
Future Volume (vph)	165	80	75	1400	1280	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	70		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor					1.00	
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	5085	5045	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	5085	5045	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		87			13	
Link Speed (mph)	15			50	50	
Link Distance (ft)	538			1002	1806	
Travel Time (s)	24.5			13.7	24.6	
Confl. Peds. (#/hr)						1
Confl. Bikes (#/hr)						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	87	82	1522	1391	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	87	82	1522	1456	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	100	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						

Lanes, Volumes, Timings

12: Seal Beach Blvd & St. Andrews Dr

05/29/2025

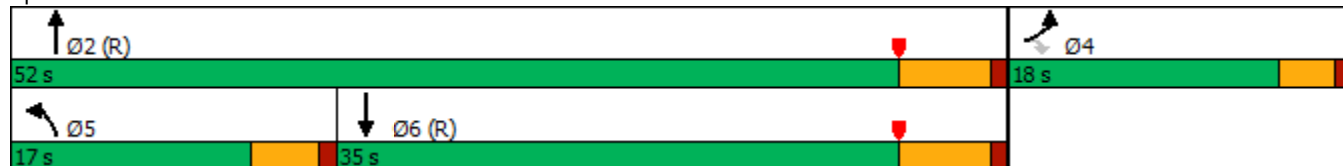


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	4.0	4.0	2.0	15.0	15.0	
Minimum Split (s)	15.0	15.0	15.0	20.7	21.7	
Total Split (s)	18.0	18.0	17.0	52.0	35.0	
Total Split (%)	25.7%	25.7%	24.3%	74.3%	50.0%	
Maximum Green (s)	14.0	14.0	12.5	46.3	29.3	
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	5.0	5.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)					7.0	
Flash Dont Walk (s)					9.0	
Pedestrian Calls (#/hr)					0	
Act Effect Green (s)	10.9	10.9	8.1	51.1	40.7	
Actuated g/C Ratio	0.16	0.16	0.12	0.73	0.58	
v/c Ratio	0.65	0.27	0.40	0.41	0.50	
Control Delay	38.4	8.7	33.9	5.8	4.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.4	8.7	33.9	5.8	4.7	
LOS	D	A	C	A	A	
Approach Delay	28.7			7.2	4.7	
Approach LOS	C			A	A	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 48 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 7.8
Intersection LOS: A
Intersection Capacity Utilization 49.4%
ICU Level of Service A
Analysis Period (min) 15

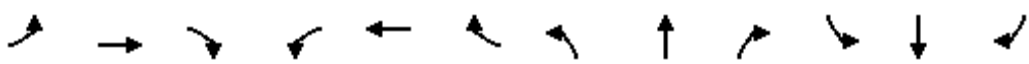
Splits and Phases: 12: Seal Beach Blvd & St. Andrews Dr



Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

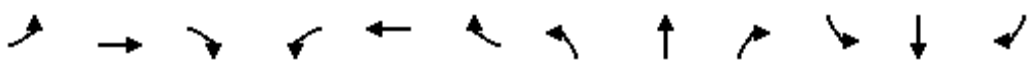
05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔↔		↔↔	↔↔		↔	↔↔↔		↔↔	↔↔↔	↔
Traffic Volume (vph)	355	615	55	265	465	150	115	1030	240	155	885	185
Future Volume (vph)	355	615	55	265	465	150	115	1030	240	155	885	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	280		0	265		0	284		187
Storage Lanes	2		0	2		0	1		0	2		1
Taper Length (ft)	90			125			95			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	0.95	1.00	0.91	0.91	0.97	0.91	1.00
Ped Bike Factor								1.00				0.98
Frt		0.988			0.963			0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5024	0	3433	3408	0	1770	4929	0	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5024	0	3433	3408	0	1770	4929	0	3433	5085	1559
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					35			39				
Link Speed (mph)		45			45			25			50	
Link Distance (ft)		1322			799			861			1002	
Travel Time (s)		20.0			12.1			23.5			13.7	
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												5
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
Adj. Flow (vph)	378	654	59	282	495	160	122	1096	255	165	941	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	378	713	0	282	655	0	122	1351	0	165	941	197
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												

Lanes, Volumes, Timings

13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	5.0
Minimum Split (s)	8.0	39.2		8.0	36.0		8.0	31.2		7.7	35.7	35.7
Total Split (s)	22.0	51.0		26.0	55.0		17.0	45.0		18.0	46.0	46.0
Total Split (%)	15.7%	36.4%		18.6%	39.3%		12.1%	32.1%		12.9%	32.9%	32.9%
Maximum Green (s)	17.0	45.0		21.0	49.0		12.0	39.3		13.3	40.3	40.3
Yellow Time (s)	3.0	5.0		3.0	5.0		3.0	4.7		3.0	4.7	4.7
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		1.7	1.0	1.0
Lost Time Adjust (s)	-1.7	-2.8		-1.7	-2.8		-1.7	-3.2		-1.7	-3.2	-3.2
Total Lost Time (s)	3.3	3.2		3.3	3.2		3.3	2.5		3.0	2.5	2.5
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Minimum Gap (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	4.0
Time Before Reduce (s)	3.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	20.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			7.0	7.0
Flash Dont Walk (s)		28.0			25.0			20.0			23.0	23.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	23.3	41.7		17.5	36.0		13.7	56.2		12.6	54.8	54.8
Actuated g/C Ratio	0.17	0.30		0.12	0.26		0.10	0.40		0.09	0.39	0.39
v/c Ratio	0.66	0.48		0.66	0.73		0.71	0.67		0.54	0.47	0.32
Control Delay	60.4	40.8		65.7	49.4		78.7	33.9		71.1	32.4	31.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	60.4	40.8		65.7	49.4		78.7	33.9		71.1	32.4	31.3
LOS	E	D		E	D		E	C		E	C	C
Approach Delay		47.6			54.3			37.6			37.1	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 43.0

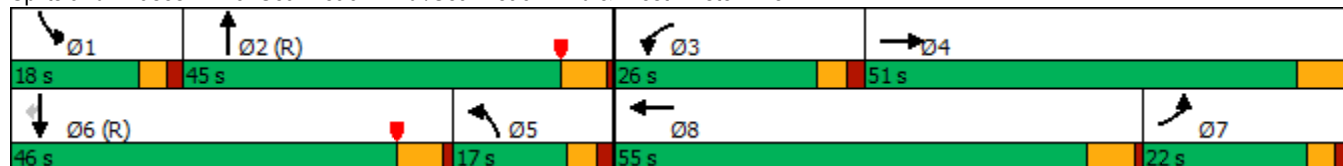
Intersection LOS: D

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Seal Beach Blvd /Seal Beach Blvd & Westminster Ave



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations								  				  
Traffic Volume (vph)	15	0	65	0	0	0	25	1150	0	0	0	950
Future Volume (vph)	15	0	65	0	0	0	25	1150	0	0	0	950
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	15	12	12	12	12	12	12	12	12	12
Storage Length (ft)	0		50	0		0	192		0		196	
Storage Lanes	1		1	0		0	1		0		1	
Taper Length (ft)	25			25			60				80	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	0.91
Ped Bike Factor												
Frt			0.850									
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1711	0	1742	0	0	0	1770	5085	0	1863	0	5085
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1711	0	1742	0	0	0	1770	5085	0	1863	0	5085
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			201									
Link Speed (mph)		15			15			50				50
Link Distance (ft)		316			163			1791				695
Travel Time (s)		14.4			7.4			24.4				9.5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	71	0	0	0	27	1250	0	0	0	1033
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	0	71	0	0	0	27	1250	0	0	0	1033
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		11			11			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.04	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Number of Detectors	1		1				1	1		1		1
Detector Template	Left		Right				Left	Thru		Left		Thru
Leading Detector (ft)	20		20				20	100		20		100
Trailing Detector (ft)	0		0				0	0		0		0
Detector 1 Position(ft)	0		0				0	0		0		0
Detector 1 Size(ft)	20		20				20	100		20		100
Detector 1 Type	Cl+Ex		Cl+Ex				Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0				0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0		0.0				0.0	0.0		0.0		0.0
Turn Type	Perm		Perm				Prot	NA		Prot		NA
Protected Phases							5	2		1		6
Permitted Phases	4		4									
Detector Phase	4		4				5	2		1		6
Switch Phase												

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

Lane Group	SBR	Ø8
↑↑↑ Configurations	↑	
Traffic Volume (vph)	20	
Future Volume (vph)	20	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	12	
Storage Length (ft)	99	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Ped Bike Factor	0.98	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1545	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	86	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Bikes (#/hr)	5	
Peak Hour Factor	0.92	
Adj. Flow (vph)	22	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	22	
Enter Blocked Intersection	No	
Lane Alignment	Right	
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor	1.00	
Turning Speed (mph)	9	
Number of Detectors	1	
Detector Template	Right	
Leading Detector (ft)	20	
Trailing Detector (ft)	0	
Detector 1 Position(ft)	0	
Detector 1 Size(ft)	20	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		

Lanes, Volumes, Timings

14: Seal Beach Blvd & Road C

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Minimum Initial (s)	4.0		4.0				3.0	10.0		3.0		10.0
Minimum Split (s)	15.0		15.0				15.0	15.7		15.0		22.7
Total Split (s)	22.0		22.0				15.0	33.0		15.0		33.0
Total Split (%)	31.4%		31.4%				21.4%	47.1%		21.4%		47.1%
Maximum Green (s)	18.0		18.0				10.5	27.3		10.5		27.3
Yellow Time (s)	3.0		3.0				3.5	4.7		3.5		4.7
All-Red Time (s)	1.0		1.0				1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0		0.0				-0.5	-1.7		-0.5		-1.7
Total Lost Time (s)	4.0		4.0				4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lead		Lag		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0		3.0				2.0	5.0		2.0		5.0
Recall Mode	None		None				None	C-Max		None		C-Max
Walk Time (s)												5.0
Flash Dont Walk (s)												12.0
Pedestrian Calls (#/hr)												0
Act Effect Green (s)	6.3		6.3				6.2	58.4				53.9
Actuated g/C Ratio	0.09		0.09				0.09	0.83				0.77
v/c Ratio	0.10		0.21				0.17	0.29				0.26
Control Delay	30.4		1.4				33.4	2.3				0.8
Queue Delay	0.0		0.0				0.0	0.0				0.0
Total Delay	30.4		1.4				33.4	2.3				0.8
LOS	C		A				C	A				A
Approach Delay		6.7						3.0				0.7
Approach LOS		A						A				A

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 5 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 2.1

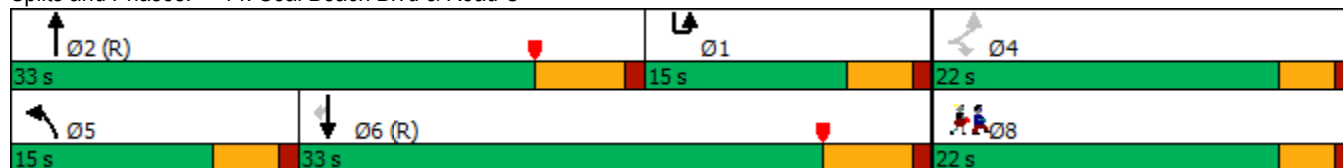
Intersection LOS: A

Intersection Capacity Utilization 32.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: Seal Beach Blvd & Road C



Lanes, Volumes, Timings
14: Seal Beach Blvd & Road C

05/29/2025



Lane Group	SBR	Ø8
Minimum Initial (s)	10.0	5.0
Minimum Split (s)	22.7	39.0
Total Split (s)	33.0	22.0
Total Split (%)	47.1%	31%
Maximum Green (s)	27.3	18.0
Yellow Time (s)	4.7	3.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)	-1.7	
Total Lost Time (s)	4.0	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	5.0	2.0
Recall Mode	C-Max	None
Walk Time (s)	5.0	5.0
Flash Dont Walk (s)	12.0	30.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)	53.9	
Actuated g/C Ratio	0.77	
v/c Ratio	0.02	
Control Delay	0.1	
Queue Delay	0.0	
Total Delay	0.1	
LOS	A	
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
15: Seal Beach Blvd & Apollo Dr

05/29/2025

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		  	  			
Traffic Volume (vph)	5	1150	1040	15	0	0
Future Volume (vph)	5	1150	1040	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	16
Storage Length (ft)	180			162	0	92
Storage Lanes	1			1	1	1
Taper Length (ft)	60				25	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor				0.97		
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	1770	5085	5085	1583	1801	2111
Flt Permitted	0.950					
Satd. Flow (perm)	1770	5085	5085	1539	1801	2111
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				16		
Link Speed (mph)		50	50		25	
Link Distance (ft)		577	1791		717	
Travel Time (s)		7.9	24.4		19.6	
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)				6		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1250	1130	16	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	1250	1130	16	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		16	12		21	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						

Lanes, Volumes, Timings

15: Seal Beach Blvd & Apollo Dr

05/29/2025



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	15.0	17.7	26.7	26.7	15.0	15.0
Total Split (s)	15.0	51.0	36.0	36.0	19.0	19.0
Total Split (%)	21.4%	72.9%	51.4%	51.4%	27.1%	27.1%
Maximum Green (s)	10.5	45.3	30.3	30.3	15.0	15.0
Yellow Time (s)	3.5	4.7	4.7	4.7	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-1.7	-1.7	-1.7	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	2.0	5.0	5.0	5.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)			5.0	5.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effect Green (s)	8.5	70.0	66.7	66.7		
Actuated g/C Ratio	0.12	1.00	0.95	0.95		
v/c Ratio	0.02	0.25	0.23	0.01		
Control Delay	32.0	0.1	0.2	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	32.0	0.1	0.2	0.0		
LOS	C	A	A	A		
Approach Delay		0.2	0.2			
Approach LOS		A	A			

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 53 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.25
 Intersection Signal Delay: 0.2
 Intersection Capacity Utilization 30.8%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 15: Seal Beach Blvd & Apollo Dr



Future PM Seal Beach Boulevard TSSP 3:32 pm 03/26/2025 Future Conditions
 Iteris, Inc.

Lanes, Volumes, Timings
16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	10	10	1120	1040	15
Future Volume (vph)	35	10	10	1120	1040	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	16	12	12	12	12
Storage Length (ft)	0	240	191			90
Storage Lanes	1	1	1			1
Taper Length (ft)	25		60			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1829	1794	1770	5085	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1829	1794	1770	5085	5085	1540
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		11				16
Link Speed (mph)	25			50	50	
Link Distance (ft)	715			1223	577	
Travel Time (s)	19.5			16.7	7.9	
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	11	11	1217	1130	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	11	11	1217	1130	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			16	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.85	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						

Lanes, Volumes, Timings

16: Seal Beach Blvd & Adolfo Lopez Dr

05/29/2025



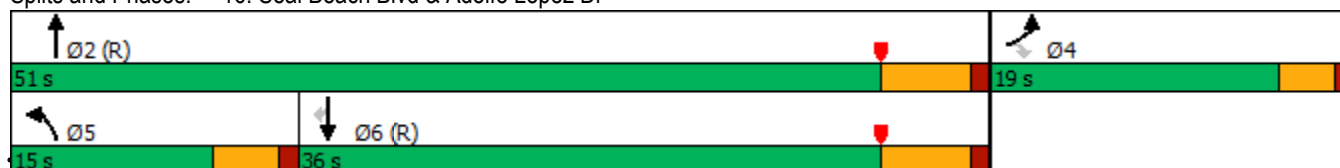
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	8.0	12.0	12.0	12.0
Minimum Split (s)	15.0	15.0	15.0	17.7	26.7	26.7
Total Split (s)	19.0	19.0	15.0	51.0	36.0	36.0
Total Split (%)	27.1%	27.1%	21.4%	72.9%	51.4%	51.4%
Maximum Green (s)	15.0	15.0	10.5	45.3	30.3	30.3
Yellow Time (s)	3.0	3.0	3.5	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	-0.5	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	5.0	5.0	5.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)					5.0	5.0
Flash Dont Walk (s)					16.0	16.0
Pedestrian Calls (#/hr)					0	0
Act Effect Green (s)	8.0	8.0	8.5	59.9	57.4	57.4
Actuated g/C Ratio	0.11	0.11	0.12	0.86	0.82	0.82
v/c Ratio	0.18	0.05	0.05	0.28	0.27	0.01
Control Delay	29.6	15.3	31.7	1.1	0.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	15.3	31.7	1.1	0.5	0.1
LOS	C	B	C	A	A	A
Approach Delay	26.4			1.3	0.5	
Approach LOS	C			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 53 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.28
 Intersection Signal Delay: 1.4
 Intersection Capacity Utilization 32.5%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 16: Seal Beach Blvd & Adolfo Lopez Dr



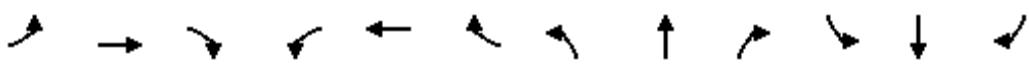
Future PM Seal Beach Boulevard TSSP 3:32 pm 03/26/2025 Future Conditions
 Iteris, Inc.

Synchro 11 Report
 Page 36

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↰↰↰		↱	↰↰↰	
Traffic Volume (vph)	30	0	15	40	0	75	10	1020	10	20	1000	30
Future Volume (vph)	30	0	15	40	0	75	10	1020	10	20	1000	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		120	289		0	192		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor								1.00			1.00	
Frt			0.850			0.850		0.999			0.996	
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	5080	0	1770	5062	0
Flt Permitted		0.729			0.736		0.950			0.950		
Satd. Flow (perm)	0	1358	1583	0	1371	1583	1770	5080	0	1770	5062	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			206		2			8	
Link Speed (mph)		15			15			40			50	
Link Distance (ft)		253			838			2064			1223	
Travel Time (s)		11.5			38.1			35.2			16.7	
Confl. Peds. (#/hr)												3
Confl. Bikes (#/hr)									1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	0	16	43	0	82	11	1109	11	22	1087	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	16	0	43	82	11	1120	0	22	1120	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lanes, Volumes, Timings

17: Seal Beach Blvd & Heron Pointe/Forrestal Ln

05/29/2025

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	10.0		3.0	10.0	
Minimum Split (s)	15.0	15.0	15.0	36.0	36.0	36.0	15.0	25.0		15.0	24.7	
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	16.0	33.0		15.0	32.0	
Total Split (%)	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	22.9%	47.1%		21.4%	45.7%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	11.5	27.0		10.5	26.3	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	5.0		3.5	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	-0.5	-2.0		-0.5	-1.7	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)				27.0	27.0	27.0		14.0			14.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effect Green (s)		7.7	7.7		7.7	7.7	6.6	52.6		6.0	53.8	
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.09	0.75		0.09	0.77	
v/c Ratio		0.22	0.04		0.28	0.23	0.07	0.29		0.15	0.29	
Control Delay		31.0	0.3		32.6	1.5	26.8	3.6		23.4	6.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		31.0	0.3		32.6	1.5	26.8	3.6		23.4	6.2	
LOS		C	A		C	A	C	A		C	A	
Approach Delay		21.0			12.2			3.9			6.5	
Approach LOS		C			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 5.9

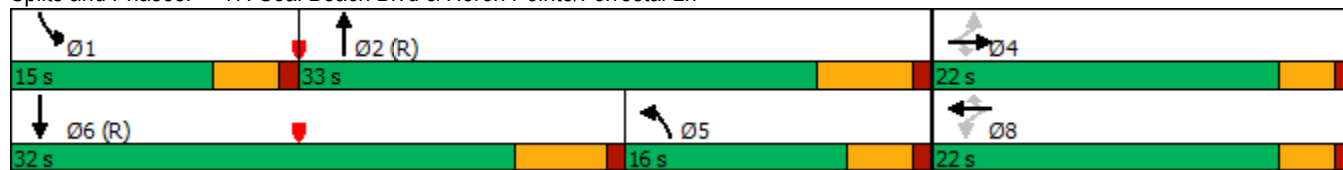
Intersection LOS: A

Intersection Capacity Utilization 37.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 17: Seal Beach Blvd & Heron Pointe/Forrestal Ln



Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	20	20	20	15	35	15	870	20	60	775	260
Future Volume (vph)	185	20	20	20	15	35	15	870	20	60	775	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	167		0	189		0	198		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			95			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.94					1.00			0.99	
Frt			0.850		0.894			0.997			0.962	
Flt Protected		0.957		0.950			0.950			0.950		
Satd. Flow (prot)	0	1783	1583	1770	1665	0	1770	5066	0	1770	4855	0
Flt Permitted		0.957		0.950			0.950			0.950		
Satd. Flow (perm)	0	1783	1483	1770	1665	0	1770	5066	0	1770	4855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		38			3			74	
Link Speed (mph)		30			15			50			50	
Link Distance (ft)		1498			1062			1153			2064	
Travel Time (s)		34.0			48.3			15.7			28.1	
Confl. Peds. (#/hr)			49						4			3
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	22	22	22	16	38	16	946	22	65	842	283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	223	22	22	54	0	16	968	0	65	1125	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			15			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lanes, Volumes, Timings

18: Seal Beach Blvd & Bolsa Ave/Anchor Way

05/29/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	3	3		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		3.0	18.0		3.0	18.0	
Minimum Split (s)	44.6	44.6	44.6	15.0	15.0		15.0	31.0		15.0	26.0	
Total Split (s)	46.0	46.0	46.0	16.0	16.0		16.0	61.0		17.0	62.0	
Total Split (%)	32.9%	32.9%	32.9%	11.4%	11.4%		11.4%	43.6%		12.1%	44.3%	
Maximum Green (s)	41.4	41.4	41.4	12.0	12.0		11.5	55.0		12.5	56.0	
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0		3.5	5.0		3.5	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-0.6	-0.6	0.0	0.0		-0.5	-2.0		-0.5	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	33.0	33.0	33.0					18.0			13.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effect Green (s)		24.4	24.4	8.6	8.6		6.4	83.5		11.6	92.4	
Actuated g/C Ratio		0.17	0.17	0.06	0.06		0.05	0.60		0.08	0.66	
v/c Ratio		0.72	0.06	0.20	0.39		0.20	0.32		0.45	0.35	
Control Delay		67.1	0.3	65.8	34.7		80.7	12.2		63.5	9.3	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		67.1	0.3	65.8	34.7		80.7	12.2		63.5	9.3	
LOS		E	A	E	C		F	B		E	A	
Approach Delay		61.1			43.7			13.3			12.3	
Approach LOS		E			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 85 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.4

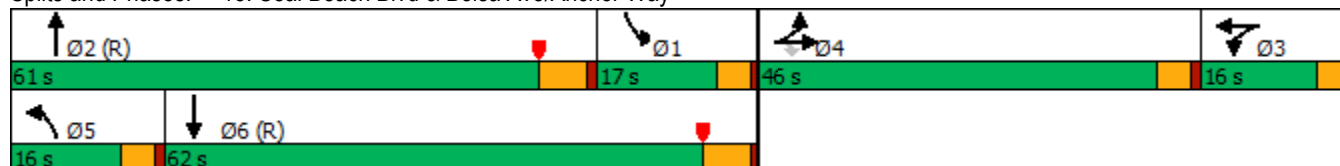
Intersection LOS: B

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 18: Seal Beach Blvd & Bolsa Ave/Anchor Way



Lanes, Volumes, Timings
19: Seal Beach Blvd & Marlin Ave

05/29/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	15	20	680	820	40
Future Volume (vph)	15	15	20	680	820	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		85			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt	0.932				0.993	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1694	0	1770	5085	5050	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1770	5085	5050	0
Link Speed (mph)	25			50	50	
Link Distance (ft)	591			614	1153	
Travel Time (s)	16.1			8.4	15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	15	20	680	820	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	20	680	860	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
19: Seal Beach Blvd & Marlin Ave

05/29/2025

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	20	680	820	40
Future Vol, veh/h	15	15	20	680	820	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	15	20	680	820	40

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1152	430	860	0	-	0
Stage 1	840	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	260	490	457	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	249	490	457	-	-	-
Mov Cap-2 Maneuver	249	-	-	-	-	-
Stage 1	289	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	457	-	330	-	-
HCM Lane V/C Ratio	0.044	-	0.091	-	-
HCM Control Delay (s)	13.2	-	17	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	800	25	45	775	500	40	300	90	410	210	340
Future Volume (vph)	330	800	25	45	775	500	40	300	90	410	210	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		78	159		496	97		99	200		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			90			60			60		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Frt			0.850			0.850		0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3415	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3415	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			69			23			332
Link Speed (mph)		40			40			50			50	
Link Distance (ft)		1196			1066			687			614	
Travel Time (s)		20.4			18.2			9.4			8.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	870	27	49	842	543	43	326	98	446	228	370
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	870	27	49	842	543	43	424	0	446	228	370
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			24			29	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2	3	4	4		3	3	
Permitted Phases			6			2						3

Lanes, Volumes, Timings
20: Seal Beach Blvd & Pacific Coast Hwy

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	3	4	4		3	3	3
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	7.0	5.0	5.0		7.0	7.0	7.0
Minimum Split (s)	10.6	44.0	44.0	10.6	44.0	43.3	11.3	11.3		43.3	43.3	43.3
Total Split (s)	21.0	63.0	63.0	18.0	60.0	37.0	22.0	22.0		37.0	37.0	37.0
Total Split (%)	15.0%	45.0%	45.0%	12.9%	42.9%	26.4%	15.7%	15.7%		26.4%	26.4%	26.4%
Maximum Green (s)	15.4	56.0	56.0	12.4	53.0	30.7	15.7	15.7		30.7	30.7	30.7
Yellow Time (s)	3.6	5.0	5.0	3.6	5.0	4.3	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.6	7.0	7.0	5.6	7.0	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	2.5	2.5	2.5		2.5	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		30.0	30.0		22.0	30.0				30.0	30.0	30.0
Pedestrian Calls (#/hr)		0	0		0	0				0	0	0
Act Effect Green (s)	15.4	65.6	65.6	9.2	57.1	90.7	15.7	15.7		26.6	26.6	26.6
Actuated g/C Ratio	0.11	0.47	0.47	0.07	0.41	0.65	0.11	0.11		0.19	0.19	0.19
v/c Ratio	1.85	0.52	0.03	0.43	0.58	0.52	0.22	1.05		0.68	0.65	0.65
Control Delay	435.0	29.5	0.1	73.2	35.0	13.2	59.7	114.4		56.1	58.3	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	435.0	29.5	0.1	73.2	35.0	13.2	59.7	114.4		56.1	58.3	23.0
LOS	F	C	A	E	C	B	E	F		E	E	C
Approach Delay		144.8			28.0			109.4			44.8	
Approach LOS		F			C			F			D	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 105 (75%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.85

Intersection Signal Delay: 76.1

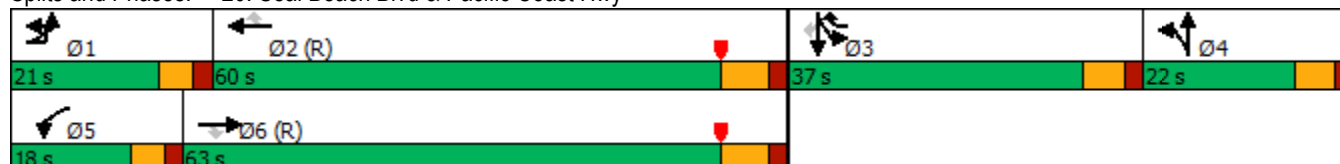
Intersection LOS: E

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 20: Seal Beach Blvd & Pacific Coast Hwy



Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	875	35	10	775	0	45	0	10	0	5	0
Future Volume (vph)	5	875	35	10	775	0	45	0	10	0	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		150	105		0	0		35	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	80			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected	0.950			0.950				0.950				
Satd. Flow (prot)	1770	3539	1583	1770	3539	0	0	1770	1583	0	1863	0
Flt Permitted	0.950			0.950				0.754				
Satd. Flow (perm)	1770	3539	1583	1770	3539	0	0	1405	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45						57			
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		707			2617			340			327	
Travel Time (s)		10.7			39.7			9.3			8.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	875	35	10	775	0	45	0	10	0	5	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	875	35	10	775	0	0	45	10	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm		NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4		4	8		

Lanes, Volumes, Timings
21: Old Ranch Plaza & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	22.3	22.3	8.0	20.0		26.0	26.0	26.0	26.0	26.0	
Total Split (s)	33.0	51.0	51.0	33.0	51.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	27.5%	42.5%	42.5%	27.5%	42.5%		30.0%	30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	29.0	45.7	45.7	29.0	45.7		32.0	32.0	32.0	32.0	32.0	
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.3	5.3	4.0	5.3			4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		12.0	12.0		6.0		17.0	17.0	17.0	17.0	17.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	6.0	102.1	102.1	6.3	102.2			9.3	9.3		9.3	
Actuated g/C Ratio	0.05	0.85	0.85	0.05	0.85			0.08	0.08		0.08	
v/c Ratio	0.06	0.29	0.03	0.11	0.26			0.42	0.06		0.03	
Control Delay	54.6	2.7	0.7	56.2	2.9			63.4	0.6		49.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	54.6	2.7	0.7	56.2	2.9			63.4	0.6		49.6	
LOS	D	A	A	E	A			E	A		D	
Approach Delay		2.9			3.6			51.9			49.6	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 41.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Old Ranch Plaza & Lampson Ave



Lanes, Volumes, Timings
22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	680	120	15	605	5	125	0	10	5	5	40
Future Volume (vph)	30	680	120	15	605	5	125	0	10	5	5	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	175		0	85		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	100			75			60			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.999			0.850			0.892	
Flt Protected	0.950			0.950			0.950				0.995	
Satd. Flow (prot)	1770	3458	0	1770	3536	0	1770	1583	0	0	1653	0
Flt Permitted	0.950			0.950			0.724				0.976	
Satd. Flow (perm)	1770	3458	0	1770	3536	0	1349	1583	0	0	1622	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			1			359			40	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		2617			1278			620			461	
Travel Time (s)		39.7			19.4			16.9			12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	680	120	15	605	5	125	0	10	5	5	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	800	0	15	610	0	125	10	0	0	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		

Lanes, Volumes, Timings

22: Basswood St & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.0	20.0		9.0	21.3		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	30.0		20.0	45.0		30.0	30.0		30.0	30.0	
Total Split (%)	16.7%	33.3%		22.2%	50.0%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	11.0	24.7		16.0	39.7		26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.0	5.3		4.0	5.3		4.0	4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		7.0			11.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	6.6	22.5		5.5	22.3		9.6	9.6			9.2	
Actuated g/C Ratio	0.17	0.58		0.14	0.57		0.25	0.25			0.24	
v/c Ratio	0.10	0.40		0.06	0.30		0.38	0.02			0.12	
Control Delay	17.8	8.0		19.1	8.0		17.8	0.0			7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	17.8	8.0		19.1	8.0		17.8	0.0			7.8	
LOS	B	A		B	A		B	A			A	
Approach Delay		8.3			8.2			16.4			7.8	
Approach LOS		A			A			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 39

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 8.9

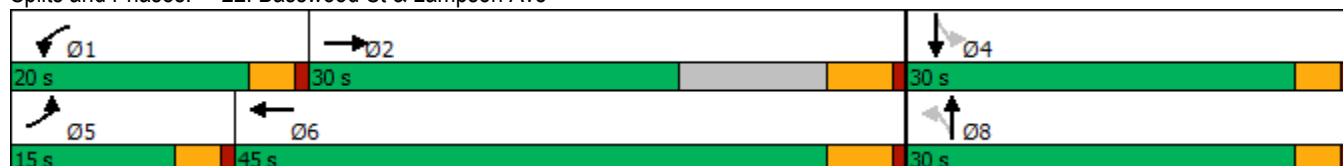
Intersection LOS: A

Intersection Capacity Utilization 46.3%

ICU Level of Service A

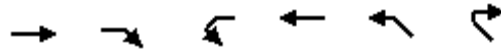
Analysis Period (min) 15

Splits and Phases: 22: Basswood St & Lampson Ave



Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

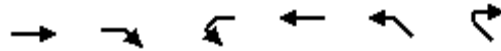
05/29/2025



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑		↵	↑↑	↵	
Traffic Volume (vph)	575	115	25	545	70	20
Future Volume (vph)	575	115	25	545	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	160		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			75		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.975				0.970	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3451	0	1770	3539	1740	0
Flt Permitted			0.389		0.963	
Satd. Flow (perm)	3451	0	725	3539	1740	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	47				20	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1278			2619	927	
Travel Time (s)	19.4			39.7	25.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	575	115	25	545	70	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	690	0	25	545	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	7			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
23: Candlebury Ave & Lampson Ave

05/29/2025



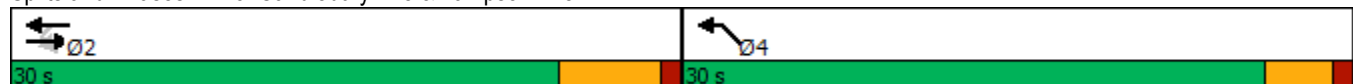
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	24.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	26.0	
Yellow Time (s)	4.5		4.5	4.5	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	7.0		7.0	7.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effect Green (s)	38.9		38.9	38.9	7.5	
Actuated g/C Ratio	0.79		0.79	0.79	0.15	
v/c Ratio	0.25		0.04	0.19	0.32	
Control Delay	3.1		3.8	3.2	18.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.1		3.8	3.2	18.3	
LOS	A		A	A	B	
Approach Delay	3.1			3.2	18.3	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.3
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 4.2
Intersection Capacity Utilization 33.8%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 23: Candlebury Ave & Lampson Ave



Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

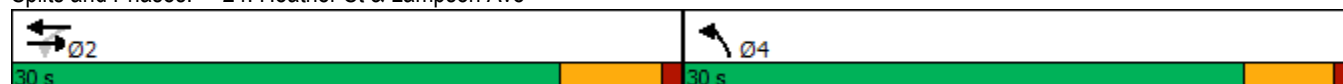
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↖	
Traffic Volume (vph)	530	60	65	515	55	50
Future Volume (vph)	530	60	65	515	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.985				0.936	
Flt Protected			0.950		0.974	
Satd. Flow (prot)	3486	0	1770	3539	1698	0
Flt Permitted			0.429		0.974	
Satd. Flow (perm)	3486	0	799	3539	1698	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	24				50	
Link Speed (mph)	45			45	25	
Link Distance (ft)	2619			1584	691	
Travel Time (s)	39.7			24.0	18.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	530	60	65	515	55	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	590	0	65	515	105	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
24: Heather St & Lampson Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	25.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.5		24.5	24.5	25.0	
Yellow Time (s)	4.5		4.5	4.5	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	36.0		36.0	36.0	7.3	
Actuated g/C Ratio	0.72		0.72	0.72	0.15	
v/c Ratio	0.24		0.11	0.20	0.36	
Control Delay	3.9		4.7	4.0	14.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.9		4.7	4.0	14.7	
LOS	A		A	A	B	
Approach Delay	3.9			4.1	14.7	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 50.3						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.36						
Intersection Signal Delay: 4.9				Intersection LOS: A		
Intersection Capacity Utilization 44.3%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 24: Heather St & Lampson Ave



Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

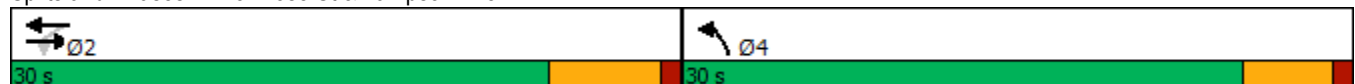
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↖	
Traffic Volume (vph)	565	35	65	520	30	55
Future Volume (vph)	565	35	65	520	30	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			65		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.991				0.913	
Flt Protected			0.950		0.983	
Satd. Flow (prot)	3507	0	1770	3539	1672	0
Flt Permitted			0.425		0.983	
Satd. Flow (perm)	3507	0	792	3539	1672	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	12				55	
Link Speed (mph)	45			45	25	
Link Distance (ft)	1584			1257	867	
Travel Time (s)	24.0			19.0	23.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	565	35	65	520	30	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	600	0	65	520	85	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			

Lanes, Volumes, Timings
25: Rose St & Lampson Ave

05/29/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		2	2	4	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	
Minimum Split (s)	20.0		20.0	20.0	28.0	
Total Split (s)	30.0		30.0	30.0	30.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	24.0		24.0	24.0	25.0	
Yellow Time (s)	5.0		5.0	5.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0		4.0	4.0	3.0	
Recall Mode	Max		Max	Max	None	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	9.0		9.0	9.0	18.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	38.6		38.6	38.6	7.5	
Actuated g/C Ratio	0.78		0.78	0.78	0.15	
v/c Ratio	0.22		0.11	0.19	0.28	
Control Delay	3.4		4.3	3.4	12.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.4		4.3	3.4	12.2	
LOS	A		A	A	B	
Approach Delay	3.4			3.5	12.2	
Approach LOS	A			A	B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 49.3						
Natural Cycle: 50						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.28						
Intersection Signal Delay: 4.0				Intersection LOS: A		
Intersection Capacity Utilization 45.1%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 25: Rose St & Lampson Ave



Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

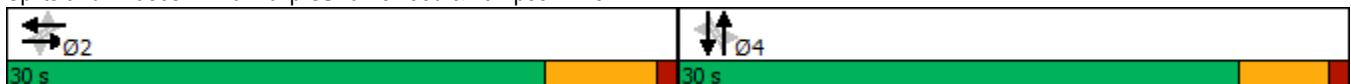
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	580	30	80	550	20	30	0	60	10	0	15
Future Volume (vph)	10	580	30	80	550	20	30	0	60	10	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	80		0	65		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	85			80			35			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.995			0.850			0.919	
Flt Protected	0.950			0.950			0.950				0.980	
Satd. Flow (prot)	1770	3514	0	1770	3522	0	1770	1583	0	0	1678	0
Flt Permitted	0.438			0.421			0.909				0.843	
Satd. Flow (perm)	816	3514	0	784	3522	0	1693	1583	0	0	1443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			7			162			55	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		1257			1023			510			526	
Travel Time (s)		19.0			15.5			13.9			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	580	30	80	550	20	30	0	60	10	0	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	610	0	80	570	0	30	60	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		

Lanes, Volumes, Timings
26: Tulip St/Parkewood & Lampson Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		28.0	28.0		28.0	28.0	
Total Split (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	24.0	24.0		24.0	24.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	34.5	34.5		34.5	34.5		7.2	7.2			7.2	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.16	0.16			0.16	
v/c Ratio	0.02	0.23		0.13	0.21		0.11	0.16			0.09	
Control Delay	4.1	3.7		4.8	3.6		16.8	0.8			3.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	4.1	3.7		4.8	3.6		16.8	0.8			3.3	
LOS	A	A		A	A		B	A			A	
Approach Delay		3.7			3.8			6.2			3.3	
Approach LOS		A			A			A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 60												
Actuated Cycle Length: 45.5												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.23												
Intersection Signal Delay: 3.9						Intersection LOS: A						
Intersection Capacity Utilization 47.6%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 26: Tulip St/Parkewood & Lampson Ave



Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	915	15	40	1090	150	100
Future Volume (vph)	915	15	40	1090	150	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		207	220		0	90
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1529	1770	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		16				109
Link Speed (mph)	50			45	25	
Link Distance (ft)	1365			937	502	
Travel Time (s)	18.6			14.2	13.7	
Confl. Peds. (#/hr)		3				
Confl. Bikes (#/hr)		10				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	995	16	43	1185	163	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	995	16	43	1185	163	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						

Lanes, Volumes, Timings
27: Apollo Dr & Westminster Ave

05/29/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Initial (s)	10.0	10.0	3.0	10.0	4.0	4.0
Minimum Split (s)	23.0	23.0	7.7	16.2	8.6	8.6
Total Split (s)	25.0	25.0	15.0	40.0	20.0	20.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%
Maximum Green (s)	20.0	20.0	11.0	35.0	16.0	16.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.2	-3.2	-1.7	-2.8	-1.6	-1.6
Total Lost Time (s)	1.8	1.8	2.3	2.2	2.4	2.4
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	5.0	5.0				
Flash Dont Walk (s)	13.0	13.0				
Pedestrian Calls (#/hr)	0	0				
Act Effect Green (s)	40.6	40.6	9.2	46.3	11.4	11.4
Actuated g/C Ratio	0.68	0.68	0.15	0.77	0.19	0.19
v/c Ratio	0.42	0.02	0.16	0.43	0.48	0.28
Control Delay	8.6	5.3	19.5	3.0	25.8	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	5.3	19.5	3.0	25.8	6.6
LOS	A	A	B	A	C	A
Approach Delay	8.5			3.6	18.1	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 15 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 7.1

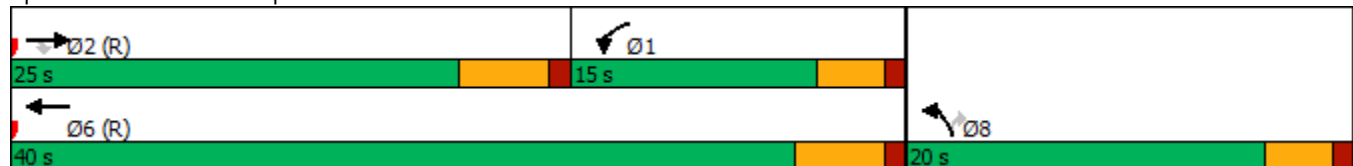
Intersection LOS: A

Intersection Capacity Utilization 46.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 27: Apollo Dr & Westminster Ave



Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1020	10	5	1340	0	15	5	25	10	5	40
Future Volume (vph)	5	1020	10	5	1340	0	15	5	25	10	5	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	715		0	75		55	0		75
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98									
Frt			0.850						0.850		0.868	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	0	1770	1863	1583	1770	1617	0
Flt Permitted	0.950			0.950			0.724			0.754		
Satd. Flow (perm)	1770	3539	1544	1770	3539	0	1349	1863	1583	1405	1617	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91						155		44	
Link Speed (mph)		45			60			25			25	
Link Distance (ft)		799			6309			1679			2824	
Travel Time (s)		12.1			71.7			45.8			77.0	
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)			4			2						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	1133	11	6	1489	0	17	6	28	11	6	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1133	11	6	1489	0	17	6	28	11	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4				8
Permitted Phases			2				4		4	8		
Detector Phase	5	2	2	1	6		4	4	4	8	8	
Switch Phase												

Lanes, Volumes, Timings
28: Kitts Hwy-Alfa Rd & Westminster Ave

05/29/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	7.0	31.5	31.5	7.0	27.5		8.0	8.0	8.0	36.0	36.0	
Total Split (s)	14.0	28.0	28.0	10.0	24.0		22.0	22.0	22.0	22.0	22.0	
Total Split (%)	23.3%	46.7%	46.7%	16.7%	40.0%		36.7%	36.7%	36.7%	36.7%	36.7%	
Maximum Green (s)	10.0	20.5	20.5	6.0	16.5		18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.7	-3.8	-3.8	-1.7	-4.9		-1.7	-1.7	-1.7	-1.7	-1.7	
Total Lost Time (s)	2.3	3.7	3.7	2.3	2.6		2.3	2.3	2.3	2.3	2.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0					5.0	5.0	
Flash Dont Walk (s)		19.0	19.0		15.0					27.0	27.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effect Green (s)	6.5	49.2	49.2	6.5	49.9		8.2	8.2	8.2	8.2	8.2	
Actuated g/C Ratio	0.11	0.82	0.82	0.11	0.83		0.14	0.14	0.14	0.14	0.14	
v/c Ratio	0.03	0.39	0.01	0.03	0.51		0.09	0.02	0.08	0.06	0.19	
Control Delay	24.2	3.8	0.0	24.2	4.3		23.2	21.8	0.4	22.6	11.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.2	3.8	0.0	24.2	4.3		23.2	21.8	0.4	22.6	11.3	
LOS	C	A	A	C	A		C	C	A	C	B	
Approach Delay		3.9			4.4			10.5			13.3	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 11 (18%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 4.5

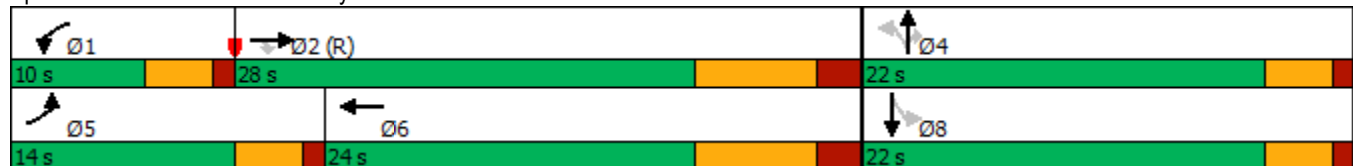
Intersection LOS: A

Intersection Capacity Utilization 51.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Kitts Hwy-Alfa Rd & Westminster Ave



Appendix D - Intersection Cost Estimates

Intersection Improvement Cost Estimate calculations

Intersection		Itemized Improvements From SAP & LRSP				Traffic Study Based Improvements			Traffic Study Based Cost					Summary of Improvements	Sub Total with SAP, LRSP & Traffic Study Based Improvements			Subtotal	Fair Share %	Total after Fair Share%
		Signing & Striping	New ITS Equipment	Signal & Ped Equipment	Roadway Features	Signal Mod	Left-turn Lane	Re-striping (per approach)	Signal Mod	Left-turn Lane	Right-turn Lane	Re-striping	Construction SUB-TOTAL			15%	30%			
						\$150,000	\$480,000	\$80,000								Design	Contingency			
1	1st St/Marina Dr	Y			Y				\$0	\$0	\$0	\$0	\$0	Upgrade signing and striping at the intersection. Modify existing curb return and curb ramp.	\$38,819	\$5,823	\$13,393	\$58,034	17%	\$9,866
2	5th St/Marina Dr	Y		Y					\$0	\$0	\$0	\$0	\$0	Upgrade signing and striping at the intersection.	\$15,986	\$2,398	\$5,515	\$23,899	20%	\$4,780
3	Seal Beach Blvd/Bradbury Rd	Y			Y				\$0	\$0	\$0	\$0	\$0	Upgrade signing and striping at the intersection. Install raised hardscape median with turnouts and upgraded driveways with proper radii (~500 LF).	\$140,378	\$21,057	\$48,431	\$209,866	5%	\$10,493
4	Seal Beach Blvd/Rossmoor Center Wy	Y			Y				\$0	\$0	\$0	\$0	\$0	Upgrade signing and striping at the intersection. Install raised hardscape median with turnouts and upgraded driveways with proper radii (~500 LF).	\$140,378	\$21,057	\$48,431	\$209,866	12%	\$25,184
5	Seal Beach Blvd/Towne Center Dr	Y	Y	Y		1	1	2	\$150,000	\$480,000	\$0	\$160,000	\$790,000	Modify Traffic Signal to provide protected left turn phasing in for westbound approach. Add a westbound left turn lane. Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install EVP, and Advanced Dilemma Zone Detection System.	\$905,543	\$135,832	\$312,412	\$1,353,787	6%	\$81,227
6	Seal Beach Blvd/St Cloud Dr	Y	Y	Y	Y	1			\$150,000	\$0	\$0	\$0	\$150,000	Upgrade traffic signal phasing to remove split phasing. Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install EVP, and Advanced Dilemma Zone Detection System. Modify existing curb ramps on south side of intersection to be directional curb ramps.	\$272,963	\$40,944	\$94,172	\$408,079	5%	\$20,404
7	Seal Beach Blvd/Lampson Ave	Y	Y	Y					\$0	\$0	\$0	\$0	\$0	Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.	\$124,541	\$18,681	\$42,967	\$186,188	5%	\$9,309
8	Seal Beach Blvd/Old Ranch Pkwy-405 NB Ramps	Y	Y	Y					\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Trim bushes for sight distance.	\$133,038	\$19,956	\$45,898	\$198,892	3%	\$5,967
9	Seal Beach Blvd/Gate Rd-405 SB Ramps	Y	Y	Y					\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.	\$87,551	\$13,133	\$30,205	\$130,889	3%	\$3,272
10	Seal Beach Blvd/Golden Rain Rd (WB)	Y	Y	Y					\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.	\$506,437	\$75,966	\$174,721	\$757,123	6%	\$45,427
11	Seal Beach Blvd/Golden Rain Rd (EB)								\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0			
12	Seal Beach Blvd/St Andrews Dr	Y	Y	Y	Y				\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Improve signal timing. Upgrade signing and striping at the intersection. Install EVP, and Advanced Dilemma Zone Detection System. Modify existing access curb ramp.	\$117,700	\$17,655	\$40,607	\$175,962	6%	\$10,558
13	Seal Beach Blvd/Westminster Blvd	Y	Y	Y	Y				\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Reconstruct both raised median on the South of Westminster on Seal Beach Blvd. Relocate existing OCTA bus stop at NEC on NB Seal Beach Blvd to 220' north of ECR.	\$993,897	\$149,085	\$342,894	\$1,485,876	5%	\$74,294
14	Seal Beach Blvd/Road C	Y		Y	Y				\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.	\$123,367	\$18,505	\$42,562	\$184,434	6%	\$11,066
15	Seal Beach Blvd/Apollo Dr	Y		Y	Y				\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System.	\$123,367	\$18,505	\$42,562	\$184,434	6%	\$11,066
16	Seal Beach Blvd/Adolfo Lopez Dr	Y	Y	Y	Y				\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Improve signal timing. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Modify existing access curb ramp.	\$121,319	\$18,198	\$41,855	\$181,371	7%	\$12,696
17	Seal Beach Blvd/Heron Point								\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	7%	\$0
18	Seal Beach Blvd/Bolsa Ave	Y		Y					\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment. Improve signal timing. Upgrade signing and striping at the intersection. Install no right-turn-on-red-restriction from Bolsa Ave on WBR movement.	\$287,000	\$43,050	\$99,015	\$429,065	11%	\$47,197
19	Seal Beach Blvd/Marlin Ave								\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	7%	\$0
20	Seal Beach Blvd/Pacific Coast Hwy					1	1	2	\$150,000	\$480,000	\$0	\$160,000	\$790,000	Signal modification to Install Eastbound and Westbound protected left-turn signal heads and implement protected left-turn phasing for the Eastbound and Westbound movements. Improve signal timing. Restripe EB approach to add a second Eastbound left-turn lane. This may require the conversion of the right-turn lane into a thru-right lane due to limited right-of-way. Restripe EB on the East of PCH.	\$790,000	\$118,500	\$272,550	\$1,181,050	50%	\$590,525
21	Old Ranch Plaza/Lampson Ave					1			\$150,000	\$0	\$0	\$0	\$150,000	Signal modification to install updated pole standards, safety lighting and equipment. Install Curb Ramp.	\$150,000	\$22,500	\$51,750	\$224,250	7%	\$15,698
22	Basswood St/Lampson Ave					1			\$150,000	\$0	\$0	\$0	\$150,000	Signal modification to install updated pole standards and equipment.	\$150,000	\$22,500	\$51,750	\$224,250	6%	\$13,455
23	Candleberry Ave/Lampson Ave					1			\$150,000	\$0	\$0	\$0	\$150,000	Signal modification to install updated pole standards and equipment.	\$150,000	\$22,500	\$51,750	\$224,250	6%	\$13,455
24	Heather St/Lampson Ave					1			\$150,000	\$0	\$0	\$0	\$150,000	Signal modification to install updated pole standards and equipment.	\$150,000	\$22,500	\$51,750	\$224,250	6%	\$13,455
25	Rose St/Lampson Ave					1			\$150,000	\$0	\$0	\$0	\$150,000	Signal modification to install updated pole standards and equipment.	\$150,000	\$22,500	\$51,750	\$224,250	6%	\$13,455
26	Tulip St/Lampson Ave	Y		Y					\$0	\$0	\$0	\$0	\$0	Install no right-turn-on-red-restriction on NBR movement. Install protected phasing on N/S movements.	\$93,000	\$13,950	\$32,085	\$139,035	7%	\$9,732
27	Apollo Dr/Westminster Blvd								\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	6%	\$0
28	Kitts Hwy/Westminster Blvd	Y	Y	Y					\$0	\$0	\$0	\$0	\$0	Upgrade pole equipment and APS ped push button. Upgrade signing and striping at the intersection. Install Leading pedestrian Interval System. Install bicycle video detection system, EVP, and Advanced Dilemma Zone Detection System. Replace existing advanced warning flashing beacons at ~2000' East of Kitts Hwy on WB Westminster Ave's North shoulder.	\$212,201	\$31,830	\$73,209	\$317,240	7%	\$22,207

* Existing deficiency, improvement cost estimate includes a fair-share %