MEMORANDUM

To:	Mr. Ricky Ramos City of Huntington Beach	Date:	October 1, 2019
From:	Keil D. Maberry, P.E. Daniel A. Kloos, P.E. Linscott, Law & Greenspan, Engineers	LLG Ref:	2.17.3857.1
Subject:	Response to Planning Commission Study Session Comments (08-27-19) Supplemental Analysis Without Hoag Hospital Cumulative Project Magnolia Tank Farm Project, Huntington Beach		

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Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Supplemental Analysis for the proposed Magnolia Tank Farm Project in response to Planning Commissioner John Scandura's request at the August 27th Planning Commission Study Session to provide an analysis at five (5) key study intersections without the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project. The Supplemental Analysis was prepared for Year 2026 traffic conditions and Buildout traffic conditions (without and with the proposed Project and Project Alternative) and focused to the following five (5) key study intersections.

27) Brookhurst Street at Pacific Coast Highway
28) Superior Avenue/Balboa Boulevard at Pacific Coast Highway
29) Newport Boulevard at Pacific Coast Highway
32) Placentia Avenue at Victoria Street
33) Harbor Boulevard at Victoria Street

As requested, the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project were removed from the analysis (i.e. 405 AM peak hour trips and 441 PM peak hour trips). The following summarizes the results of the Supplemental Analysis for the proposed Project and Project Alternative.

Supplemental Analysis Results – Proposed Project

Year 2026 Plus Project (ICU Methodology)

Table 8-2A summarizes the peak hour ICU level of service results at the five (5) key study intersections for Year 2026 cumulative traffic conditions. Columns one (1) through three (3) present the Year 2026 level of service results as presented in the June 2018 TIA (i.e. Table 8-2). Columns four (4) through six (6) present the Year 2026 level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 8-2A* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the five (5) key study

intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR.

Buildout Plus Project (ICU Methodology)

Table 8-3A summarizes the peak hour ICU level of service results at the five (5) key study intersections for Buildout traffic conditions. Columns one (1) through three (3) present the Buildout level of service results as presented in the June 2018 TIA (i.e. Table 8-3). Columns four (4) through six (6) present the Buildout level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 8-3A* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the five (5) key study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR.

Year 2026 Plus Project (Caltrans HCM Methodology)

Table 10-3A summarizes the peak hour HCM level of service results at the three (3) state-controlled study intersections for Year 2026 cumulative traffic conditions. Columns one (1) through three (3) present the Year 2026 level of service results as presented in the June 2018 TIA (i.e. Table 10-3). Columns four (4) through six (6) present the Year 2026 level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 10-3A* indicates that traffic associated with the proposed Project will significantly impact one (1) of the three (3) state-controlled study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR. The one (1) location significantly impacted by the proposed Project in the Year 2026 cumulative traffic condition is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
28. Superior Ave/Balboa Blvd at Pacific Coast Highway	77.9 s/v	E	113.6 s/v	F

Buildout Plus Project (Caltrans HCM Methodology)

Table 10-4A summarizes the peak hour HCM level of service results at the three (3) state-controlled study intersections for Buildout traffic conditions. Columns one (1) through three (3) present the Buildout level of service results as presented in the June 2018 TIA (i.e. Table 10-4). Columns four (4) through six (6) present the Buildout

level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 10-4A* indicates that traffic associated with the proposed Project will significantly impact two (2) of the three (3) state-controlled study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR. The two (2) locations significantly impacted by the proposed Project in the Buildout traffic condition are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
28. Superior Ave/Balboa Blvd at Pacific Coast Highway	238.7 s/v	F	88.9 s/v	F
29. Newport Boulevard at Pacific Coast Highway	152.5 s/v	F	---	---

Appendix A presents the Year 2026 and Buildout ICU/LOS calculations (without and with the proposed Project) for the five (5) key study intersections for the AM and PM peak hour. *Appendix A* also presents the Year 2026 and Buildout HCM/LOS calculations (without and with the proposed Project) for the three (3) state-controlled study intersections for the AM and PM peak hour.

Supplemental Analysis Results – Project Alternative

Year 2026 Plus Project Alternative (ICU Methodology)

Table 13-3A summarizes the peak hour ICU level of service results at the five (5) key study intersections for Year 2026 cumulative traffic conditions (Project Alternative). Columns one (1) through three (3) present the Year 2026 level of service results as presented in the June 2018 TIA (i.e. Table 13-3). Columns four (4) through six (6) present the Year 2026 level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 13-3A* indicates that traffic associated with the proposed Project Alternative ***will not*** significantly impact any of the five (5) key study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR.

Buildout Plus Project Alternative (ICU Methodology)

Table 13-4A summarizes the peak hour ICU level of service results at the five (5) key study intersections for Buildout traffic conditions (Project Alternative). Columns one (1) through three (3) present the Buildout level of service results as presented in the June 2018 TIA (i.e. Table 13-4). Columns four (4) through six (6) present the

Buildout level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 13-4A* indicates that traffic associated with the proposed Project Alternative ***will not*** significantly impact any of the five (5) key study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR.

Year 2026 Plus Project Alternative (Caltrans HCM Methodology)

Table 13-7A summarizes the peak hour HCM level of service results at the three (3) state-controlled study intersections for Year 2026 cumulative traffic conditions (Project Alternative). Columns one (1) through three (3) present the Year 2026 level of service results as presented in the June 2018 TIA (i.e. Table 13-7). Columns four (4) through six (6) present the Year 2026 level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 13-7A* indicates that traffic associated with the proposed Project Alternative will significantly impact one (1) of the three (3) state-controlled study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR. The one (1) location significantly impacted by the proposed Project Alternative in the Year 2026 cumulative traffic condition is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
28. Superior Ave/Balboa Blvd at Pacific Coast Highway	77.3 s/v	E	112.9 s/v	F

Buildout Plus Project Alternative (Caltrans HCM Methodology)

Table 13-8A summarizes the peak hour HCM level of service results at the three (3) state-controlled study intersections for Buildout traffic conditions (Project Alternative). Columns one (1) through three (3) present the Buildout level of service results as presented in the June 2018 TIA (i.e. Table 13-8). Columns four (4) through six (6) present the Buildout level of service results without the trips associated with the Hoag Memorial Hospital Presbyterian Master Plan Update cumulative project.

Review of columns (5) and (6) of *Table 13-8A* indicates that traffic associated with the proposed Project Alternative will significantly impact two (2) of the three (3) state-controlled study intersections, which is consistent with the findings of the June 2018 TIA and Section 4.14 – Transportation/Traffic of the DEIR. The two (2)

locations significantly impacted by the proposed Project Alternative in the Buildout traffic condition are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
28. Superior Ave/Balboa Blvd at Pacific Coast Highway	237.9 s/v	F	87.9 s/v	F
29. Newport Boulevard at Pacific Coast Highway	151.8 s/v	F	---	---

Appendix B presents the Year 2026 and Buildout ICU/LOS calculations (without and with the proposed Project Alternative) for the five (5) key study intersections for the AM and PM peak hour. *Appendix B* also presents the Year 2026 and Buildout HCM/LOS calculations (without and with the proposed Project Alternative) for the three (3) state-controlled study intersections for the AM and PM peak hour.

* * * * * * * * * * *

We appreciate the opportunity to provide this Supplemental Analysis. Should you have any questions, please call us at (949) 825-6175. Thank you.

LINSCOTT LAW & GREENSPAN engineers

TABLE 8-2A
YEAR 2026 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Year 2026 Cumulative Traffic Conditions		(2) Year 2026 Cumulative Plus Project Traffic Conditions		(3) Significant Impact		(4) Year 2026 Cumulative Traffic Conditions		(5) Year 2026 Cumulative Plus Project Traffic Conditions		(6) Significant Impact	
				ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS	ICU	LOS	ICU Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	0.742	C	0.746	C	0.004	No	0.740	C	0.744	C	0.004	No
			PM	0.831	D	0.835	D	0.004	No	0.829	D	0.834	D	0.005	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	0.748	C	0.752	C	0.004	No	0.739	C	0.743	C	0.004	No
			PM	**0.936**	**E**	**0.940**	**E**	0.004	No	**0.920**	**E**	**0.924**	**E**	0.004	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	0.886	D	0.893	D	0.007	No	0.868	D	0.875	D	0.007	No
			PM	0.830	D	0.835	D	0.005	No	0.819	D	0.824	D	0.005	No
32.	Placentia Avenue at Victoria Street	D	AM	**0.909**	**E**	**0.914**	**E**	0.005	No	**0.900**	**E**	**0.905**	**E**	0.005	No
			PM	**0.928**	**E**	**0.935**	**E**	0.007	No	**0.924**	**E**	**0.931**	**E**	0.007	No
33.	Harbor Boulevard at Victoria Street	D	AM	0.773	C	0.778	C	0.005	No	0.773	C	0.778	C	0.005	No
			PM	**0.903**	**E**	**0.908**	**E**	0.005	No	**0.903**	**E**	**0.908**	**E**	0.005	No

Notes:

- **Bold** LOS values indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization

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TABLE 8-3A
BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Buildout Traffic Conditions		(2) Buildout Plus Project Traffic Conditions		(3) Significant Impact		(4) Buildout Traffic Conditions		(5) Buildout Plus Project Traffic Conditions		(6) Significant Impact	
				ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS	ICU	LOS	ICU Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	0.745	C	0.749	C	0.004	No	0.744	C	0.748	C	0.004	No
			PM	0.831	D	0.835	D	0.004	No	0.829	D	0.834	D	0.005	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	**1.130**	**F**	**1.134**	**F**	0.004	No	**1.123**	**F**	**1.128**	**F**	0.005	No
			PM	**0.961**	**E**	**0.964**	**E**	0.003	No	**0.951**	**E**	**0.954**	**E**	0.003	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	**1.212**	**F**	**1.218**	**F**	0.006	No	**1.193**	**F**	**1.200**	**F**	0.007	No
			PM	0.861	D	0.867	D	0.006	No	0.831	D	0.837	D	0.006	No
32.	Placentia Avenue at Victoria Street	D	AM	0.870	D	0.874	D	0.004	No	0.864	D	0.869	D	0.005	No
			PM	**0.950**	**E**	**0.956**	**E**	0.006	No	**0.946**	**E**	**0.952**	**E**	0.006	No
33.	Harbor Boulevard at Victoria Street	D	AM	0.799	C	0.803	D	0.004	No	0.799	C	0.803	D	0.004	No
			PM	**0.920**	**E**	**0.925**	**E**	0.005	No	**0.920**	**E**	**0.925**	**E**	0.005	No

Notes:

- **Bold** LOS values indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization

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TABLE 10-3A

YEAR 2026 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Year 2026 Cumulative Traffic Conditions		(2) Year 2026 Cumulative Plus Project Traffic Conditions		(3) Significant Impact		(4) Year 2026 Cumulative Traffic Conditions		(5) Year 2026 Cumulative Plus Project Traffic Conditions		(6) Significant Impact	
				HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No	HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	27.9 s/v	C	28.3 s/v	C	0.4 s/v	No	27.8 s/v	C	28.3 s/v	C	0.5 s/v	No
			PM	44.5 s/v	D	46.2 s/v	D	1.7 s/v	No	43.8 s/v	D	45.5 s/v	D	1.7 s/v	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	**82.6 s/v**	**F**	**84.4 s/v**	**F**	**1.8 s/v**	**Yes**	**76.2 s/v**	**E**	**77.9 s/v**	**E**	**1.7 s/v**	**Yes**
			PM	**116.4 s/v**	**F**	**118.7 s/v**	**F**	2.3 s/v	No	**111.0 s/v**	**F**	**113.6 s/v**	**F**	2.6 s/v	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	51.2 s/v	D	53.0 s/v	D	1.8 s/v	No	47.0 s/v	D	48.8 s/v	D	1.8 s/v	No
			PM	53.5 s/v	D	53.0 s/v	D	0.0 s/v	No	47.5 s/v	D	49.4 s/v	D	1.9 s/v	No

Notes:

- **Bold** LOS values indicate adverse service levels based on Caltrans LOS standards
- s/v = seconds per vehicle (delay)
- HCM = Highway Capacity Manual
- The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e., LOS D); the existing service level should be maintained.

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TABLE 10-4A

BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Buildout Traffic Conditions		(2) Buildout Plus Project Traffic Conditions		(3) Significant Impact		(4) Buildout Traffic Conditions		(5) Buildout Plus Project Traffic Conditions		(6) Significant Impact	
				HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No	HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	26.1 s/v	C	26.3 s/v	C	0.2 s/v	No	26.1 s/v	C	26.2 s/v	C	0.1 s/v	No
			PM	35.0 s/v	D	36.0 s/v	D	1.0 s/v	No	34.6 s/v	C	35.6 s/v	D	1.0 s/v	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	**241.2 s/v**	**F**	**243.9 s/v**	**F**	**2.7 s/v**	**Yes**	**236.0 s/v**	**F**	**238.7 s/v**	**F**	**2.7 s/v**	**Yes**
			PM	**91.4 s/v**	**F**	**94.2 s/v**	**F**	2.8 s/v	No	**86.3 s/v**	**F**	**88.9 s/v**	**F**	2.6 s/v	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	**154.8 s/v**	**F**	**157.3 s/v**	**F**	**2.5 s/v**	**Yes**	**150.0 s/v**	**F**	**152.5 s/v**	**F**	**2.5 s/v**	**Yes**
			PM	46.5 s/v	D	48.4 s/v	D	1.9 s/v	No	40.8 s/v	D	42.2 s/v	D	1.4 s/v	No

Notes:

- **Bold** LOS values indicate adverse service levels based on Caltrans LOS standards
- s/v = seconds per vehicle (delay)
- HCM = Highway Capacity Manual
- The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e., LOS D); the existing service level should be maintained.

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TABLE 13-3A

YEAR 2026 PLUS PROJECT ALTERNATIVE PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Year 2026 Cumulative Traffic Conditions		(2) Year 2026 Cumulative Plus Project Alt. Traffic Conditions		(3) Significant Impact		(4) Year 2026 Cumulative Traffic Conditions		(5) Year 2026 Cumulative Plus Project Alt. Traffic Conditions		(6) Significant Impact	
				ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS	ICU	LOS	ICU Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	0.742	C	0.744	C	0.002	No	0.740	C	0.743	C	0.003	No
			PM	0.831	D	0.834	D	0.003	No	0.829	D	0.832	D	0.003	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	0.748	C	0.751	C	0.003	No	0.739	C	0.742	C	0.003	No
			PM	**0.936**	**E**	**0.939**	**E**	0.003	No	**0.920**	**E**	**0.923**	**E**	0.003	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	0.886	D	0.891	D	0.005	No	0.868	D	0.873	D	0.005	No
			PM	0.830	D	0.833	D	0.003	No	0.819	D	0.823	D	0.004	No
32.	Placentia Avenue at Victoria Street	D	AM	**0.909**	**E**	**0.912**	**E**	0.003	No	**0.900**	**E**	**0.904**	**E**	0.004	No
			PM	**0.928**	**E**	**0.932**	**E**	0.004	No	**0.924**	**E**	**0.928**	**E**	0.004	No
33.	Harbor Boulevard at Victoria Street	D	AM	0.773	C	0.776	C	0.003	No	0.773	C	0.776	C	0.003	No
			PM	**0.903**	**E**	**0.907**	**E**	0.004	No	**0.903**	**E**	**0.907**	**E**	0.004	No

Notes:

- **Bold** LOS values indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization

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TABLE 13-4A

BUILDOUT PLUS PROJECT ALTERNATIVE PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Buildout Traffic Conditions		(2) Buildout Plus Project Alt. Traffic Conditions		(3) Significant Impact		(4) Buildout Traffic Conditions		(5) Buildout Plus Project Alt. Traffic Conditions		(6) Significant Impact	
				ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS	ICU	LOS	ICU Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	0.745	C	0.748	C	0.003	No	0.744	C	0.746	C	0.002	No
			PM	0.831	D	0.834	D	0.003	No	0.829	D	0.832	D	0.003	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	**1.130**	**F**	**1.133**	**F**	0.003	No	**1.123**	**F**	**1.126**	**F**	0.003	No
			PM	**0.961**	**E**	**0.963**	**E**	0.002	No	**0.951**	**E**	**0.953**	**E**	0.002	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	**1.212**	**F**	**1.216**	**F**	0.004	No	**1.193**	**F**	**1.198**	**F**	0.005	No
			PM	0.861	D	0.864	D	0.003	No	0.831	D	0.834	D	0.003	No
32.	Placentia Avenue at Victoria Street	D	AM	0.870	D	0.873	D	0.003	No	0.864	D	0.868	D	0.004	No
			PM	**0.950**	**E**	**0.953**	**E**	0.003	No	**0.946**	**E**	**0.950**	**E**	0.004	No
33.	Harbor Boulevard at Victoria Street	D	AM	0.799	C	0.802	D	0.003	No	0.799	C	0.802	D	0.003	No
			PM	**0.920**	**E**	**0.924**	**E**	0.004	No	**0.920**	**E**	**0.924**	**E**	0.004	No

Notes:

- **Bold** LOS values indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization

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TABLE 13-7A

YEAR 2026 PEAK HOUR PLUS PROJECT ALTERNATIVE INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Year 2026 Cumulative Traffic Conditions		(2) Year 2026 Cumulative Plus Project Alt. Traffic Conditions		(3) Significant Impact		(4) Year 2026 Cumulative Traffic Conditions		(5) Year 2026 Cumulative Plus Project Alt. Traffic Conditions		(6) Significant Impact	
				HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No	HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	27.9 s/v	C	28.1 s/v	C	0.2 s/v	No	27.8 s/v	C	28.2 s/v	C	0.4 s/v	No
			PM	44.5 s/v	D	45.6 s/v	D	1.1 s/v	No	43.8 s/v	D	45.0 s/v	D	1.2 s/v	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	**82.6 s/v**	**F**	**83.8 s/v**	**F**	**1.2 s/v**	**Yes**	**76.2 s/v**	**E**	**77.3 s/v**	**E**	**1.1 s/v**	**Yes**
			PM	**116.4 s/v**	**F**	**118.1 s/v**	**F**	1.7 s/v	No	**111.0 s/v**	**F**	**112.9 s/v**	**F**	1.9 s/v	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	51.2 s/v	D	52.4 s/v	D	1.2 s/v	No	47.0 s/v	D	48.1 s/v	D	1.1 s/v	No
			PM	53.5 s/v	D	52.3 s/v	D	0.0 s/v	No	47.5 s/v	D	48.7 s/v	D	1.2 s/v	No

Notes:

- **Bold** LOS values indicate adverse service levels based on Caltrans LOS standards
- s/v = seconds per vehicle (delay)
- HCM = Highway Capacity Manual
- The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e., LOS D); the existing service level should be maintained.

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TABLE 13-8A

BUILDOUT PLUS PROJECT ALTERNATIVE PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Minimum Acceptable LOS	Time Period	LLG TIA (June 28, 2018)						Without Hoag Memorial Hospital Traffic					
				(1) Buildout Traffic Conditions		(2) Buildout Plus Project Alt. Traffic Conditions		(3) Significant Impact		(4) Buildout Traffic Conditions		(5) Buildout Plus Project Alt, Traffic Conditions		(6) Significant Impact	
				HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No	HCM (s/v)	LOS	HCM (s/v)	LOS	HCM (s/v) Increase	Yes/No
27.	Brookhurst Street at Pacific Coast Highway	D	AM	26.1 s/v	C	26.3 s/v	C	0.2 s/v	No	26.1 s/v	C	26.2 s/v	C	0.1 s/v	No
			PM	35.0 s/v	D	35.7 s/v	D	0.7 s/v	No	34.6 s/v	C	35.3 s/v	D	0.7 s/v	No
28.	Superior Ave/Balboa Blvd at Pacific Coast Highway	D	AM	**241.2 s/v**	**F**	**243.1 s/v**	**F**	**1.9 s/v**	**Yes**	**236.0 s/v**	**F**	**237.9 s/v**	**F**	**1.9 s/v**	**Yes**
			PM	**91.4 s/v**	**F**	**99.3 s/v**	**F**	7.9 s/v	No	**86.3 s/v**	**F**	**87.9 s/v**	**F**	1.6 s/v	No
29.	Newport Boulevard at Pacific Coast Highway	D	AM	**154.8 s/v**	**F**	**156.6 s/v**	**F**	**1.8 s/v**	**Yes**	**150.0 s/v**	**F**	**151.8 s/v**	**F**	**1.8 s/v**	**Yes**
			PM	46.5 s/v	D	47.6 s/v	D	1.1 s/v	No	40.8 s/v	D	41.6 s/v	D	0.8 s/v	No

Notes:

- **Bold** LOS values indicate adverse service levels based on Caltrans LOS standards
- s/v = seconds per vehicle (delay)
- HCM = Highway Capacity Manual
- The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e., LOS D); the existing service level should be maintained.

APPENDIX A

PROPOSED PROJECT LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX A-I

YEAR 2026 CUMULATIVE TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.740

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2433	10	4	765	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2433	10	4	765	231
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	608	3	1	191	58
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2433	10	4	765	231
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.18	0.01	0.10	0.14	0.48	0.01	0.00	0.15	0.00
Intersection LOS	C											
Intersection V/C	0.740											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	206	357	104	205	168	291	962	2236	331	82	674	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	357	104	205	168	291	962	2236	331	82	674	227
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	89	26	51	42	73	241	559	83	21	169	57
Total Analysis Volume [veh/h]	206	357	104	205	168	291	962	2236	331	82	674	227
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.14	0.14	0.06	0.08	0.00	0.30	0.47	0.21	0.05	0.14	0.14
Intersection LOS	C											
Intersection V/C	0.739											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	495	0	280	0	2218	210	0	974	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	495	0	280	0	2218	210	0	974	429
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	124	0	70	0	555	53	0	244	107
Total Analysis Volume [veh/h]	0	0	0	495	0	280	0	2218	210	0	974	429
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

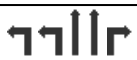
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.15	0.00	0.18	0.00	0.69	0.00	0.00	0.20	0.00
Intersection LOS	D											
Intersection V/C	0.868											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	291	450	187	120	584	47	56	1432	613	208	743	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	291	450	187	120	584	47	56	1432	613	208	743	99
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	119	49	32	154	12	15	379	162	55	197	26
Total Analysis Volume [veh/h]	308	476	198	127	618	50	59	1515	649	220	786	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

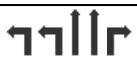
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.15	0.12	0.08	0.19	0.03	0.04	0.47	0.31	0.14	0.25	0.07
Intersection LOS	E											
Intersection V/C	0.900											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	77	791	105	150	1098	225	316	1316	131	138	679	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	791	105	150	1098	225	316	1316	131	138	679	122
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	209	28	40	290	59	84	348	35	36	179	32
Total Analysis Volume [veh/h]	81	836	111	159	1161	238	334	1391	138	146	718	129
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.07	0.10	0.24	0.04	0.10	0.43	0.09	0.05	0.22	0.08
Intersection LOS	C											
Intersection V/C	0.773											

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	385	24	236	211	1117	8	29	2433	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	385	24	236	211	1117	8	29	2433	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	96	6	59	53	279	2	7	608	230
Total Analysis Volume [veh/h]	40	45	21	385	24	236	211	1117	8	29	2433	919
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.11	0.01	0.14	0.12	0.22	0.00	0.02	0.48	0.43
Intersection LOS	D											
Intersection V/C	0.829											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.920

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	336	244	89	186	231	894	296	1006	203	161	2628	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	244	89	186	231	894	296	1006	203	161	2628	141
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	61	22	47	58	224	74	252	51	40	657	35
Total Analysis Volume [veh/h]	336	244	89	186	231	894	296	1006	203	161	2628	141
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.21	0.21	0.12	0.07	0.19	0.09	0.21	0.13	0.10	0.43	0.43
Intersection LOS	E											
Intersection V/C	0.920											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.819

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	436	0	464	0	1366	151	0	2540	686
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	0	464	0	1366	151	0	2540	686
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	109	0	116	0	342	38	0	635	172
Total Analysis Volume [veh/h]	0	0	0	436	0	464	0	1366	151	0	2540	686
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

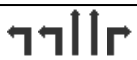
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.29	0.00	0.43	0.00	0.00	0.53	0.00
Intersection LOS	D											
Intersection V/C	0.819											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	694	753	222	75	480	202	64	670	370	108	1517	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	694	753	222	75	480	202	64	670	370	108	1517	68
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	198	58	20	126	53	17	176	97	28	398	18
Total Analysis Volume [veh/h]	728	790	233	79	504	212	67	703	388	113	1592	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

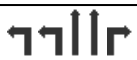
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.25	0.15	0.05	0.16	0.13	0.04	0.22	0.02	0.07	0.50	0.04
Intersection LOS	E											
Intersection V/C	0.924											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.903

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	203	1406	155	122	1241	290	345	617	107	73	1283	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	1406	155	122	1241	290	345	617	107	73	1283	119
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	355	39	31	313	73	87	156	27	18	324	30
Total Analysis Volume [veh/h]	205	1420	157	123	1254	293	348	623	108	74	1296	120
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.30	0.10	0.08	0.26	0.07	0.11	0.19	0.07	0.02	0.41	0.08
Intersection LOS	E											
Intersection V/C	0.903											

APPENDIX A-II

YEAR 2026 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2454	10	4	780	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2454	10	4	780	231
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	614	3	1	195	58
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2454	10	4	780	231
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.18	0.01	0.10	0.14	0.48	0.01	0.00	0.15	0.00
Intersection LOS	C											
Intersection V/C	0.744											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	206	357	104	205	168	291	962	2257	331	82	689	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	357	104	205	168	291	962	2257	331	82	689	227
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	89	26	51	42	73	241	564	83	21	172	57
Total Analysis Volume [veh/h]	206	357	104	205	168	291	962	2257	331	82	689	227
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.14	0.14	0.06	0.08	0.00	0.30	0.47	0.21	0.05	0.14	0.14
Intersection LOS	C											
Intersection V/C	0.743											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.875

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	495	0	280	0	2239	210	0	989	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	495	0	280	0	2239	210	0	989	429
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	124	0	70	0	560	53	0	247	107
Total Analysis Volume [veh/h]	0	0	0	495	0	280	0	2239	210	0	989	429
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

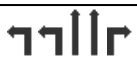
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.15	0.00	0.18	0.00	0.70	0.00	0.00	0.21	0.00
Intersection LOS	D											
Intersection V/C	0.875											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	292	450	187	120	584	48	57	1446	614	208	753	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	292	450	187	120	584	48	57	1446	614	208	753	99
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	119	49	32	154	13	15	383	162	55	199	26
Total Analysis Volume [veh/h]	309	476	198	127	618	51	60	1530	650	220	797	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.15	0.12	0.08	0.19	0.03	0.04	0.48	0.31	0.14	0.25	0.07
Intersection LOS	E											
Intersection V/C	0.905											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	77	791	105	150	1098	225	316	1330	131	138	689	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	791	105	150	1098	225	316	1330	131	138	689	122
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	209	28	40	290	59	84	351	35	36	182	32
Total Analysis Volume [veh/h]	81	836	111	159	1161	238	334	1406	138	146	728	129
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.07	0.10	0.24	0.04	0.10	0.44	0.09	0.05	0.23	0.08
Intersection LOS	C											
Intersection V/C	0.778											

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	385	24	236	211	1135	8	29	2457	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	385	24	236	211	1135	8	29	2457	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	96	6	59	53	284	2	7	614	230
Total Analysis Volume [veh/h]	40	45	21	385	24	236	211	1135	8	29	2457	919
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.11	0.01	0.14	0.12	0.22	0.00	0.02	0.48	0.43
Intersection LOS	D											
Intersection V/C	0.834											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	336	244	89	186	231	894	296	1024	203	161	2652	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	244	89	186	231	894	296	1024	203	161	2652	141
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	61	22	47	58	224	74	256	51	40	663	35
Total Analysis Volume [veh/h]	336	244	89	186	231	894	296	1024	203	161	2652	141
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.21	0.21	0.12	0.07	0.19	0.09	0.21	0.13	0.10	0.44	0.44
Intersection LOS	E											
Intersection V/C	0.924											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.824

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	436	0	464	0	1384	151	0	2564	686
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	0	464	0	1384	151	0	2564	686
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	109	0	116	0	346	38	0	641	172
Total Analysis Volume [veh/h]	0	0	0	436	0	464	0	1384	151	0	2564	686
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

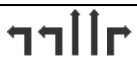
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.29	0.00	0.43	0.00	0.00	0.53	0.00
Intersection LOS	D											
Intersection V/C	0.824											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.931

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	695	753	222	75	480	203	65	683	371	108	1533	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	695	753	222	75	480	203	65	683	371	108	1533	68
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	198	58	20	126	53	17	179	97	28	402	18
Total Analysis Volume [veh/h]	729	790	233	79	504	213	68	717	389	113	1609	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.25	0.15	0.05	0.16	0.13	0.04	0.22	0.02	0.07	0.50	0.04
Intersection LOS	E											
Intersection V/C	0.931											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.908

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	203	1406	155	122	1241	290	345	630	107	73	1299	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	1406	155	122	1241	290	345	630	107	73	1299	119
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	355	39	31	313	73	87	159	27	18	328	30
Total Analysis Volume [veh/h]	205	1420	157	123	1254	293	348	636	108	74	1312	120
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.30	0.10	0.08	0.26	0.07	0.11	0.20	0.07	0.02	0.41	0.08
Intersection LOS	E											
Intersection V/C	0.908											

APPENDIX A-III

BUILDOUT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2433	10	10	765	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2433	10	10	765	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	608	3	3	191	80
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2433	10	10	765	320
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.18	0.01	0.10	0.14	0.48	0.01	0.01	0.15	0.01
Intersection LOS	C											
Intersection V/C	0.744											

Intersection Level Of Service Report

Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.123

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	243	512	333	235	188	128	726	3053	173	169	872	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	512	333	235	188	128	726	3053	173	169	872	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	128	83	59	47	32	182	763	43	42	218	72
Total Analysis Volume [veh/h]	243	512	333	235	188	128	726	3053	173	169	872	286
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.26	0.26	0.07	0.12	0.00	0.23	0.64	0.11	0.11	0.18	0.18
Intersection LOS	F											
Intersection V/C	1.123											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.193

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	439	0	532	0	2755	140	0	1181	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	439	0	532	0	2755	140	0	1181	450
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	110	0	133	0	689	35	0	295	113
Total Analysis Volume [veh/h]	0	0	0	439	0	532	0	2755	140	0	1181	450
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

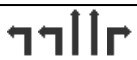
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.33	0.00	0.86	0.00	0.00	0.25	0.00
Intersection LOS	F											
Intersection V/C	1.193											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.864

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	291	678	187	120	584	95	168	1432	613	208	743	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	291	678	187	120	584	95	168	1432	613	208	743	99
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	170	47	30	146	24	42	358	153	52	186	25
Total Analysis Volume [veh/h]	291	678	187	120	584	95	168	1432	613	208	743	99
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.21	0.12	0.08	0.18	0.06	0.11	0.45	0.29	0.13	0.23	0.06
Intersection LOS	D											
Intersection V/C	0.864											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	77	872	116	150	1098	225	378	1533	131	138	679	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	872	116	150	1098	225	378	1533	131	138	679	122
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	218	29	38	275	56	95	383	33	35	170	31
Total Analysis Volume [veh/h]	77	872	116	150	1098	225	378	1533	131	138	679	122
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.07	0.09	0.23	0.02	0.12	0.48	0.08	0.04	0.21	0.08
Intersection LOS	C											
Intersection V/C	0.799											

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	420	24	236	211	1117	8	29	2433	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	420	24	236	211	1117	8	29	2433	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	105	6	59	53	279	2	7	608	230
Total Analysis Volume [veh/h]	40	45	21	420	24	236	211	1117	8	29	2433	919
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.12	0.01	0.14	0.12	0.22	0.00	0.02	0.48	0.42
Intersection LOS	D											
Intersection V/C	0.829											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	242	279	170	303	454	655	219	1038	214	428	2691	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	279	170	303	454	655	219	1038	214	428	2691	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	70	43	76	114	164	55	260	54	107	673	38
Total Analysis Volume [veh/h]	242	279	170	303	454	655	219	1038	214	428	2691	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.28	0.28	0.09	0.16	0.14	0.07	0.22	0.13	0.27	0.44	0.44
Intersection LOS	E											
Intersection V/C	0.951											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	557	0	495	0	1669	90	0	2295	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	0	495	0	1669	90	0	2295	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	139	0	124	0	417	23	0	574	170
Total Analysis Volume [veh/h]	0	0	0	557	0	495	0	1669	90	0	2295	680
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

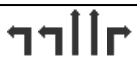
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.31	0.00	0.52	0.00	0.00	0.48	0.00
Intersection LOS	D											
Intersection V/C	0.831											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.946

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	698	786	222	137	603	202	105	670	370	186	1517	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	698	786	222	137	603	202	105	670	370	186	1517	68
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	197	56	34	151	51	26	168	93	47	379	17
Total Analysis Volume [veh/h]	698	786	222	137	603	202	105	670	370	186	1517	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.25	0.14	0.09	0.19	0.13	0.07	0.21	0.01	0.12	0.47	0.04
Intersection LOS	E											
Intersection V/C	0.946											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.920

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	221	1470	168	147	1313	315	345	617	168	158	1283	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	221	1470	168	147	1313	315	345	617	168	158	1283	119
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	368	42	37	328	79	86	154	42	40	321	30
Total Analysis Volume [veh/h]	221	1470	168	147	1313	315	345	617	168	158	1283	119
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.31	0.11	0.09	0.27	0.09	0.11	0.19	0.11	0.05	0.40	0.07
Intersection LOS	E											
Intersection V/C	0.920											

APPENDIX A-IV

BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2454	10	10	780	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2454	10	10	780	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	614	3	3	195	80
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2454	10	10	780	320
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.18	0.01	0.10	0.14	0.48	0.01	0.01	0.15	0.01
Intersection LOS	C											
Intersection V/C	0.748											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.128

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	243	512	333	235	188	128	726	3074	173	169	887	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	512	333	235	188	128	726	3074	173	169	887	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	128	83	59	47	32	182	769	43	42	222	72
Total Analysis Volume [veh/h]	243	512	333	235	188	128	726	3074	173	169	887	286
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.26	0.26	0.07	0.12	0.00	0.23	0.64	0.11	0.11	0.18	0.18
Intersection LOS	F											
Intersection V/C	1.128											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.200

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	439	0	532	0	2776	140	0	1196	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	439	0	532	0	2776	140	0	1196	450
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	110	0	133	0	694	35	0	299	113
Total Analysis Volume [veh/h]	0	0	0	439	0	532	0	2776	140	0	1196	450
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

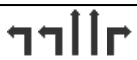
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.33	0.00	0.87	0.00	0.00	0.25	0.00
Intersection LOS	F											
Intersection V/C	1.200											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	292	678	187	120	584	96	169	1446	614	208	753	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	292	678	187	120	584	96	169	1446	614	208	753	99
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	170	47	30	146	24	42	362	154	52	188	25
Total Analysis Volume [veh/h]	292	678	187	120	584	96	169	1446	614	208	753	99
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.21	0.12	0.08	0.18	0.06	0.11	0.45	0.29	0.13	0.24	0.06
Intersection LOS	D											
Intersection V/C	0.869											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.803

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	77	872	116	150	1098	225	378	1547	131	138	689	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	872	116	150	1098	225	378	1547	131	138	689	122
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	218	29	38	275	56	95	387	33	35	172	31
Total Analysis Volume [veh/h]	77	872	116	150	1098	225	378	1547	131	138	689	122
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.07	0.09	0.23	0.02	0.12	0.48	0.08	0.04	0.22	0.08
Intersection LOS	D											
Intersection V/C	0.803											

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	420	24	236	211	1135	8	29	2457	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	420	24	236	211	1135	8	29	2457	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	105	6	59	53	284	2	7	614	230
Total Analysis Volume [veh/h]	40	45	21	420	24	236	211	1135	8	29	2457	919
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.12	0.01	0.14	0.12	0.22	0.00	0.02	0.48	0.42
Intersection LOS	D											
Intersection V/C	0.834											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.954

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	242	279	170	303	454	655	219	1056	214	428	2715	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	279	170	303	454	655	219	1056	214	428	2715	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	70	43	76	114	164	55	264	54	107	679	38
Total Analysis Volume [veh/h]	242	279	170	303	454	655	219	1056	214	428	2715	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.28	0.28	0.09	0.16	0.14	0.07	0.22	0.13	0.27	0.45	0.45
Intersection LOS	E											
Intersection V/C	0.954											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.837

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	557	0	495	0	1687	90	0	2319	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	0	495	0	1687	90	0	2319	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	139	0	124	0	422	23	0	580	170
Total Analysis Volume [veh/h]	0	0	0	557	0	495	0	1687	90	0	2319	680
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

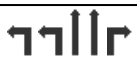
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.31	0.00	0.53	0.00	0.00	0.48	0.00
Intersection LOS	D											
Intersection V/C	0.837											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.952

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	699	786	222	137	603	203	106	683	371	186	1533	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	699	786	222	137	603	203	106	683	371	186	1533	68
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	197	56	34	151	51	27	171	93	47	383	17
Total Analysis Volume [veh/h]	699	786	222	137	603	203	106	683	371	186	1533	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.25	0.14	0.09	0.19	0.13	0.07	0.21	0.01	0.12	0.48	0.04
Intersection LOS	E											
Intersection V/C	0.952											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	221	1470	168	147	1313	315	345	630	168	158	1299	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	221	1470	168	147	1313	315	345	630	168	158	1299	119
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	368	42	37	328	79	86	158	42	40	325	30
Total Analysis Volume [veh/h]	221	1470	168	147	1313	315	345	630	168	158	1299	119
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.31	0.11	0.09	0.27	0.09	0.11	0.20	0.11	0.05	0.41	0.07
Intersection LOS	E											
Intersection V/C	0.925											

APPENDIX A-V

YEAR 2026 CUMULATIVE TRAFFIC CONDITIONS – CALTRANS METHODOLOGY

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2433	10	4	765	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2433	10	4	765	231
Peak Hour Factor	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	158	3	44	62	638	3	1	200	61
Total Analysis Volume [veh/h]	38	37	23	631	10	176	246	2550	10	4	802	242
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	26	51	0	10	35	35
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	24	24	24	17	63	63	1	47	85
g / C, Green / Cycle	0.05	0.05	0.22	0.22	0.22	0.16	0.58	0.58	0.01	0.43	0.77
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.18	0.01	0.11	0.14	0.50	0.01	0.00	0.16	0.15
s, saturation flow rate [veh/h]	1781	1751	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	94	92	758	410	348	281	2932	915	13	2165	1223
d1, Uniform Delay [s]	50.48	51.16	41.06	33.75	37.75	45.29	19.86	9.98	54.37	21.60	3.45
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.79	7.48	2.47	0.02	1.14	8.40	3.85	0.02	12.58	0.49	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.65	0.83	0.02	0.51	0.87	0.87	0.01	0.31	0.37	0.20
d, Delay for Lane Group [s/veh]	53.27	58.64	43.54	33.78	38.89	53.69	23.70	10.00	66.95	22.09	3.53
Lane Group LOS	D	E	D	C	D	D	C	B	E	C	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.09	1.81	8.36	0.21	4.26	7.18	18.17	0.11	0.16	4.75	1.21
50th-Percentile Queue Length [ft/ln]	27.14	45.31	209.01	5.34	106.60	179.54	454.24	2.67	3.90	118.87	30.37
95th-Percentile Queue Length [veh/ln]	1.95	3.26	13.10	0.38	7.65	11.58	25.16	0.19	0.28	8.33	2.19
95th-Percentile Queue Length [ft/ln]	48.86	81.57	327.56	9.62	191.26	289.41	629.01	4.80	7.01	208.27	54.66

Movement, Approach, & Intersection Results

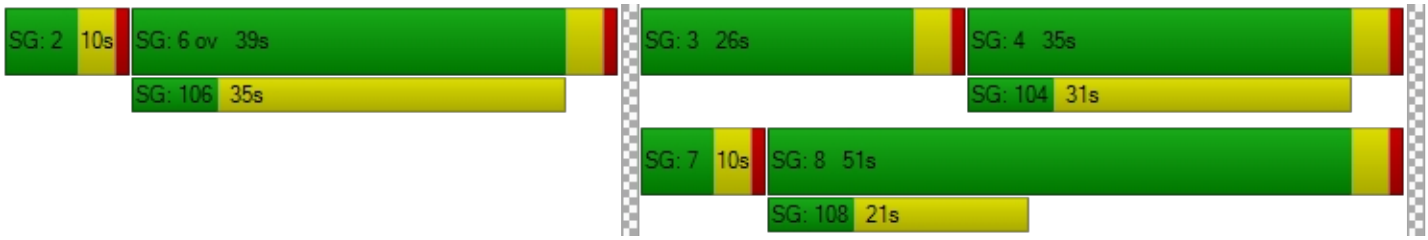
d_M, Delay for Movement [s/veh]	53.27	58.64	58.64	43.54	33.78	38.89	53.69	23.70	10.00	66.95	22.09	3.53
Movement LOS	D	E	E	D	C	D	D	C	B	E	C	A
d_A, Approach Delay [s/veh]	56.56			42.42			26.29			17.98		
Approach LOS	E			D			C			B		
d_I, Intersection Delay [s/veh]	27.84											
Intersection LOS	C											
Intersection V/C	0.808											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.989	2.571	3.201	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	109	636	855	564
d_b, Bicycle Delay [s]	49.16	25.57	18.04	28.37
l_b,int, Bicycle LOS Score for Intersection	1.721	2.908	3.103	2.136
Bicycle LOS	A	C	C	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	76.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	206	357	104	205	168	291	962	2236	331	82	674	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	357	104	205	168	291	962	2236	331	82	674	227
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	94	27	54	44	77	253	588	87	22	177	60
Total Analysis Volume [veh/h]	217	376	109	216	177	306	1013	2354	348	86	709	239
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	10	10	36	61	0	10	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	13	13	13	53	36	58	58	8	31	31
g / C, Green / Cycle	0.20	0.20	0.20	0.11	0.11	0.11	0.44	0.30	0.49	0.49	0.07	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.14	0.17	0.16	0.09	0.09	0.09	0.13	0.35	0.55	0.26	0.06	0.17	0.18
s, saturation flow rate [veh/h]	1500	1575	1313	1500	1527	1433	2369	2912	4290	1339	1500	4290	1339
c, Capacity [veh/h]	297	312	260	166	169	159	1049	869	2090	652	106	1112	347
d1, Uniform Delay [s]	45.10	46.71	45.95	52.04	52.03	52.02	21.41	42.09	30.77	21.32	54.99	39.44	40.08
k, delay calibration	0.11	0.16	0.12	0.11	0.11	0.11	0.11	0.15	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	3.44	11.04	6.79	8.41	8.23	8.64	0.15	78.45	63.73	3.11	13.72	2.80	10.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.73	0.88	0.81	0.80	0.80	0.79	0.29	1.17	1.13	0.53	0.81	0.64	0.69
d, Delay for Lane Group [s/veh]	48.55	57.75	52.74	60.45	60.26	60.66	21.56	120.54	94.50	24.44	68.71	42.24	50.74
Lane Group LOS	D	E	D	E	E	E	C	F	F	C	E	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.33	8.87	6.48	4.27	4.34	4.08	2.78	22.16	31.63	7.25	2.97	6.47	7.38
50th-Percentile Queue Length [ft/ln]	158.34	221.84	161.95	106.8	108.4	101.9	69.44	554.11	790.85	181.14	74.17	161.67	184.43
95th-Percentile Queue Length [veh/ln]	10.46	13.76	10.65	7.66	7.75	7.34	5.00	32.72	44.62	11.66	5.34	10.64	11.83
95th-Percentile Queue Length [ft/ln]	261.53	343.97	266.30	191.5	193.8	183.4	124.9	817.88	1115.61	291.50	133.50	265.93	295.79

Movement, Approach, & Intersection Results

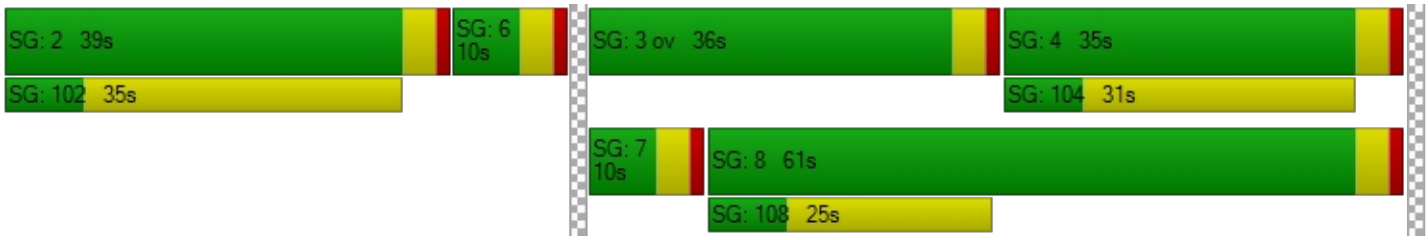
d_M, Delay for Movement [s/veh]	48.55	56.39	52.74	60.38	60.54	21.56	120.54	94.50	24.44	68.71	42.24	50.74
Movement LOS	D	E	D	E	E	C	F	F	C	E	D	D
d_A, Approach Delay [s/veh]	53.40			43.43			95.04			46.41		
Approach LOS	D			D			F			D		
d_I, Intersection Delay [s/veh]	76.24											
Intersection LOS	E											
Intersection V/C	1.002											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.570	2.932	0.000	3.192
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	100	950	517
d_b, Bicycle Delay [s]	30.10	54.15	16.54	33.00
l_b,int, Bicycle LOS Score for Intersection	2.139	2.136	3.603	1.986
Bicycle LOS	B	B	D	A

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	47.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.066

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	495	0	280	0	2218	210	0	974	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	495	0	280	0	2218	210	0	974	429
Peak Hour Factor	1.0000	1.0000	1.0000	0.9570	1.0000	0.9570	1.0000	0.9570	0.9570	1.0000	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	129	0	73	0	579	55	0	254	112
Total Analysis Volume [veh/h]	0	0	0	517	0	293	0	2318	219	0	1018	448
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	28	0	0	0	87	0	0	87	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		115	115	115	115
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		24	24	83	83
g / C, Green / Cycle		0.21	0.21	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate		0.18	0.22	0.77	0.24
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		609	280	2163	3094
d1, Uniform Delay [s]		43.67	45.41	16.00	5.85
k, delay calibration		0.11	0.33	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		3.42	56.70	41.92	0.29
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.85	1.05	1.07	0.33
d, Delay for Lane Group [s/veh]		47.09	102.11	57.92	6.13
Lane Group LOS		D	F	F	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		7.32	12.32	35.89	2.75
50th-Percentile Queue Length [ft/ln]		182.99	307.99	897.15	68.83
95th-Percentile Queue Length [veh/ln]		11.76	18.52	48.62	4.96
95th-Percentile Queue Length [ft/ln]		293.91	463.06	1215.62	123.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.09	0.00	102.11	0.00	57.92	0.00	0.00	6.13	0.00
Movement LOS				D		F		F			A	
d_A, Approach Delay [s/veh]	0.00			66.99			57.92			6.13		
Approach LOS	A			E			E			A		
d_I, Intersection Delay [s/veh]	46.97											
Intersection LOS	D											
Intersection V/C	1.066											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	47.03	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.340	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1443	1443
d_b, Bicycle Delay [s]	57.50	57.50	4.45	4.45
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	3.472	2.120
Bicycle LOS	D	D	C	B

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	43.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.914

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	385	24	236	211	1117	8	29	2433	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	385	24	236	211	1117	8	29	2433	919
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	12	6	101	6	62	56	294	2	8	640	242
Total Analysis Volume [veh/h]	42	47	22	405	25	248	222	1176	8	31	2561	967
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	10	61	0	10	61	61
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	25	25	25	16	69	69	4	57	96
g / C, Green / Cycle	0.05	0.05	0.21	0.21	0.21	0.13	0.57	0.57	0.03	0.48	0.80
(v / s)_i Volume / Saturation Flow Rate	0.02	0.04	0.12	0.01	0.16	0.12	0.23	0.01	0.02	0.50	0.61
s, saturation flow rate [veh/h]	1781	1770	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	89	723	391	332	233	2927	913	58	2427	1276
d1, Uniform Delay [s]	55.43	56.32	42.52	38.05	44.48	51.80	14.13	10.92	57.15	31.42	5.97
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.76	13.20	0.68	0.07	3.51	18.21	0.41	0.02	7.37	34.97	4.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.77	0.56	0.06	0.75	0.95	0.40	0.01	0.53	1.06	0.76
d, Delay for Lane Group [s/veh]	59.18	69.51	43.20	38.11	47.99	70.01	14.54	10.94	64.52	66.40	10.23
Lane Group LOS	E	E	D	D	D	E	B	B	E	F	B
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.33	2.39	5.45	0.60	7.22	7.79	5.87	0.10	1.05	30.40	10.69
50th-Percentile Queue Length [ft/ln]	33.29	59.83	136.33	15.06	180.58	194.76	146.66	2.38	26.14	760.01	267.32
95th-Percentile Queue Length [veh/ln]	2.40	4.31	9.28	1.08	11.63	12.37	9.84	0.17	1.88	41.13	16.06
95th-Percentile Queue Length [ft/ln]	59.92	107.70	232.08	27.10	290.78	309.19	245.96	4.28	47.06	1028.18	401.39

Movement, Approach, & Intersection Results

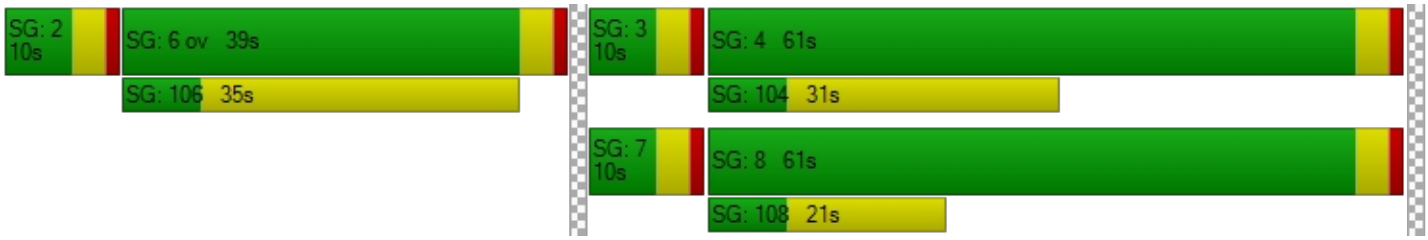
d_M, Delay for Movement [s/veh]	59.18	69.51	69.51	43.20	38.11	47.99	70.01	14.54	10.94	64.52	66.40	10.23
Movement LOS	E	E	E	D	D	D	E	B	B	E	F	B
d_A, Approach Delay [s/veh]	65.60			44.76			23.28			51.12		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	43.85											
Intersection LOS	D											
Intersection V/C	0.914											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.011	2.687	3.258	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	583	950	950
d_b, Bicycle Delay [s]	54.15	30.10	16.54	16.54
l_b,int, Bicycle LOS Score for Intersection	1.743	2.678	2.333	3.517
Bicycle LOS	A	B	B	D

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	111.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	336	244	89	186	231	894	296	1006	203	161	2628	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	244	89	186	231	894	296	1006	203	161	2628	141
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	64	23	49	61	235	78	265	53	42	692	37
Total Analysis Volume [veh/h]	354	257	94	196	243	941	312	1059	214	169	2766	148
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	14	14	15	57	0	10	52	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	20	20	20	38	14	46	46	16	48	48
g / C, Green / Cycle	0.19	0.19	0.19	0.17	0.17	0.17	0.31	0.11	0.38	0.38	0.13	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.10	0.10	0.10	0.40	0.11	0.25	0.16	0.11	0.50	0.51
s, saturation flow rate [veh/h]	1500	1540	1330	1500	1550	1433	2369	2912	4290	1339	1500	4290	1523
c, Capacity [veh/h]	280	287	248	251	259	240	743	330	1643	513	195	1715	609
d1, Uniform Delay [s]	47.35	47.33	47.36	46.16	46.14	46.12	41.18	52.84	30.33	27.19	51.18	36.02	36.02
k, delay calibration	0.13	0.13	0.13	0.11	0.11	0.11	0.30	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	9.06	8.71	10.23	2.19	2.10	2.25	126.1	13.27	1.96	2.49	10.97	117.75	131.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.87	0.86	0.87	0.59	0.59	0.58	1.27	0.95	0.64	0.42	0.87	1.25	1.26
d, Delay for Lane Group [s/veh]	56.41	56.03	57.59	48.36	48.23	48.37	167.3	66.10	32.29	29.68	62.16	153.77	167.88
Lane Group LOS	E	E	E	D	D	D	F	E	C	C	E	F	F
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.70	7.86	6.92	4.23	4.33	4.01	23.86	5.27	8.58	4.86	5.57	34.98	39.65
50th-Percentile Queue Length [ft/ln]	192.41	196.44	173.03	105.6	108.3	100.1	596.6	131.73	214.53	121.40	139.22	874.57	991.27
95th-Percentile Queue Length [veh/ln]	12.25	12.45	11.24	7.60	7.75	7.21	36.41	9.03	13.39	8.47	9.44	51.57	58.12
95th-Percentile Queue Length [ft/ln]	306.15	311.36	280.89	189.9	193.7	180.2	910.2	225.85	334.63	211.75	235.97	1289.20	1452.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.28	56.77	57.59	48.36	48.31	167.36	66.10	32.29	29.68	62.16	156.94	167.88
Movement LOS	E	E	E	D	D	F	E	C	C	E	F	F
d_A, Approach Delay [s/veh]	56.64			129.49			38.60			152.27		
Approach LOS	E			F			D			F		
d_I, Intersection Delay [s/veh]	110.95											
Intersection LOS	F											
Intersection V/C	1.001											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.573	2.900	0.000	3.279
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	167	883	800
d_b, Bicycle Delay [s]	30.10	50.42	18.70	21.60
l_b,int, Bicycle LOS Score for Intersection	2.141	2.698	2.431	2.831
Bicycle LOS	B	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	47.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.048

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	436	0	464	0	1366	151	0	2540	686
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	0	464	0	1366	151	0	2540	686
Peak Hour Factor	1.0000	1.0000	1.0000	0.9600	1.0000	0.9600	1.0000	0.9600	0.9600	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	114	0	121	0	356	39	0	661	179
Total Analysis Volume [veh/h]	0	0	0	454	0	483	0	1423	157	0	2646	715
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	45	0	0	0	75	0	0	75	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		41	41	71	71
g / C, Green / Cycle		0.34	0.34	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate		0.16	0.36	0.47	0.62
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		994	457	1775	2540
d1, Uniform Delay [s]		30.80	39.46	18.97	24.43
k, delay calibration		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.33	58.22	3.92	29.93
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.46	1.06	0.80	1.04
d, Delay for Lane Group [s/veh]		31.13	97.69	22.89	54.36
Lane Group LOS		C	F	C	F
Critical Lane Group		No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		5.17	20.59	15.47	29.26
50th-Percentile Queue Length [ft/ln]		129.21	514.70	386.73	731.55
95th-Percentile Queue Length [veh/ln]		8.90	29.09	21.92	39.47
95th-Percentile Queue Length [ft/ln]		222.42	727.34	547.99	986.71

Movement, Approach, & Intersection Results

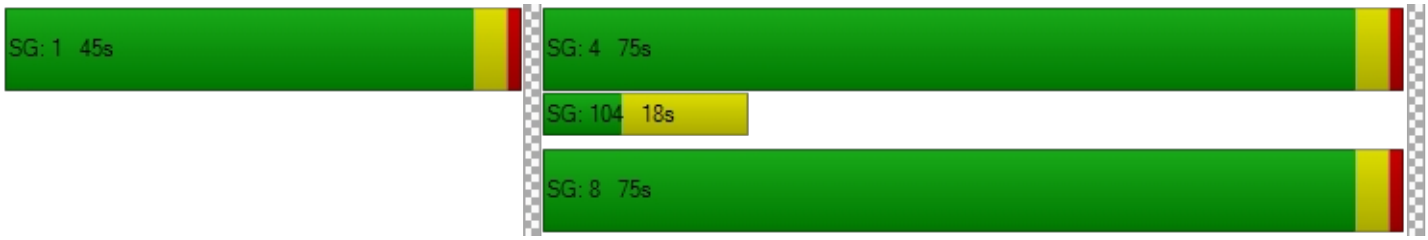
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	31.13	0.00	97.69	0.00	22.89	0.00	0.00	54.36	0.00
Movement LOS				C		F		C			F	
d_A, Approach Delay [s/veh]	0.00			65.44			22.89			54.36		
Approach LOS	A			E			C			D		
d_I, Intersection Delay [s/veh]	47.49											
Intersection LOS	D											
Intersection V/C	1.048											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.373	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1183	1183
d_b, Bicycle Delay [s]	60.00	60.00	10.00	10.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	2.734	3.015
Bicycle LOS	D	D	B	C

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX A-VI

YEAR 2026 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS – CALTRANS METHODOLOGY

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2454	10	4	780	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2454	10	4	780	231
Peak Hour Factor	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	158	3	44	62	643	3	1	204	61
Total Analysis Volume [veh/h]	38	37	23	631	10	176	246	2572	10	4	818	242
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	31	56	0	10	35	35
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	25	25	25	18	68	68	1	50	89
g / C, Green / Cycle	0.05	0.05	0.22	0.22	0.22	0.16	0.59	0.59	0.01	0.44	0.77
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.18	0.01	0.11	0.14	0.50	0.01	0.00	0.16	0.15
s, saturation flow rate [veh/h]	1781	1751	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	89	750	406	345	280	2986	932	13	2221	1229
d1, Uniform Delay [s]	52.98	53.69	43.17	35.48	39.69	47.40	19.91	9.92	56.83	21.80	3.49
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.09	8.60	2.65	0.02	1.17	8.60	3.55	0.02	12.87	0.47	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.68	0.84	0.02	0.51	0.88	0.86	0.01	0.31	0.37	0.20
d, Delay for Lane Group [s/veh]	56.07	62.30	45.82	35.51	40.86	56.00	23.46	9.94	69.70	22.28	3.57
Lane Group LOS	E	E	D	D	D	E	C	A	E	C	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.14	1.92	8.82	0.23	4.49	7.53	18.84	0.11	0.16	5.01	1.27
50th-Percentile Queue Length [ft/ln]	28.60	47.97	220.51	5.63	112.35	188.34	471.08	2.73	4.05	125.23	31.79
95th-Percentile Queue Length [veh/ln]	2.06	3.45	13.69	0.41	7.97	12.04	25.96	0.20	0.29	8.68	2.29
95th-Percentile Queue Length [ft/ln]	51.48	86.34	342.28	10.14	199.27	300.88	649.06	4.92	7.29	217.00	57.23

Movement, Approach, & Intersection Results

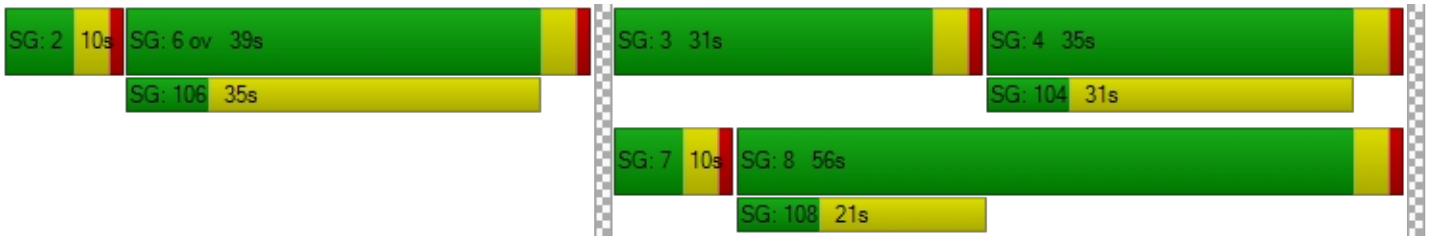
d_M, Delay for Movement [s/veh]	56.07	62.30	62.30	45.82	35.51	40.86	56.00	23.46	9.94	69.70	22.28	3.57
Movement LOS	E	E	E	D	D	D	E	C	A	E	C	A
d_A, Approach Delay [s/veh]	59.88			44.62			26.24			18.20		
Approach LOS	E			D			C			B		
d_I, Intersection Delay [s/veh]	28.27											
Intersection LOS	C											
Intersection V/C	0.808											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.03	47.03	47.03	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.992	2.573	3.208	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	104	609	904	539
d_b, Bicycle Delay [s]	51.66	27.83	17.26	30.68
l_b,int, Bicycle LOS Score for Intersection	1.721	2.908	3.115	2.145
Bicycle LOS	A	C	C	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	77.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.008

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	206	357	104	205	168	291	962	2257	331	82	689	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	357	104	205	168	291	962	2257	331	82	689	227
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	94	27	54	44	77	253	594	87	22	181	60
Total Analysis Volume [veh/h]	217	376	109	216	177	306	1013	2376	348	86	725	239
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	10	10	36	61	0	10	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	13	13	13	53	36	58	58	8	31	31
g / C, Green / Cycle	0.20	0.20	0.20	0.11	0.11	0.11	0.44	0.30	0.49	0.49	0.07	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.14	0.17	0.16	0.09	0.09	0.09	0.13	0.35	0.55	0.26	0.06	0.17	0.18
s, saturation flow rate [veh/h]	1500	1575	1313	1500	1527	1433	2369	2912	4290	1339	1500	4290	1339
c, Capacity [veh/h]	297	312	260	166	169	159	1049	869	2090	652	106	1112	347
d1, Uniform Delay [s]	45.10	46.71	45.95	52.04	52.03	52.02	21.41	42.09	30.77	21.32	54.99	39.62	40.08
k, delay calibration	0.11	0.16	0.12	0.11	0.11	0.11	0.11	0.15	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	3.44	11.04	6.79	8.41	8.23	8.64	0.15	78.45	68.09	3.11	13.72	2.97	10.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.73	0.88	0.81	0.80	0.80	0.79	0.29	1.17	1.14	0.53	0.81	0.65	0.69
d, Delay for Lane Group [s/veh]	48.55	57.75	52.74	60.45	60.26	60.66	21.56	120.54	98.86	24.44	68.71	42.59	50.74
Lane Group LOS	D	E	D	E	E	E	C	F	F	C	E	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.33	8.87	6.48	4.27	4.34	4.08	2.78	22.16	32.48	7.25	2.97	6.65	7.38
50th-Percentile Queue Length [ft/ln]	158.34	221.84	161.95	106.8	108.4	101.9	69.44	554.11	811.94	181.14	74.17	166.32	184.43
95th-Percentile Queue Length [veh/ln]	10.46	13.76	10.65	7.66	7.75	7.34	5.00	32.72	45.97	11.66	5.34	10.88	11.83
95th-Percentile Queue Length [ft/ln]	261.53	343.97	266.30	191.5	193.8	183.4	124.9	817.88	1149.26	291.50	133.50	272.07	295.79

Movement, Approach, & Intersection Results

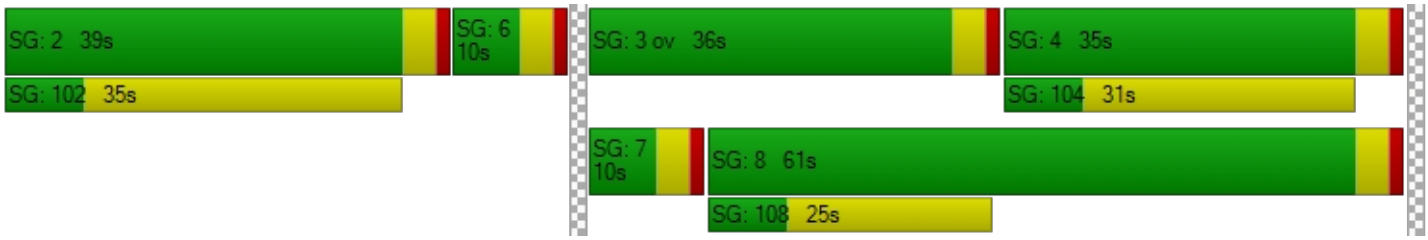
d_M, Delay for Movement [s/veh]	48.55	56.39	52.74	60.38	60.54	21.56	120.54	98.86	24.44	68.71	42.59	50.74
Movement LOS	D	E	D	E	E	C	F	F	C	E	D	D
d_A, Approach Delay [s/veh]	53.40			43.43			97.81			46.59		
Approach LOS	D			D			F			D		
d_I, Intersection Delay [s/veh]	77.94											
Intersection LOS	E											
Intersection V/C	1.008											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.570	2.932	0.000	3.196
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	100	950	517
d_b, Bicycle Delay [s]	30.10	54.15	16.54	33.00
l_b,int, Bicycle LOS Score for Intersection	2.139	2.136	3.615	1.993
Bicycle LOS	B	B	D	A

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	48.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.071

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	495	0	280	0	2239	210	0	989	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	495	0	280	0	2239	210	0	989	429
Peak Hour Factor	1.0000	1.0000	1.0000	0.9570	1.0000	0.9570	1.0000	0.9570	0.9570	1.0000	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	129	0	73	0	585	55	0	258	112
Total Analysis Volume [veh/h]	0	0	0	517	0	293	0	2340	219	0	1033	448
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	29	0	0	0	91	0	0	91	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		25	25	87	87
g / C, Green / Cycle		0.21	0.21	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate		0.18	0.22	0.78	0.24
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		608	279	2172	3108
d1, Uniform Delay [s]		45.61	47.40	16.50	5.99
k, delay calibration		0.11	0.36	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		3.47	59.06	43.86	0.29
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.85	1.05	1.08	0.33
d, Delay for Lane Group [s/veh]		49.08	106.46	60.35	6.27
Lane Group LOS		D	F	F	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		7.67	12.87	38.01	2.93
50th-Percentile Queue Length [ft/ln]		191.79	321.67	950.19	73.30
95th-Percentile Queue Length [veh/ln]		12.21	19.23	51.42	5.28
95th-Percentile Queue Length [ft/ln]		305.35	480.87	1285.47	131.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	49.08	0.00	106.46	0.00	60.35	0.00	0.00	6.27	0.00
Movement LOS				D		F		F			A	
d_A, Approach Delay [s/veh]	0.00			69.83			60.35			6.27		
Approach LOS	A			E			E			A		
d_I, Intersection Delay [s/veh]	48.84											
Intersection LOS	D											
Intersection V/C	1.071											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.342	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1450	1450
d_b, Bicycle Delay [s]	60.00	60.00	4.54	4.54
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	3.490	2.128
Bicycle LOS	D	D	C	B

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	45.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.919

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	385	24	236	211	1135	8	29	2457	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	385	24	236	211	1135	8	29	2457	919
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	12	6	101	6	62	56	299	2	8	647	242
Total Analysis Volume [veh/h]	42	47	22	405	25	248	222	1195	8	31	2586	967
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	10	61	0	10	61	61
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	25	25	25	16	69	69	4	57	96
g / C, Green / Cycle	0.05	0.05	0.21	0.21	0.21	0.13	0.57	0.57	0.03	0.48	0.80
(v / s)_i Volume / Saturation Flow Rate	0.02	0.04	0.12	0.01	0.16	0.12	0.23	0.01	0.02	0.51	0.61
s, saturation flow rate [veh/h]	1781	1770	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	89	723	391	332	233	2927	913	58	2427	1276
d1, Uniform Delay [s]	55.43	56.32	42.52	38.05	44.48	51.80	14.19	10.92	57.15	31.42	5.97
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.76	13.20	0.68	0.07	3.51	18.21	0.42	0.02	7.37	38.72	4.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.77	0.56	0.06	0.75	0.95	0.41	0.01	0.53	1.07	0.76
d, Delay for Lane Group [s/veh]	59.18	69.51	43.20	38.11	47.99	70.01	14.62	10.94	64.52	70.15	10.23
Lane Group LOS	E	E	D	D	D	E	B	B	E	F	B
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.33	2.39	5.45	0.60	7.22	7.79	5.99	0.10	1.05	31.24	10.69
50th-Percentile Queue Length [ft/ln]	33.29	59.83	136.33	15.06	180.58	194.76	149.77	2.38	26.14	781.08	267.32
95th-Percentile Queue Length [veh/ln]	2.40	4.31	9.28	1.08	11.63	12.37	10.00	0.17	1.88	42.44	16.06
95th-Percentile Queue Length [ft/ln]	59.92	107.70	232.08	27.10	290.78	309.19	250.12	4.28	47.06	1061.06	401.39

Movement, Approach, & Intersection Results

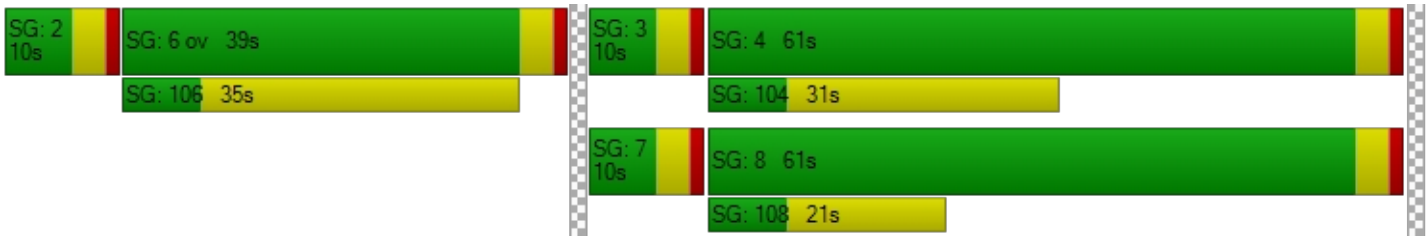
d_M, Delay for Movement [s/veh]	59.18	69.51	69.51	43.20	38.11	47.99	70.01	14.62	10.94	64.52	70.15	10.23
Movement LOS	E	E	E	D	D	D	E	B	B	E	F	B
d_A, Approach Delay [s/veh]	65.60			44.76			23.23			53.93		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	45.54											
Intersection LOS	D											
Intersection V/C	0.919											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.011	2.687	3.263	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	583	950	950
d_b, Bicycle Delay [s]	54.15	30.10	16.54	16.54
l_b,int, Bicycle LOS Score for Intersection	1.743	2.678	2.343	3.531
Bicycle LOS	A	B	B	D

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	113.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.014

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	336	244	89	186	231	894	296	1024	203	161	2652	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	244	89	186	231	894	296	1024	203	161	2652	141
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	64	23	49	61	235	78	269	53	42	698	37
Total Analysis Volume [veh/h]	354	257	94	196	243	941	312	1078	214	169	2792	148
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	19	19	10	51	0	11	52	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	21	21	21	38	13	45	45	16	48	48
g / C, Green / Cycle	0.19	0.19	0.19	0.17	0.17	0.17	0.31	0.11	0.38	0.38	0.13	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.10	0.10	0.10	0.40	0.11	0.25	0.16	0.11	0.50	0.51
s, saturation flow rate [veh/h]	1500	1540	1330	1500	1550	1433	2369	2912	4290	1339	1500	4290	1524
c, Capacity [veh/h]	280	287	248	260	269	248	743	311	1616	504	195	1716	609
d1, Uniform Delay [s]	47.35	47.33	47.36	45.47	45.44	45.43	41.19	53.60	31.13	27.75	51.18	36.01	36.01
k, delay calibration	0.13	0.13	0.13	0.11	0.11	0.11	0.30	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	9.06	8.71	10.23	1.94	1.86	1.99	126.6	24.45	2.20	2.61	10.96	122.18	136.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.87	0.86	0.87	0.57	0.56	0.56	1.27	1.00	0.67	0.42	0.87	1.26	1.28
d, Delay for Lane Group [s/veh]	56.41	56.03	57.59	47.41	47.30	47.42	167.7	78.05	33.33	30.35	62.15	158.19	172.41
Lane Group LOS	E	E	E	D	D	D	F	F	C	C	E	F	F
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.70	7.86	6.92	4.18	4.29	3.96	23.89	5.74	8.91	4.92	5.57	35.70	40.45
50th-Percentile Queue Length [ft/ln]	192.41	196.44	173.03	104.5	107.2	99.07	597.3	143.47	222.66	122.93	139.20	892.53	1011.20
95th-Percentile Queue Length [veh/ln]	12.25	12.45	11.24	7.53	7.68	7.13	36.46	9.68	13.80	8.55	9.44	52.75	59.44
95th-Percentile Queue Length [ft/ln]	306.15	311.36	280.89	188.1	192.1	178.3	911.4	241.97	345.01	213.84	235.95	1318.68	1485.96

Movement, Approach, & Intersection Results

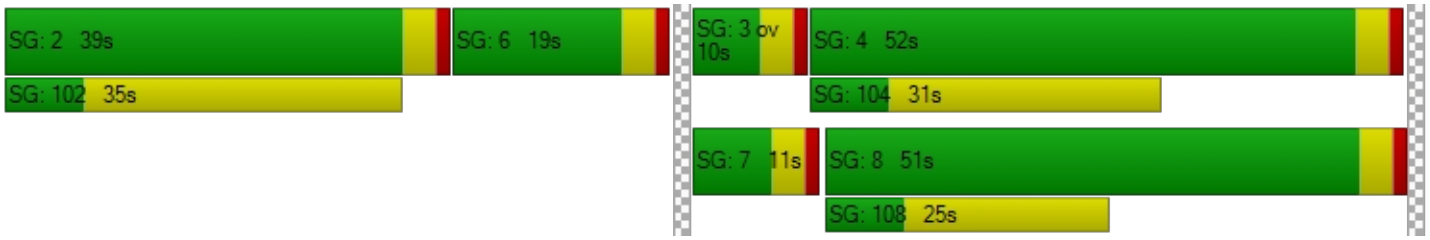
d_M, Delay for Movement [s/veh]	56.28	56.77	57.59	47.41	47.37	167.79	78.05	33.33	30.35	62.15	161.39	172.41
Movement LOS	E	E	E	D	D	F	F	C	C	E	F	F
d_A, Approach Delay [s/veh]	56.64			129.48			41.63			156.52		
Approach LOS	E			F			D			F		
d_I, Intersection Delay [s/veh]	113.57											
Intersection LOS	F											
Intersection V/C	1.014											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.573	2.900	0.000	3.285
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	250	783	800
d_b, Bicycle Delay [s]	30.10	45.94	22.20	21.60
l_b,int, Bicycle LOS Score for Intersection	2.141	2.698	2.442	2.842
Bicycle LOS	B	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	49.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.054

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	436	0	464	0	1384	151	0	2564	686
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	0	464	0	1384	151	0	2564	686
Peak Hour Factor	1.0000	1.0000	1.0000	0.9600	1.0000	0.9600	1.0000	0.9600	0.9600	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	114	0	121	0	360	39	0	668	179
Total Analysis Volume [veh/h]	0	0	0	454	0	483	0	1442	157	0	2671	715
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	45	0	0	0	75	0	0	75	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		41	41	71	71
g / C, Green / Cycle		0.34	0.34	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate		0.16	0.36	0.48	0.62
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		994	457	1775	2540
d1, Uniform Delay [s]		30.80	39.46	19.20	24.43
k, delay calibration		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.33	58.22	4.18	33.32
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.46	1.06	0.81	1.05
d, Delay for Lane Group [s/veh]		31.13	97.69	23.38	57.76
Lane Group LOS		C	F	C	F
Critical Lane Group		No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		5.17	20.59	15.91	30.06
50th-Percentile Queue Length [ft/ln]		129.21	514.70	397.64	751.50
95th-Percentile Queue Length [veh/ln]		8.90	29.09	22.45	40.73
95th-Percentile Queue Length [ft/ln]		222.42	727.34	561.16	1018.23

Movement, Approach, & Intersection Results

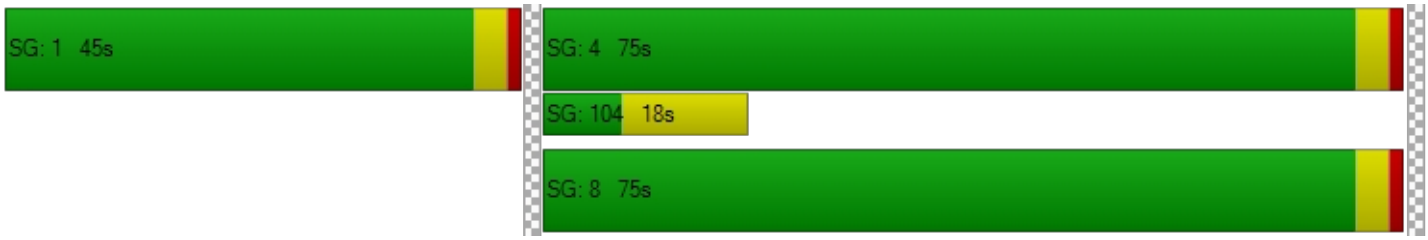
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	31.13	0.00	97.69	0.00	23.38	0.00	0.00	57.76	0.00
Movement LOS				C		F		C			F	
d_A, Approach Delay [s/veh]	0.00			65.44			23.38			57.76		
Approach LOS	A			E			C			E		
d_I, Intersection Delay [s/veh]	49.37											
Intersection LOS	D											
Intersection V/C	1.054											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.373	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1183	1183
d_b, Bicycle Delay [s]	60.00	60.00	10.00	10.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	2.749	3.029
Bicycle LOS	D	D	B	C

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX A-VII

BUILDOUT
TRAFFIC CONDITIONS – CALTRANS METHODOLOGY

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2433	10	10	765	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2433	10	10	765	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	608	3	3	191	80
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2433	10	10	765	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	21	46	0	10	35	35
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	23	23	23	16	59	59	2	45	81
g / C, Green / Cycle	0.05	0.05	0.21	0.21	0.21	0.15	0.56	0.56	0.02	0.43	0.77
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.17	0.01	0.11	0.13	0.48	0.01	0.01	0.15	0.20
s, saturation flow rate [veh/h]	1781	1751	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	97	95	743	402	342	271	2868	895	28	2171	1226
d1, Uniform Delay [s]	47.98	48.59	39.23	32.58	36.23	43.50	19.21	10.10	51.22	20.36	3.44
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	5.94	2.18	0.02	1.10	8.14	3.34	0.02	7.67	0.45	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.60	0.81	0.02	0.49	0.87	0.85	0.01	0.36	0.35	0.26
d, Delay for Lane Group [s/veh]	50.35	54.53	41.41	32.60	37.33	51.64	22.55	10.12	58.89	20.81	3.60
Lane Group LOS	D	D	D	C	D	D	C	B	E	C	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.97	1.61	7.53	0.20	3.87	6.53	16.16	0.10	0.32	4.24	1.57
50th-Percentile Queue Length [ft/ln]	24.30	40.34	188.14	5.10	96.69	163.27	403.97	2.62	7.98	106.09	39.31
95th-Percentile Queue Length [veh/ln]	1.75	2.90	12.02	0.37	6.96	10.72	22.75	0.19	0.57	7.62	2.83
95th-Percentile Queue Length [ft/ln]	43.75	72.62	300.61	9.19	174.04	268.05	568.78	4.71	14.37	190.55	70.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.35	54.53	54.53	41.41	32.60	37.33	51.64	22.55	10.12	58.89	20.81	3.60
Movement LOS	D	D	D	D	C	D	D	C	B	E	C	A
d_A, Approach Delay [s/veh]	52.91			40.42			25.06			16.13		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	26.09											
Intersection LOS	C											
Intersection V/C	0.779											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.987	2.574	3.177	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	114	667	800	590
d_b, Bicycle Delay [s]	46.67	23.33	18.90	26.08
l_b,int, Bicycle LOS Score for Intersection	1.713	2.847	3.033	2.162
Bicycle LOS	A	C	C	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	236.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.436

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	243	512	333	235	188	128	726	3053	173	169	872	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	512	333	235	188	128	726	3053	173	169	872	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	128	83	59	47	32	182	763	43	42	218	72
Total Analysis Volume [veh/h]	243	512	333	235	188	128	726	3053	173	169	872	286
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	11	11	35	60	0	10	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	35	7	7	7	42	31	46	46	16	31	31
g / C, Green / Cycle	0.29	0.29	0.29	0.06	0.06	0.06	0.35	0.26	0.39	0.39	0.13	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.16	0.33	0.27	0.10	0.09	0.09	0.05	0.25	0.71	0.13	0.11	0.20	0.21
s, saturation flow rate [veh/h]	1500	1575	1218	1500	1526	1433	2369	2912	4290	1339	1500	4290	1339
c, Capacity [veh/h]	437	459	355	88	89	84	826	748	1658	517	195	1114	348
d1, Uniform Delay [s]	35.93	42.50	41.43	56.49	56.49	56.49	26.91	44.15	36.81	25.93	51.19	41.27	41.82
k, delay calibration	0.13	0.50	0.41	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	1.31	77.16	30.14	293.6	291.1	287.7	0.09	9.85	380.91	1.74	10.99	5.51	19.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.56	1.11	0.94	1.63	1.62	1.61	0.15	0.97	1.84	0.33	0.87	0.78	0.82
d, Delay for Lane Group [s/veh]	37.24	119.66	71.58	350.1	347.6	344.2	27.00	54.00	417.71	27.67	62.18	46.78	61.16
Lane Group LOS	D	F	E	F	F	F	C	D	F	C	E	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.17	23.28	12.47	9.81	9.92	9.24	1.28	11.60	74.30	3.74	5.57	8.53	9.80
50th-Percentile Queue Length [ft/ln]	154.24	582.05	311.84	245.3	248.1	230.9	32.06	289.92	1857.61	93.47	139.24	213.16	245.03
95th-Percentile Queue Length [veh/ln]	10.24	33.34	18.27	16.81	16.96	15.95	2.31	17.18	118.31	6.73	9.44	13.32	14.94
95th-Percentile Queue Length [ft/ln]	256.08	833.62	456.65	420.1	424.0	398.7	57.71	429.55	2957.73	168.25	236.01	332.88	373.39

Movement, Approach, & Intersection Results

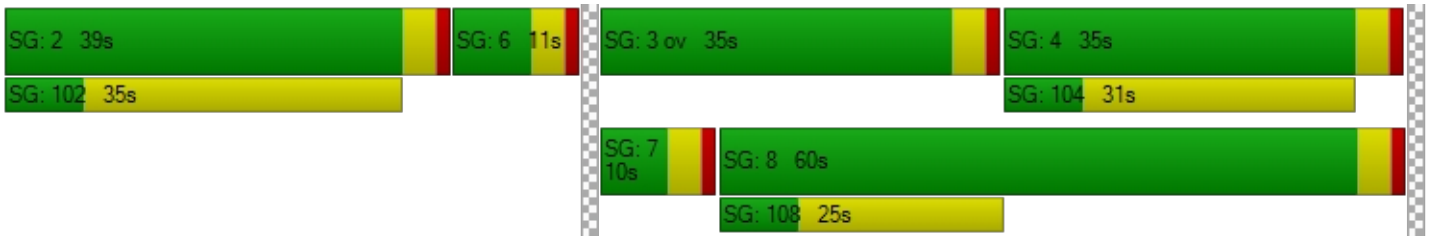
d_M, Delay for Movement [s/veh]	37.24	119.66	71.58	348.87	345.17	27.00	54.00	417.71	27.67	62.18	46.78	61.16
Movement LOS	D	F	E	F	F	C	D	F	C	E	D	E
d_A, Approach Delay [s/veh]	86.54			272.95			333.82			51.84		
Approach LOS	F			F			F			D		
d_I, Intersection Delay [s/veh]	235.99											
Intersection LOS	F											
Intersection V/C	1.436											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.629	2.897	0.000	3.342
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	117	933	517
d_b, Bicycle Delay [s]	30.10	53.20	17.07	33.00
l_b,int, Bicycle LOS Score for Intersection	2.457	2.014	3.733	2.107
Bicycle LOS	B	B	D	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	150.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.410

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	439	0	532	0	2755	140	0	1181	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	439	0	532	0	2755	140	0	1181	450
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	110	0	133	0	689	35	0	295	113
Total Analysis Volume [veh/h]	0	0	0	439	0	532	0	2755	140	0	1181	450
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	38	0	0	0	82	0	0	82	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		34	34	78	78
g / C, Green / Cycle		0.28	0.28	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate		0.15	0.40	0.92	0.28
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		826	380	1947	2786
d1, Uniform Delay [s]		36.19	42.91	20.99	10.15
k, delay calibration		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.53	195.74	189.69	0.47
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	1.40	1.41	0.42
d, Delay for Lane Group [s/veh]		36.72	238.65	210.68	10.63
Lane Group LOS		D	F	F	B
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		5.48	31.77	75.70	4.89
50th-Percentile Queue Length [ft/ln]		137.08	794.17	1892.61	122.30
95th-Percentile Queue Length [veh/ln]		9.32	48.82	114.98	8.52
95th-Percentile Queue Length [ft/ln]		233.09	1220.52	2874.49	212.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.72	0.00	238.65	0.00	210.68	0.00	0.00	10.63	0.00
Movement LOS				D		F		F			B	
d_A, Approach Delay [s/veh]	0.00			147.36			210.68			10.63		
Approach LOS	A			F			F			B		
d_I, Intersection Delay [s/veh]	150.00											
Intersection LOS	F											
Intersection V/C	1.410											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.382	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1300	1300
d_b, Bicycle Delay [s]	60.00	60.00	7.35	7.35
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	3.832	2.209
Bicycle LOS	D	D	D	B

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	34.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	420	24	236	211	1117	8	29	2433	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	420	24	236	211	1117	8	29	2433	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	105	6	59	53	279	2	7	608	230
Total Analysis Volume [veh/h]	40	45	21	420	24	236	211	1117	8	29	2433	919
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	10	61	0	10	61	61
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	24	24	24	16	70	70	4	58	96
g / C, Green / Cycle	0.05	0.05	0.20	0.20	0.20	0.13	0.58	0.58	0.03	0.48	0.80
(v / s)_i Volume / Saturation Flow Rate	0.02	0.04	0.12	0.01	0.15	0.12	0.22	0.01	0.02	0.48	0.58
s, saturation flow rate [veh/h]	1781	1771	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	90	694	375	319	236	2971	927	57	2459	1273
d1, Uniform Delay [s]	55.33	56.19	43.65	38.85	45.03	51.24	13.35	10.47	57.20	30.76	5.65
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.37	10.96	0.85	0.07	3.37	11.22	0.36	0.02	6.93	15.86	3.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.73	0.60	0.06	0.74	0.89	0.38	0.01	0.51	0.99	0.72
d, Delay for Lane Group [s/veh]	58.71	67.15	44.50	38.92	48.40	62.47	13.71	10.49	64.12	46.62	9.22
Lane Group LOS	E	E	D	D	D	E	B	B	E	D	A
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.26	2.25	5.76	0.58	6.88	6.96	5.34	0.09	0.98	25.93	9.49
50th-Percentile Queue Length [ft/ln]	31.55	56.16	144.03	14.62	172.07	174.11	133.52	2.32	24.41	648.26	237.13
95th-Percentile Queue Length [veh/ln]	2.27	4.04	9.70	1.05	11.19	11.29	9.13	0.17	1.76	34.28	14.54
95th-Percentile Queue Length [ft/ln]	56.80	101.10	242.44	26.32	279.63	282.31	228.27	4.17	43.93	857.04	363.40

Movement, Approach, & Intersection Results

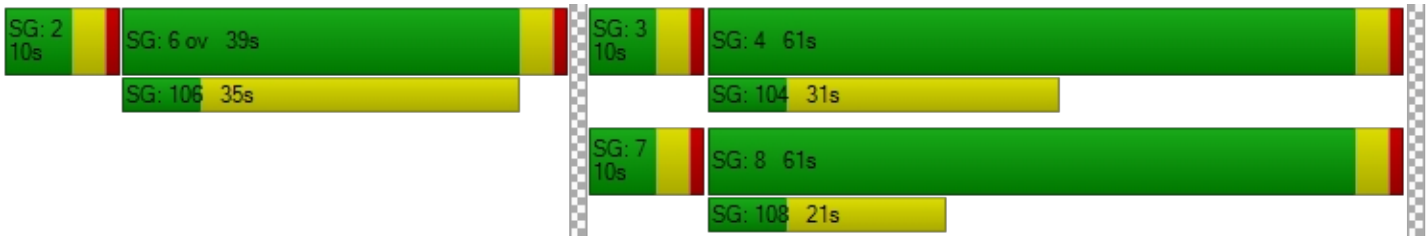
d_M, Delay for Movement [s/veh]	58.71	67.15	67.15	44.50	38.92	48.40	62.47	13.71	10.49	64.12	46.62	9.22
Movement LOS	E	E	E	D	D	D	E	B	B	E	D	A
d_A, Approach Delay [s/veh]	63.96			45.66			21.39			36.60		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	34.56											
Intersection LOS	C											
Intersection V/C	0.869											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.008	2.675	3.232	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	583	950	950
d_b, Bicycle Delay [s]	54.15	30.10	16.54	16.54
l_b,int, Bicycle LOS Score for Intersection	1.735	2.682	2.294	3.419
Bicycle LOS	A	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	86.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.972

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	242	279	170	303	454	655	219	1038	214	428	2691	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	279	170	303	454	655	219	1038	214	428	2691	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	70	43	76	114	164	55	260	54	107	673	38
Total Analysis Volume [veh/h]	242	279	170	303	454	655	219	1038	214	428	2691	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	10	10	14	40	0	31	57	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	19	19	19	33	10	27	27	36	53	53
g / C, Green / Cycle	0.19	0.19	0.19	0.15	0.15	0.15	0.27	0.09	0.22	0.22	0.30	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.17	0.17	0.17	0.28	0.08	0.24	0.16	0.29	0.49	0.49
s, saturation flow rate [veh/h]	1500	1574	1247	1500	1560	1433	2369	2912	4290	1339	1500	4290	1521
c, Capacity [veh/h]	279	293	232	230	240	220	647	251	956	298	456	1891	671
d1, Uniform Delay [s]	47.33	47.29	47.39	50.80	50.80	50.80	43.64	54.22	46.65	43.15	40.69	33.57	33.57
k, delay calibration	0.12	0.12	0.13	0.21	0.21	0.21	0.12	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	8.49	7.85	10.61	69.96	65.93	66.66	20.61	9.20	55.17	13.80	9.68	55.56	73.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.86	0.86	0.86	1.10	1.09	1.09	1.01	0.87	1.09	0.72	0.94	1.10	1.12
d, Delay for Lane Group [s/veh]	55.82	55.15	58.00	120.7	116.7	117.4	64.25	63.42	101.82	56.95	50.37	89.12	107.00
Lane Group LOS	E	E	E	F	F	F	F	E	F	E	D	F	F
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.58	7.87	6.49	11.37	11.56	10.66	11.35	3.59	14.34	7.02	13.40	27.50	32.58
50th-Percentile Queue Length [ft/ln]	189.50	196.73	162.13	284.2	289.0	266.5	283.7	89.73	358.46	175.38	334.95	687.45	814.62
95th-Percentile Queue Length [veh/ln]	12.09	12.47	10.66	17.67	17.86	16.67	17.00	6.46	21.48	11.36	19.40	38.77	45.59
95th-Percentile Queue Length [ft/ln]	302.37	311.74	266.54	441.7	446.5	416.8	424.9	161.51	536.89	283.97	485.02	969.31	1139.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.78	55.46	58.00	120.07	117.12	64.25	63.42	101.82	56.95	50.37	93.13	107.00
Movement LOS	E	E	E	F	F	F	E	F	E	D	F	F
d_A, Approach Delay [s/veh]	56.21			93.24			89.58			88.17		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	86.29											
Intersection LOS	F											
Intersection V/C	0.972											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.662	2.895	0.000	3.322
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	100	600	883
d_b, Bicycle Delay [s]	30.10	54.15	29.40	18.70
l_b,int, Bicycle LOS Score for Intersection	2.130	2.725	2.369	2.908
Bicycle LOS	B	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	40.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.993

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	557	0	495	0	1669	90	0	2295	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	0	495	0	1669	90	0	2295	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	139	0	124	0	417	23	0	574	170
Total Analysis Volume [veh/h]	0	0	0	557	0	495	0	1669	90	0	2295	680
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	48	0	0	0	72	0	0	72	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		44	44	68	68
g / C, Green / Cycle		0.37	0.37	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate		0.19	0.37	0.56	0.54
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		1066	490	1701	2433
d1, Uniform Delay [s]		29.80	38.01	25.32	24.14
k, delay calibration		0.11	0.47	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.40	42.12	17.81	9.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.52	1.01	0.98	0.94
d, Delay for Lane Group [s/veh]		30.20	80.13	43.12	33.20
Lane Group LOS		C	F	D	C
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		6.34	19.82	25.94	21.03
50th-Percentile Queue Length [ft/ln]		158.41	495.43	648.38	525.83
95th-Percentile Queue Length [veh/ln]		10.46	27.32	34.29	28.55
95th-Percentile Queue Length [ft/ln]		261.62	682.92	857.17	713.87

Movement, Approach, & Intersection Results

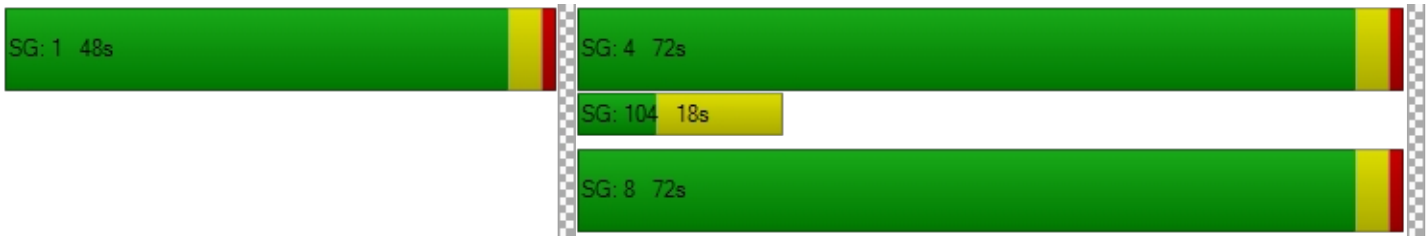
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	30.20	0.00	80.13	0.00	43.12	0.00	0.00	33.20	0.00
Movement LOS				C		F		D			C	
d_A, Approach Delay [s/veh]	0.00			53.69			43.12			33.20		
Approach LOS	A			D			D			C		
d_I, Intersection Delay [s/veh]	40.80											
Intersection LOS	D											
Intersection V/C	0.993											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.401	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1133	1133
d_b, Bicycle Delay [s]	60.00	60.00	11.27	11.27
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	2.937	2.822
Bicycle LOS	D	D	C	C

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX A-VIII

BUILDOUT PLUS PROJECT
TRAFFIC CONDITIONS – CALTRANS METHODOLOGY

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	26.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2454	10	10	780	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2454	10	10	780	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	614	3	3	195	80
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2454	10	10	780	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	21	46	0	10	35	35
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	23	23	23	16	59	59	2	45	81
g / C, Green / Cycle	0.05	0.05	0.21	0.21	0.21	0.15	0.56	0.56	0.02	0.43	0.77
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.17	0.01	0.11	0.13	0.48	0.01	0.01	0.15	0.20
s, saturation flow rate [veh/h]	1781	1751	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	97	95	743	402	342	271	2868	895	28	2171	1226
d1, Uniform Delay [s]	47.98	48.59	39.23	32.58	36.23	43.50	19.36	10.10	51.22	20.43	3.44
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	5.94	2.18	0.02	1.10	8.14	3.53	0.02	7.67	0.46	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.60	0.81	0.02	0.49	0.87	0.86	0.01	0.36	0.36	0.26
d, Delay for Lane Group [s/veh]	50.35	54.53	41.41	32.60	37.33	51.64	22.89	10.12	58.89	20.89	3.60
Lane Group LOS	D	D	D	C	D	D	C	B	E	C	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.97	1.61	7.53	0.20	3.87	6.53	16.46	0.10	0.32	4.34	1.57
50th-Percentile Queue Length [ft/ln]	24.30	40.34	188.14	5.10	96.69	163.27	411.53	2.62	7.98	108.56	39.31
95th-Percentile Queue Length [veh/ln]	1.75	2.90	12.02	0.37	6.96	10.72	23.12	0.19	0.57	7.76	2.83
95th-Percentile Queue Length [ft/ln]	43.75	72.62	300.61	9.19	174.04	268.05	577.88	4.71	14.37	194.00	70.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.35	54.53	54.53	41.41	32.60	37.33	51.64	22.89	10.12	58.89	20.89	3.60
Movement LOS	D	D	D	D	C	D	D	C	B	E	C	A
d_A, Approach Delay [s/veh]	52.91			40.42			25.35			16.25		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	26.25											
Intersection LOS	C											
Intersection V/C	0.783											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.987	2.574	3.182	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	114	667	800	590
d_b, Bicycle Delay [s]	46.67	23.33	18.90	26.08
l_b,int, Bicycle LOS Score for Intersection	1.713	2.847	3.044	2.170
Bicycle LOS	A	C	C	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	238.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.442

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	243	512	333	235	188	128	726	3074	173	169	887	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	512	333	235	188	128	726	3074	173	169	887	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	128	83	59	47	32	182	769	43	42	222	72
Total Analysis Volume [veh/h]	243	512	333	235	188	128	726	3074	173	169	887	286
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	11	11	35	60	0	10	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	35	7	7	7	42	31	46	46	16	31	31
g / C, Green / Cycle	0.29	0.29	0.29	0.06	0.06	0.06	0.35	0.26	0.39	0.39	0.13	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.16	0.33	0.27	0.10	0.09	0.09	0.05	0.25	0.72	0.13	0.11	0.21	0.21
s, saturation flow rate [veh/h]	1500	1575	1218	1500	1526	1433	2369	2912	4290	1339	1500	4290	1339
c, Capacity [veh/h]	437	459	355	88	89	84	826	748	1658	517	195	1114	348
d1, Uniform Delay [s]	35.93	42.50	41.43	56.49	56.49	56.49	26.91	44.15	36.81	25.93	51.19	41.45	41.82
k, delay calibration	0.13	0.50	0.41	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	1.31	77.16	30.14	293.6	291.1	287.7	0.09	9.85	386.59	1.74	10.99	5.93	19.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.56	1.11	0.94	1.63	1.62	1.61	0.15	0.97	1.85	0.33	0.87	0.80	0.82
d, Delay for Lane Group [s/veh]	37.24	119.66	71.58	350.1	347.6	344.2	27.00	54.00	423.39	27.67	62.18	47.38	61.16
Lane Group LOS	D	F	E	F	F	F	C	D	F	C	E	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.17	23.28	12.47	9.81	9.92	9.24	1.28	11.60	75.18	3.74	5.57	8.74	9.80
50th-Percentile Queue Length [ft/ln]	154.24	582.05	311.84	245.3	248.1	230.9	32.06	289.92	1879.41	93.47	139.24	218.55	245.03
95th-Percentile Queue Length [veh/ln]	10.24	33.34	18.27	16.81	16.96	15.95	2.31	17.18	119.79	6.73	9.44	13.59	14.94
95th-Percentile Queue Length [ft/ln]	256.08	833.62	456.65	420.1	424.0	398.7	57.71	429.55	2994.68	168.25	236.01	339.78	373.39

Movement, Approach, & Intersection Results

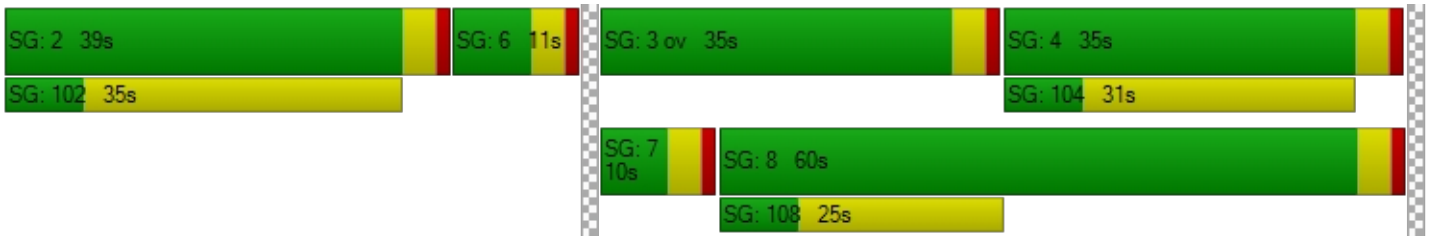
d_M, Delay for Movement [s/veh]	37.24	119.66	71.58	348.87	345.17	27.00	54.00	423.39	27.67	62.18	47.38	61.16
Movement LOS	D	F	E	F	F	C	D	F	C	E	D	E
d_A, Approach Delay [s/veh]	86.54			272.95			338.66			52.18		
Approach LOS	F			F			F			D		
d_I, Intersection Delay [s/veh]	238.72											
Intersection LOS	F											
Intersection V/C	1.442											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.629	2.897	0.000	3.347
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	117	933	517
d_b, Bicycle Delay [s]	30.10	53.20	17.07	33.00
l_b,int, Bicycle LOS Score for Intersection	2.457	2.014	3.745	2.113
Bicycle LOS	B	B	D	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	152.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.418

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	439	0	532	0	2776	140	0	1196	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	439	0	532	0	2776	140	0	1196	450
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	110	0	133	0	694	35	0	299	113
Total Analysis Volume [veh/h]	0	0	0	439	0	532	0	2776	140	0	1196	450
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	38	0	0	0	82	0	0	82	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		34	34	78	78
g / C, Green / Cycle		0.28	0.28	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate		0.15	0.40	0.93	0.28
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		826	380	1947	2786
d1, Uniform Delay [s]		36.19	42.91	20.99	10.20
k, delay calibration		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.53	195.74	194.49	0.48
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	1.40	1.43	0.43
d, Delay for Lane Group [s/veh]		36.72	238.65	215.48	10.69
Lane Group LOS		D	F	F	B
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		5.48	31.77	77.00	4.98
50th-Percentile Queue Length [ft/ln]		137.08	794.17	1925.06	124.47
95th-Percentile Queue Length [veh/ln]		9.32	48.82	117.25	8.64
95th-Percentile Queue Length [ft/ln]		233.09	1220.52	2931.21	215.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.72	0.00	238.65	0.00	215.48	0.00	0.00	10.69	0.00
Movement LOS				D		F		F			B	
d_A, Approach Delay [s/veh]	0.00			147.36			215.48			10.69		
Approach LOS	A			F			F			B		
d_I, Intersection Delay [s/veh]	152.55											
Intersection LOS	F											
Intersection V/C	1.418											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.382	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1300	1300
d_b, Bicycle Delay [s]	60.00	60.00	7.35	7.35
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	3.850	2.217
Bicycle LOS	D	D	D	B

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	35.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	420	24	236	211	1135	8	29	2457	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	420	24	236	211	1135	8	29	2457	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	105	6	59	53	284	2	7	614	230
Total Analysis Volume [veh/h]	40	45	21	420	24	236	211	1135	8	29	2457	919
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	10	61	0	10	61	61
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	24	24	24	16	70	70	4	58	96
g / C, Green / Cycle	0.05	0.05	0.20	0.20	0.20	0.13	0.58	0.58	0.03	0.48	0.80
(v / s)_i Volume / Saturation Flow Rate	0.02	0.04	0.12	0.01	0.15	0.12	0.22	0.01	0.02	0.48	0.58
s, saturation flow rate [veh/h]	1781	1771	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	90	694	375	319	236	2971	927	57	2459	1273
d1, Uniform Delay [s]	55.33	56.19	43.65	38.85	45.03	51.24	13.41	10.47	57.20	31.04	5.65
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.37	10.96	0.85	0.07	3.37	11.22	0.37	0.02	6.93	18.00	3.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.73	0.60	0.06	0.74	0.89	0.38	0.01	0.51	1.00	0.72
d, Delay for Lane Group [s/veh]	58.71	67.15	44.50	38.92	48.40	62.47	13.78	10.49	64.12	49.03	9.22
Lane Group LOS	E	E	D	D	D	E	B	B	E	D	A
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.26	2.25	5.76	0.58	6.88	6.96	5.45	0.09	0.98	26.84	9.49
50th-Percentile Queue Length [ft/ln]	31.55	56.16	144.03	14.62	172.07	174.11	136.30	2.32	24.41	671.04	237.13
95th-Percentile Queue Length [veh/ln]	2.27	4.04	9.70	1.05	11.19	11.29	9.28	0.17	1.76	35.34	14.54
95th-Percentile Queue Length [ft/ln]	56.80	101.10	242.44	26.32	279.63	282.31	232.03	4.17	43.93	883.46	363.40

Movement, Approach, & Intersection Results

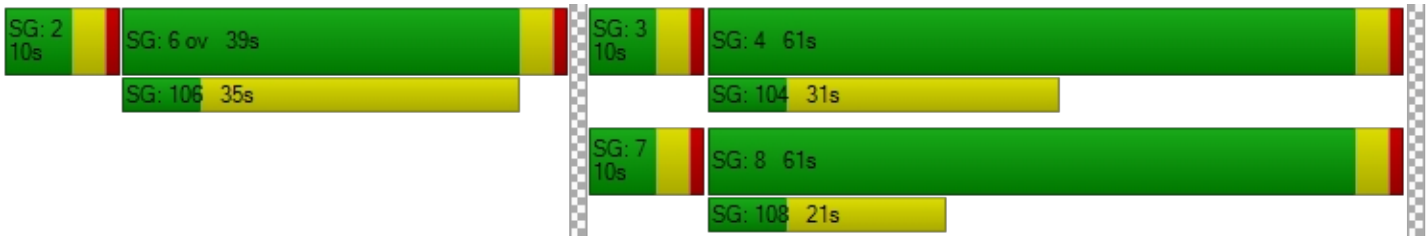
d_M, Delay for Movement [s/veh]	58.71	67.15	67.15	44.50	38.92	48.40	62.47	13.78	10.49	64.12	49.03	9.22
Movement LOS	E	E	E	D	D	D	E	B	B	E	D	A
d_A, Approach Delay [s/veh]	63.96			45.66			21.35			38.41		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	35.62											
Intersection LOS	D											
Intersection V/C	0.874											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.008	2.675	3.237	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	583	950	950
d_b, Bicycle Delay [s]	54.15	30.10	16.54	16.54
l_b,int, Bicycle LOS Score for Intersection	1.735	2.682	2.304	3.432
Bicycle LOS	A	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	88.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.977

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	242	279	170	303	454	655	219	1056	214	428	2715	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	279	170	303	454	655	219	1056	214	428	2715	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	70	43	76	114	164	55	264	54	107	679	38
Total Analysis Volume [veh/h]	242	279	170	303	454	655	219	1056	214	428	2715	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	10	10	14	40	0	31	57	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	19	19	19	33	10	27	27	36	53	53
g / C, Green / Cycle	0.19	0.19	0.19	0.15	0.15	0.15	0.27	0.09	0.22	0.22	0.30	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.17	0.17	0.17	0.28	0.08	0.25	0.16	0.29	0.49	0.50
s, saturation flow rate [veh/h]	1500	1574	1247	1500	1560	1433	2369	2912	4290	1339	1500	4290	1522
c, Capacity [veh/h]	279	293	232	230	240	220	647	251	956	298	456	1891	671
d1, Uniform Delay [s]	47.33	47.29	47.39	50.80	50.80	50.80	43.64	54.22	46.65	43.15	40.69	33.57	33.57
k, delay calibration	0.12	0.12	0.13	0.21	0.21	0.21	0.12	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	8.49	7.85	10.61	69.96	65.93	66.66	20.61	9.20	62.05	13.80	9.68	59.20	77.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.86	0.86	0.86	1.10	1.09	1.09	1.01	0.87	1.10	0.72	0.94	1.11	1.13
d, Delay for Lane Group [s/veh]	55.82	55.15	58.00	120.7	116.7	117.4	64.25	63.42	108.70	56.95	50.37	92.77	110.66
Lane Group LOS	E	E	E	F	F	F	F	E	F	E	D	F	F
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.58	7.87	6.49	11.37	11.56	10.66	11.35	3.59	14.95	7.02	13.40	28.14	33.28
50th-Percentile Queue Length [ft/ln]	189.50	196.73	162.13	284.2	289.0	266.5	283.7	89.73	373.68	175.38	334.95	703.39	831.92
95th-Percentile Queue Length [veh/ln]	12.09	12.47	10.66	17.67	17.86	16.67	17.00	6.46	22.45	11.36	19.40	39.78	46.72
95th-Percentile Queue Length [ft/ln]	302.37	311.74	266.54	441.7	446.5	416.8	424.9	161.51	561.16	283.97	485.02	994.59	1167.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.78	55.46	58.00	120.07	117.12	64.25	63.42	108.70	56.95	50.37	96.78	110.66
Movement LOS	E	E	E	F	F	F	E	F	E	D	F	F
d_A, Approach Delay [s/veh]	56.21			93.24			94.60			91.38		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	88.93											
Intersection LOS	F											
Intersection V/C	0.977											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.662	2.895	0.000	3.327
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	100	600	883
d_b, Bicycle Delay [s]	30.10	54.15	29.40	18.70
l_b,int, Bicycle LOS Score for Intersection	2.130	2.725	2.379	2.918
Bicycle LOS	B	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	557	0	495	0	1687	90	0	2319	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	0	495	0	1687	90	0	2319	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	139	0	124	0	422	23	0	580	170
Total Analysis Volume [veh/h]	0	0	0	557	0	495	0	1687	90	0	2319	680
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	48	0	0	0	72	0	0	72	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		44	44	68	68
g / C, Green / Cycle		0.37	0.37	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate		0.19	0.37	0.56	0.54
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		1066	490	1701	2433
d1, Uniform Delay [s]		29.80	38.01	25.67	24.43
k, delay calibration		0.11	0.47	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.40	42.12	19.97	10.14
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.52	1.01	0.99	0.95
d, Delay for Lane Group [s/veh]		30.20	80.13	45.64	34.57
Lane Group LOS		C	F	D	C
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		6.34	19.82	26.98	21.71
50th-Percentile Queue Length [ft/ln]		158.41	495.43	674.57	542.71
95th-Percentile Queue Length [veh/ln]		10.46	27.32	35.50	29.35
95th-Percentile Queue Length [ft/ln]		261.62	682.92	887.54	733.74

Movement, Approach, & Intersection Results

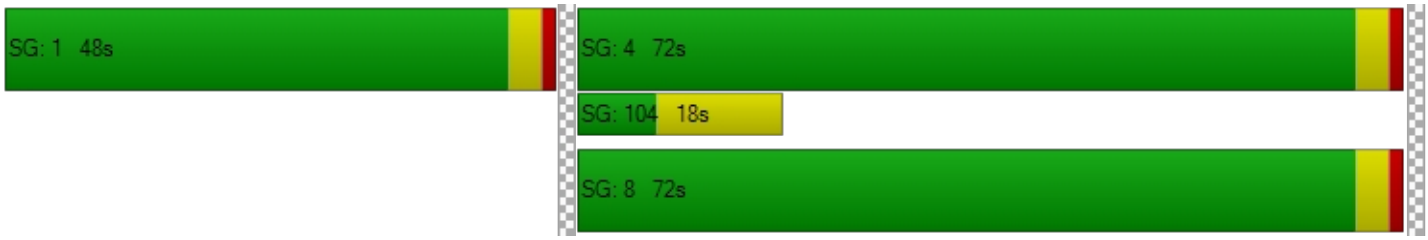
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	30.20	0.00	80.13	0.00	45.64	0.00	0.00	34.57	0.00
Movement LOS				C		F		D			C	
d_A, Approach Delay [s/veh]	0.00			53.69			45.64			34.57		
Approach LOS	A			D			D			C		
d_I, Intersection Delay [s/veh]	42.24											
Intersection LOS	D											
Intersection V/C	0.999											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.401	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1133	1133
d_b, Bicycle Delay [s]	60.00	60.00	11.27	11.27
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	2.951	2.835
Bicycle LOS	D	D	C	C

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX B

PROJECT ALTERNATIVE LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX B-I

YEAR 2026 CUMULATIVE PLUS PROJECT ALTERNATIVE TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2447	10	4	770	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2447	10	4	770	231
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	612	3	1	193	58
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2447	10	4	770	231
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.18	0.01	0.10	0.14	0.48	0.01	0.00	0.15	0.00
Intersection LOS	C											
Intersection V/C	0.743											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	206	357	104	205	168	291	962	2250	331	82	679	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	357	104	205	168	291	962	2250	331	82	679	227
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	89	26	51	42	73	241	563	83	21	170	57
Total Analysis Volume [veh/h]	206	357	104	205	168	291	962	2250	331	82	679	227
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.14	0.14	0.06	0.08	0.00	0.30	0.47	0.21	0.05	0.14	0.14
Intersection LOS	C											
Intersection V/C	0.742											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.873

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	495	0	280	0	2232	210	0	979	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	495	0	280	0	2232	210	0	979	429
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	124	0	70	0	558	53	0	245	107
Total Analysis Volume [veh/h]	0	0	0	495	0	280	0	2232	210	0	979	429
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

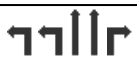
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.15	0.00	0.18	0.00	0.70	0.00	0.00	0.20	0.00
Intersection LOS	D											
Intersection V/C	0.873											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.904

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	291	450	187	120	584	47	56	1442	613	208	746	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	291	450	187	120	584	47	56	1442	613	208	746	99
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	119	49	32	154	12	15	381	162	55	197	26
Total Analysis Volume [veh/h]	308	476	198	127	618	50	59	1526	649	220	789	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

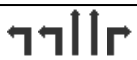
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.15	0.12	0.08	0.19	0.03	0.04	0.48	0.31	0.14	0.25	0.07
Intersection LOS	E											
Intersection V/C	0.904											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	77	791	105	150	1098	225	316	1326	131	138	682	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	791	105	150	1098	225	316	1326	131	138	682	122
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	209	28	40	290	59	84	350	35	36	180	32
Total Analysis Volume [veh/h]	81	836	111	159	1161	238	334	1402	138	146	721	129
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.07	0.10	0.24	0.04	0.10	0.44	0.09	0.05	0.23	0.08
Intersection LOS	C											
Intersection V/C	0.776											

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.832

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	385	24	236	211	1127	8	29	2449	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	385	24	236	211	1127	8	29	2449	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	96	6	59	53	282	2	7	612	230
Total Analysis Volume [veh/h]	40	45	21	385	24	236	211	1127	8	29	2449	919
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.11	0.01	0.14	0.12	0.22	0.00	0.02	0.48	0.43
Intersection LOS	D											
Intersection V/C	0.832											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.923

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	336	244	89	186	231	894	296	1016	203	161	2644	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	244	89	186	231	894	296	1016	203	161	2644	141
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	61	22	47	58	224	74	254	51	40	661	35
Total Analysis Volume [veh/h]	336	244	89	186	231	894	296	1016	203	161	2644	141
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.21	0.21	0.12	0.07	0.19	0.09	0.21	0.13	0.10	0.44	0.44
Intersection LOS	E											
Intersection V/C	0.923											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.823

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	436	0	464	0	1376	151	0	2556	686
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	0	464	0	1376	151	0	2556	686
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	109	0	116	0	344	38	0	639	172
Total Analysis Volume [veh/h]	0	0	0	436	0	464	0	1376	151	0	2556	686
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

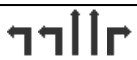
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.29	0.00	0.43	0.00	0.00	0.53	0.00
Intersection LOS	D											
Intersection V/C	0.823											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.928

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	694	753	222	75	480	202	64	677	370	108	1528	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	694	753	222	75	480	202	64	677	370	108	1528	68
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	198	58	20	126	53	17	178	97	28	401	18
Total Analysis Volume [veh/h]	728	790	233	79	504	212	67	710	388	113	1603	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

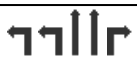
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.25	0.15	0.05	0.16	0.13	0.04	0.22	0.02	0.07	0.50	0.04
Intersection LOS	E											
Intersection V/C	0.928											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	203	1406	155	122	1241	290	345	624	107	73	1294	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	1406	155	122	1241	290	345	624	107	73	1294	119
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	355	39	31	313	73	87	158	27	18	327	30
Total Analysis Volume [veh/h]	205	1420	157	123	1254	293	348	630	108	74	1307	120
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.30	0.10	0.08	0.26	0.07	0.11	0.20	0.07	0.02	0.41	0.08
Intersection LOS	E											
Intersection V/C	0.907											

APPENDIX B-II

BUILDOUT PLUS PROJECT ALTERNATIVE TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.746

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2447	10	10	770	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2447	10	10	770	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	612	3	3	193	80
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2447	10	10	770	320
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.18	0.01	0.10	0.14	0.48	0.01	0.01	0.15	0.01
Intersection LOS	C											
Intersection V/C	0.746											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.126

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	243	512	333	235	188	128	726	3067	173	169	877	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	512	333	235	188	128	726	3067	173	169	877	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	128	83	59	47	32	182	767	43	42	219	72
Total Analysis Volume [veh/h]	243	512	333	235	188	128	726	3067	173	169	877	286
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.26	0.26	0.07	0.12	0.00	0.23	0.64	0.11	0.11	0.18	0.18
Intersection LOS	F											
Intersection V/C	1.126											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.198

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	439	0	532	0	2769	140	0	1186	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	439	0	532	0	2769	140	0	1186	450
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	110	0	133	0	692	35	0	297	113
Total Analysis Volume [veh/h]	0	0	0	439	0	532	0	2769	140	0	1186	450
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

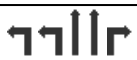
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.33	0.00	0.87	0.00	0.00	0.25	0.00
Intersection LOS	F											
Intersection V/C	1.198											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	291	678	187	120	584	95	168	1442	613	208	746	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	291	678	187	120	584	95	168	1442	613	208	746	99
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	170	47	30	146	24	42	361	153	52	187	25
Total Analysis Volume [veh/h]	291	678	187	120	584	95	168	1442	613	208	746	99
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.21	0.12	0.08	0.18	0.06	0.11	0.45	0.29	0.13	0.23	0.06
Intersection LOS	D											
Intersection V/C	0.868											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.802

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	77	872	116	150	1098	225	378	1543	131	138	682	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	872	116	150	1098	225	378	1543	131	138	682	122
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	218	29	38	275	56	95	386	33	35	171	31
Total Analysis Volume [veh/h]	77	872	116	150	1098	225	378	1543	131	138	682	122
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.07	0.09	0.23	0.02	0.12	0.48	0.08	0.04	0.21	0.08
Intersection LOS	D											
Intersection V/C	0.802											

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.832

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	420	24	236	211	1127	8	29	2449	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	420	24	236	211	1127	8	29	2449	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	105	6	59	53	282	2	7	612	230
Total Analysis Volume [veh/h]	40	45	21	420	24	236	211	1127	8	29	2449	919
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.12	0.01	0.14	0.12	0.22	0.00	0.02	0.48	0.42
Intersection LOS	D											
Intersection V/C	0.832											

Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.953

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	242	279	170	303	454	655	219	1048	214	428	2707	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	279	170	303	454	655	219	1048	214	428	2707	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	70	43	76	114	164	55	262	54	107	677	38
Total Analysis Volume [veh/h]	242	279	170	303	454	655	219	1048	214	428	2707	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.28	0.28	0.09	0.16	0.14	0.07	0.22	0.13	0.27	0.45	0.45
Intersection LOS	E											
Intersection V/C	0.953											

Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	557	0	495	0	1679	90	0	2311	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	0	495	0	1679	90	0	2311	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	139	0	124	0	420	23	0	578	170
Total Analysis Volume [veh/h]	0	0	0	557	0	495	0	1679	90	0	2311	680
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

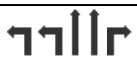
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.31	0.00	0.52	0.00	0.00	0.48	0.00
Intersection LOS	D											
Intersection V/C	0.834											

Intersection Level Of Service Report
Intersection 32: Placentia Avenue at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Placentia Avenue			Placentia Avenue			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	698	786	222	137	603	202	105	677	370	186	1528	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	698	786	222	137	603	202	105	677	370	186	1528	68
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	197	56	34	151	51	26	169	93	47	382	17
Total Analysis Volume [veh/h]	698	786	222	137	603	202	105	677	370	186	1528	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	8	7	4	0
Auxiliary Signal Groups									5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.25	0.14	0.09	0.19	0.13	0.07	0.21	0.01	0.12	0.48	0.04
Intersection LOS	E											
Intersection V/C	0.950											

Intersection Level Of Service Report
Intersection 33: Harbor Boulevard at Victoria Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Victoria Street			Victoria Street		
Base Volume Input [veh/h]	221	1470	168	147	1313	315	345	624	168	158	1294	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	221	1470	168	147	1313	315	345	624	168	158	1294	119
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	368	42	37	328	79	86	156	42	40	324	30
Total Analysis Volume [veh/h]	221	1470	168	147	1313	315	345	624	168	158	1294	119
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.31	0.11	0.09	0.27	0.09	0.11	0.20	0.11	0.05	0.40	0.07
Intersection LOS	E											
Intersection V/C	0.924											

APPENDIX B-III

YEAR 2026 CUMULATIVE PLUS PROJECT ALTERNATIVE TRAFFIC CONDITIONS – CALTRANS METHODOLOGY

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2447	10	4	770	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2447	10	4	770	231
Peak Hour Factor	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	158	3	44	62	641	3	1	202	61
Total Analysis Volume [veh/h]	38	37	23	631	10	176	246	2565	10	4	807	242
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	31	56	0	10	35	35
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	25	25	25	18	68	68	1	50	89
g / C, Green / Cycle	0.05	0.05	0.22	0.22	0.22	0.16	0.59	0.59	0.01	0.44	0.77
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.18	0.01	0.11	0.14	0.50	0.01	0.00	0.16	0.15
s, saturation flow rate [veh/h]	1781	1751	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	89	750	406	345	280	2986	932	13	2221	1229
d1, Uniform Delay [s]	52.98	53.69	43.17	35.48	39.69	47.40	19.85	9.92	56.83	21.75	3.49
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.09	8.60	2.65	0.02	1.17	8.60	3.49	0.02	12.87	0.46	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.68	0.84	0.02	0.51	0.88	0.86	0.01	0.31	0.36	0.20
d, Delay for Lane Group [s/veh]	56.07	62.30	45.82	35.51	40.86	56.00	23.34	9.94	69.70	22.21	3.57
Lane Group LOS	E	E	D	D	D	E	C	A	E	C	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.14	1.92	8.82	0.23	4.49	7.53	18.73	0.11	0.16	4.93	1.27
50th-Percentile Queue Length [ft/ln]	28.60	47.97	220.51	5.63	112.35	188.34	468.21	2.73	4.05	123.22	31.79
95th-Percentile Queue Length [veh/ln]	2.06	3.45	13.69	0.41	7.97	12.04	25.83	0.20	0.29	8.57	2.29
95th-Percentile Queue Length [ft/ln]	51.48	86.34	342.28	10.14	199.27	300.88	645.64	4.92	7.29	214.24	57.23

Movement, Approach, & Intersection Results

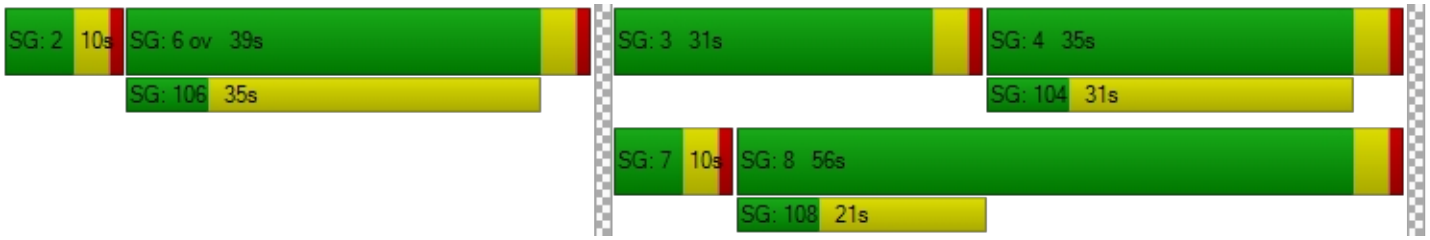
d_M, Delay for Movement [s/veh]	56.07	62.30	62.30	45.82	35.51	40.86	56.00	23.34	9.94	69.70	22.21	3.57
Movement LOS	E	E	E	D	D	D	E	C	A	E	C	A
d_A, Approach Delay [s/veh]	59.88			44.62			26.14			18.11		
Approach LOS	E			D			C			B		
d_I, Intersection Delay [s/veh]	28.22											
Intersection LOS	C											
Intersection V/C	0.807											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.03	47.03	47.03	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.992	2.573	3.205	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	104	609	904	539
d_b, Bicycle Delay [s]	51.66	27.83	17.26	30.68
l_b,int, Bicycle LOS Score for Intersection	1.721	2.908	3.111	2.139
Bicycle LOS	A	C	C	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	77.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.006

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	206	357	104	205	168	291	962	2250	331	82	679	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	357	104	205	168	291	962	2250	331	82	679	227
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	94	27	54	44	77	253	592	87	22	179	60
Total Analysis Volume [veh/h]	217	376	109	216	177	306	1013	2368	348	86	715	239
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	10	10	36	61	0	10	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	13	13	13	53	36	58	58	8	31	31
g / C, Green / Cycle	0.20	0.20	0.20	0.11	0.11	0.11	0.44	0.30	0.49	0.49	0.07	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.14	0.17	0.16	0.09	0.09	0.09	0.13	0.35	0.55	0.26	0.06	0.17	0.18
s, saturation flow rate [veh/h]	1500	1575	1313	1500	1527	1433	2369	2912	4290	1339	1500	4290	1339
c, Capacity [veh/h]	297	312	260	166	169	159	1049	869	2090	652	106	1112	347
d1, Uniform Delay [s]	45.10	46.71	45.95	52.04	52.03	52.02	21.41	42.09	30.77	21.32	54.99	39.51	40.08
k, delay calibration	0.11	0.16	0.12	0.11	0.11	0.11	0.11	0.15	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	3.44	11.04	6.79	8.41	8.23	8.64	0.15	78.45	66.50	3.11	13.72	2.86	10.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.73	0.88	0.81	0.80	0.80	0.79	0.29	1.17	1.13	0.53	0.81	0.64	0.69
d, Delay for Lane Group [s/veh]	48.55	57.75	52.74	60.45	60.26	60.66	21.56	120.54	97.27	24.44	68.71	42.37	50.74
Lane Group LOS	D	E	D	E	E	E	C	F	F	C	E	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.33	8.87	6.48	4.27	4.34	4.08	2.78	22.16	32.17	7.25	2.97	6.54	7.38
50th-Percentile Queue Length [ft/ln]	158.34	221.84	161.95	106.8	108.4	101.9	69.44	554.11	804.25	181.14	74.17	163.40	184.43
95th-Percentile Queue Length [veh/ln]	10.46	13.76	10.65	7.66	7.75	7.34	5.00	32.72	45.48	11.66	5.34	10.73	11.83
95th-Percentile Queue Length [ft/ln]	261.53	343.97	266.30	191.5	193.8	183.4	124.9	817.88	1136.97	291.50	133.50	268.22	295.79

Movement, Approach, & Intersection Results

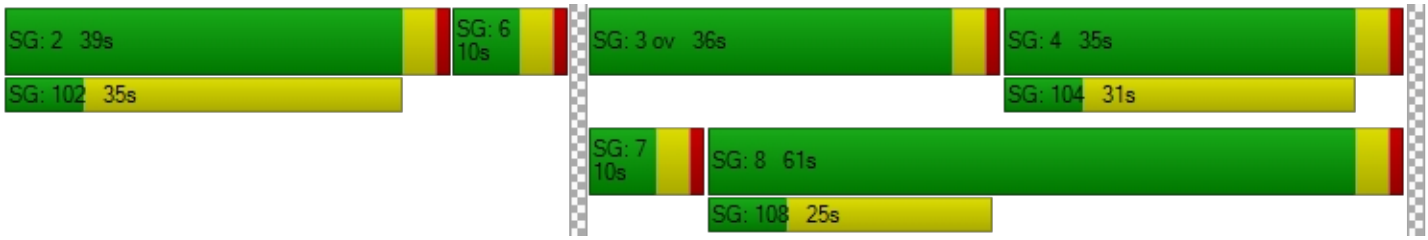
d_M, Delay for Movement [s/veh]	48.55	56.39	52.74	60.38	60.54	21.56	120.54	97.27	24.44	68.71	42.37	50.74
Movement LOS	D	E	D	E	E	C	F	F	C	E	D	D
d_A, Approach Delay [s/veh]	53.40			43.43			96.80			46.47		
Approach LOS	D			D			F			D		
d_I, Intersection Delay [s/veh]	77.33											
Intersection LOS	E											
Intersection V/C	1.006											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.570	2.932	0.000	3.194
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	100	950	517
d_b, Bicycle Delay [s]	30.10	54.15	16.54	33.00
l_b,int, Bicycle LOS Score for Intersection	2.139	2.136	3.611	1.989
Bicycle LOS	B	B	D	A

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	48.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.068

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	495	0	280	0	2232	210	0	979	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	495	0	280	0	2232	210	0	979	429
Peak Hour Factor	1.0000	1.0000	1.0000	0.9570	1.0000	0.9570	1.0000	0.9570	0.9570	1.0000	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	129	0	73	0	583	55	0	256	112
Total Analysis Volume [veh/h]	0	0	0	517	0	293	0	2332	219	0	1023	448
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	29	0	0	0	91	0	0	91	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		25	25	87	87
g / C, Green / Cycle		0.21	0.21	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate		0.18	0.22	0.78	0.24
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		608	279	2172	3108
d1, Uniform Delay [s]		45.61	47.40	16.50	5.97
k, delay calibration		0.11	0.36	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		3.47	59.06	42.47	0.28
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.85	1.05	1.07	0.33
d, Delay for Lane Group [s/veh]		49.08	106.46	58.97	6.25
Lane Group LOS		D	F	F	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		7.67	12.87	37.59	2.89
50th-Percentile Queue Length [ft/ln]		191.79	321.67	939.71	72.37
95th-Percentile Queue Length [veh/ln]		12.21	19.23	50.76	5.21
95th-Percentile Queue Length [ft/ln]		305.35	480.87	1269.06	130.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	49.08	0.00	106.46	0.00	58.97	0.00	0.00	6.25	0.00
Movement LOS				D		F		F			A	
d_A, Approach Delay [s/veh]	0.00			69.83			58.97			6.25		
Approach LOS	A			E			E			A		
d_I, Intersection Delay [s/veh]	48.13											
Intersection LOS	D											
Intersection V/C	1.068											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.342	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1450	1450
d_b, Bicycle Delay [s]	60.00	60.00	4.54	4.54
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	3.484	2.122
Bicycle LOS	D	D	C	B

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	45.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	385	24	236	211	1127	8	29	2449	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	385	24	236	211	1127	8	29	2449	919
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	12	6	101	6	62	56	297	2	8	644	242
Total Analysis Volume [veh/h]	42	47	22	405	25	248	222	1186	8	31	2578	967
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	10	61	0	10	61	61
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	25	25	25	16	69	69	4	57	96
g / C, Green / Cycle	0.05	0.05	0.21	0.21	0.21	0.13	0.57	0.57	0.03	0.48	0.80
(v / s)_i Volume / Saturation Flow Rate	0.02	0.04	0.12	0.01	0.16	0.12	0.23	0.01	0.02	0.51	0.61
s, saturation flow rate [veh/h]	1781	1770	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	89	723	391	332	233	2927	913	58	2427	1276
d1, Uniform Delay [s]	55.43	56.32	42.52	38.05	44.48	51.80	14.16	10.92	57.15	31.42	5.97
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.76	13.20	0.68	0.07	3.51	18.21	0.42	0.02	7.37	37.51	4.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.77	0.56	0.06	0.75	0.95	0.41	0.01	0.53	1.06	0.76
d, Delay for Lane Group [s/veh]	59.18	69.51	43.20	38.11	47.99	70.01	14.58	10.94	64.52	68.93	10.23
Lane Group LOS	E	E	D	D	D	E	B	B	E	F	B
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.33	2.39	5.45	0.60	7.22	7.79	5.93	0.10	1.05	30.97	10.69
50th-Percentile Queue Length [ft/ln]	33.29	59.83	136.33	15.06	180.58	194.76	148.29	2.38	26.14	774.25	267.32
95th-Percentile Queue Length [veh/ln]	2.40	4.31	9.28	1.08	11.63	12.37	9.93	0.17	1.88	42.02	16.06
95th-Percentile Queue Length [ft/ln]	59.92	107.70	232.08	27.10	290.78	309.19	248.15	4.28	47.06	1050.41	401.39

Movement, Approach, & Intersection Results

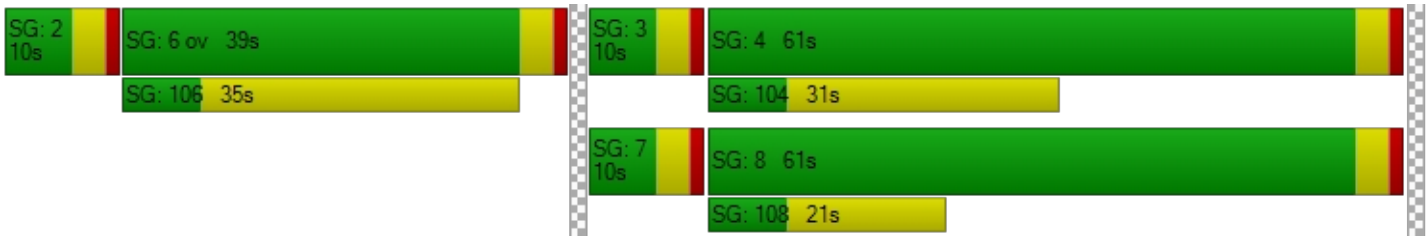
d_M, Delay for Movement [s/veh]	59.18	69.51	69.51	43.20	38.11	47.99	70.01	14.58	10.94	64.52	68.93	10.23
Movement LOS	E	E	E	D	D	D	E	B	B	E	F	B
d_A, Approach Delay [s/veh]	65.60			44.76			23.25			53.02		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	45.00											
Intersection LOS	D											
Intersection V/C	0.917											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.011	2.687	3.261	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	583	950	950
d_b, Bicycle Delay [s]	54.15	30.10	16.54	16.54
l_b,int, Bicycle LOS Score for Intersection	1.743	2.678	2.338	3.526
Bicycle LOS	A	B	B	D

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	112.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.012

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	336	244	89	186	231	894	296	1016	203	161	2644	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	244	89	186	231	894	296	1016	203	161	2644	141
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	64	23	49	61	235	78	267	53	42	696	37
Total Analysis Volume [veh/h]	354	257	94	196	243	941	312	1069	214	169	2783	148
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	19	19	10	51	0	11	52	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	21	21	21	38	13	45	45	16	48	48
g / C, Green / Cycle	0.19	0.19	0.19	0.17	0.17	0.17	0.31	0.11	0.38	0.38	0.13	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.10	0.10	0.10	0.40	0.11	0.25	0.16	0.11	0.50	0.51
s, saturation flow rate [veh/h]	1500	1540	1330	1500	1550	1433	2369	2912	4290	1339	1500	4290	1523
c, Capacity [veh/h]	280	287	248	260	269	248	743	311	1616	504	195	1716	609
d1, Uniform Delay [s]	47.35	47.33	47.36	45.47	45.44	45.43	41.19	53.60	31.05	27.75	51.18	36.01	36.01
k, delay calibration	0.13	0.13	0.13	0.11	0.11	0.11	0.30	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	9.06	8.71	10.23	1.94	1.86	1.99	126.6	24.45	2.15	2.61	10.96	120.53	134.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.87	0.86	0.87	0.57	0.56	0.56	1.27	1.00	0.66	0.42	0.87	1.26	1.27
d, Delay for Lane Group [s/veh]	56.41	56.03	57.59	47.41	47.30	47.42	167.7	78.05	33.19	30.35	62.15	156.54	170.73
Lane Group LOS	E	E	E	D	D	D	F	F	C	C	E	F	F
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.70	7.86	6.92	4.18	4.29	3.96	23.89	5.74	8.80	4.92	5.57	35.44	40.16
50th-Percentile Queue Length [ft/ln]	192.41	196.44	173.03	104.5	107.2	99.07	597.3	143.47	220.07	122.93	139.20	885.99	1003.96
95th-Percentile Queue Length [veh/ln]	12.25	12.45	11.24	7.53	7.68	7.13	36.46	9.68	13.67	8.55	9.44	52.32	58.96
95th-Percentile Queue Length [ft/ln]	306.15	311.36	280.89	188.1	192.1	178.3	911.4	241.97	341.72	213.84	235.95	1307.91	1473.94

Movement, Approach, & Intersection Results

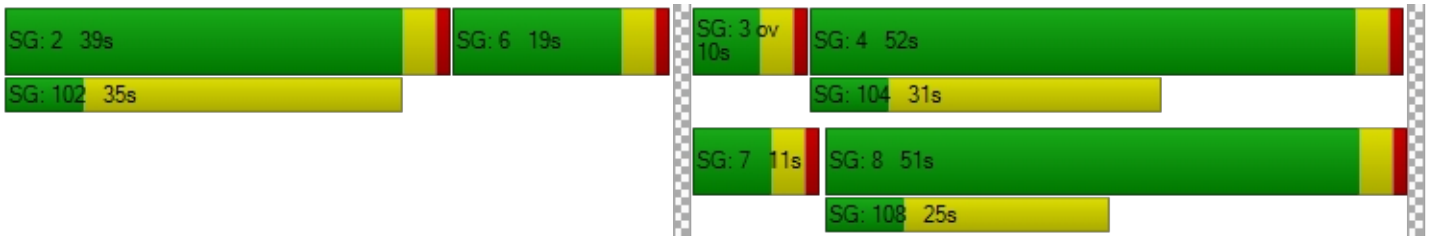
d_M, Delay for Movement [s/veh]	56.28	56.77	57.59	47.41	47.37	167.79	78.05	33.19	30.35	62.15	159.74	170.73
Movement LOS	E	E	E	D	D	F	F	C	C	E	F	F
d_A, Approach Delay [s/veh]	56.64			129.48			41.59			154.94		
Approach LOS	E			F			D			F		
d_I, Intersection Delay [s/veh]	112.87											
Intersection LOS	F											
Intersection V/C	1.012											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.573	2.900	0.000	3.283
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	250	783	800
d_b, Bicycle Delay [s]	30.10	45.94	22.20	21.60
l_b,int, Bicycle LOS Score for Intersection	2.141	2.698	2.437	2.838
Bicycle LOS	B	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	48.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.052

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	436	0	464	0	1376	151	0	2556	686
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	0	464	0	1376	151	0	2556	686
Peak Hour Factor	1.0000	1.0000	1.0000	0.9600	1.0000	0.9600	1.0000	0.9600	0.9600	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	114	0	121	0	358	39	0	666	179
Total Analysis Volume [veh/h]	0	0	0	454	0	483	0	1433	157	0	2663	715
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	45	0	0	0	75	0	0	75	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		41	41	71	71
g / C, Green / Cycle		0.34	0.34	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate		0.16	0.36	0.48	0.62
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		994	457	1775	2540
d1, Uniform Delay [s]		30.80	39.46	19.09	24.43
k, delay calibration		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.33	58.22	4.06	32.22
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.46	1.06	0.81	1.05
d, Delay for Lane Group [s/veh]		31.13	97.69	23.15	56.65
Lane Group LOS		C	F	C	F
Critical Lane Group		No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		5.17	20.59	15.70	29.80
50th-Percentile Queue Length [ft/ln]		129.21	514.70	392.43	745.01
95th-Percentile Queue Length [veh/ln]		8.90	29.09	22.19	40.32
95th-Percentile Queue Length [ft/ln]		222.42	727.34	554.87	1007.99

Movement, Approach, & Intersection Results

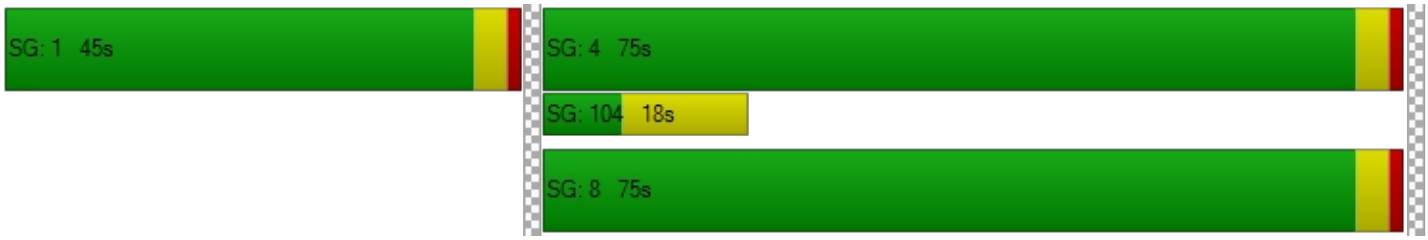
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	31.13	0.00	97.69	0.00	23.15	0.00	0.00	56.65	0.00
Movement LOS				C		F		C			F	
d_A, Approach Delay [s/veh]	0.00			65.44			23.15			56.65		
Approach LOS	A			E			C			E		
d_I, Intersection Delay [s/veh]	48.75											
Intersection LOS	D											
Intersection V/C	1.052											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.373	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1183	1183
d_b, Bicycle Delay [s]	60.00	60.00	10.00	10.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	2.742	3.024
Bicycle LOS	D	D	B	C

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX B-IV

BUILDOUT PLUS PROJECT ALTERNATIVE TRAFFIC CONDITIONS – CALTRANS METHODOLOGY

Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	26.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.782

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	36	35	22	602	10	168	235	2447	10	10	770	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	35	22	602	10	168	235	2447	10	10	770	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	151	3	42	59	612	3	3	193	80
Total Analysis Volume [veh/h]	36	35	22	602	10	168	235	2447	10	10	770	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	21	46	0	10	35	35
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	23	23	23	16	59	59	2	45	81
g / C, Green / Cycle	0.05	0.05	0.21	0.21	0.21	0.15	0.56	0.56	0.02	0.43	0.77
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.17	0.01	0.11	0.13	0.48	0.01	0.01	0.15	0.20
s, saturation flow rate [veh/h]	1781	1751	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	97	95	743	402	342	271	2868	895	28	2171	1226
d1, Uniform Delay [s]	47.98	48.59	39.23	32.58	36.23	43.50	19.31	10.10	51.22	20.38	3.44
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	5.94	2.18	0.02	1.10	8.14	3.46	0.02	7.67	0.45	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.60	0.81	0.02	0.49	0.87	0.85	0.01	0.36	0.35	0.26
d, Delay for Lane Group [s/veh]	50.35	54.53	41.41	32.60	37.33	51.64	22.78	10.12	58.89	20.84	3.60
Lane Group LOS	D	D	D	C	D	D	C	B	E	C	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.97	1.61	7.53	0.20	3.87	6.53	16.36	0.10	0.32	4.28	1.57
50th-Percentile Queue Length [ft/ln]	24.30	40.34	188.14	5.10	96.69	163.27	408.99	2.62	7.98	106.91	39.31
95th-Percentile Queue Length [veh/ln]	1.75	2.90	12.02	0.37	6.96	10.72	22.99	0.19	0.57	7.67	2.83
95th-Percentile Queue Length [ft/ln]	43.75	72.62	300.61	9.19	174.04	268.05	574.82	4.71	14.37	191.70	70.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.35	54.53	54.53	41.41	32.60	37.33	51.64	22.78	10.12	58.89	20.84	3.60
Movement LOS	D	D	D	D	C	D	D	C	B	E	C	A
d_A, Approach Delay [s/veh]	52.91			40.42			25.25			16.17		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	26.20											
Intersection LOS	C											
Intersection V/C	0.782											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.987	2.574	3.180	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	114	667	800	590
d_b, Bicycle Delay [s]	46.67	23.33	18.90	26.08
l_b,int, Bicycle LOS Score for Intersection	1.713	2.847	3.040	2.165
Bicycle LOS	A	C	C	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	237.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.440

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	243	512	333	235	188	128	726	3067	173	169	877	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	512	333	235	188	128	726	3067	173	169	877	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	128	83	59	47	32	182	767	43	42	219	72
Total Analysis Volume [veh/h]	243	512	333	235	188	128	726	3067	173	169	877	286
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	11	11	35	60	0	10	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	35	7	7	7	42	31	46	46	16	31	31
g / C, Green / Cycle	0.29	0.29	0.29	0.06	0.06	0.06	0.35	0.26	0.39	0.39	0.13	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.16	0.33	0.27	0.10	0.09	0.09	0.05	0.25	0.71	0.13	0.11	0.20	0.21
s, saturation flow rate [veh/h]	1500	1575	1218	1500	1526	1433	2369	2912	4290	1339	1500	4290	1339
c, Capacity [veh/h]	437	459	355	88	89	84	826	748	1658	517	195	1114	348
d1, Uniform Delay [s]	35.93	42.50	41.43	56.49	56.49	56.49	26.91	44.15	36.81	25.93	51.19	41.33	41.82
k, delay calibration	0.13	0.50	0.41	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	1.31	77.16	30.14	293.6	291.1	287.7	0.09	9.85	384.69	1.74	10.99	5.64	19.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.56	1.11	0.94	1.63	1.62	1.61	0.15	0.97	1.85	0.33	0.87	0.79	0.82
d, Delay for Lane Group [s/veh]	37.24	119.66	71.58	350.1	347.6	344.2	27.00	54.00	421.50	27.67	62.18	46.98	61.16
Lane Group LOS	D	F	E	F	F	F	C	D	F	C	E	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.17	23.28	12.47	9.81	9.92	9.24	1.28	11.60	74.89	3.74	5.57	8.60	9.80
50th-Percentile Queue Length [ft/ln]	154.24	582.05	311.84	245.3	248.1	230.9	32.06	289.92	1872.15	93.47	139.24	214.94	245.03
95th-Percentile Queue Length [veh/ln]	10.24	33.34	18.27	16.81	16.96	15.95	2.31	17.18	119.29	6.73	9.44	13.41	14.94
95th-Percentile Queue Length [ft/ln]	256.08	833.62	456.65	420.1	424.0	398.7	57.71	429.55	2982.36	168.25	236.01	335.16	373.39

Movement, Approach, & Intersection Results

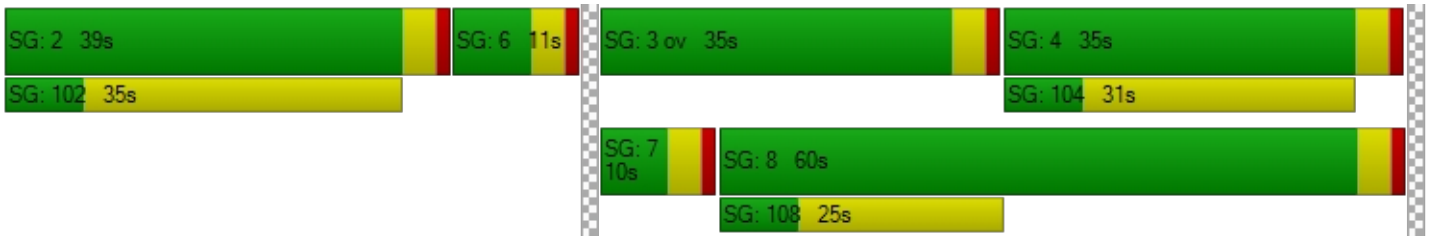
d_M, Delay for Movement [s/veh]	37.24	119.66	71.58	348.87	345.17	27.00	54.00	421.50	27.67	62.18	46.98	61.16
Movement LOS	D	F	E	F	F	C	D	F	C	E	D	E
d_A, Approach Delay [s/veh]	86.54			272.95			337.05			51.95		
Approach LOS	F			F			F			D		
d_I, Intersection Delay [s/veh]	237.92											
Intersection LOS	F											
Intersection V/C	1.440											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.629	2.897	0.000	3.345
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	117	933	517
d_b, Bicycle Delay [s]	30.10	53.20	17.07	33.00
l_b,int, Bicycle LOS Score for Intersection	2.457	2.014	3.741	2.109
Bicycle LOS	B	B	D	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	151.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.415

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	439	0	532	0	2769	140	0	1186	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	439	0	532	0	2769	140	0	1186	450
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	110	0	133	0	692	35	0	297	113
Total Analysis Volume [veh/h]	0	0	0	439	0	532	0	2769	140	0	1186	450
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	38	0	0	0	82	0	0	82	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		34	34	78	78
g / C, Green / Cycle		0.28	0.28	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate		0.15	0.40	0.92	0.28
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		826	380	1947	2786
d1, Uniform Delay [s]		36.19	42.91	20.99	10.17
k, delay calibration		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.53	195.74	192.89	0.48
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	1.40	1.42	0.43
d, Delay for Lane Group [s/veh]		36.72	238.65	213.88	10.65
Lane Group LOS		D	F	F	B
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		5.48	31.77	76.57	4.92
50th-Percentile Queue Length [ft/ln]		137.08	794.17	1914.24	123.02
95th-Percentile Queue Length [veh/ln]		9.32	48.82	116.49	8.56
95th-Percentile Queue Length [ft/ln]		233.09	1220.52	2912.29	213.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.72	0.00	238.65	0.00	213.88	0.00	0.00	10.65	0.00
Movement LOS				D		F		F			B	
d_A, Approach Delay [s/veh]	0.00			147.36			213.88			10.65		
Approach LOS	A			F			F			B		
d_I, Intersection Delay [s/veh]	151.84											
Intersection LOS	F											
Intersection V/C	1.415											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.382	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1300	1300
d_b, Bicycle Delay [s]	60.00	60.00	7.35	7.35
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	3.844	2.212
Bicycle LOS	D	D	D	B

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 27: Brookhurst Street at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

Intersection Setup

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Brookhurst Street			Brookhurst Street			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	40	45	21	420	24	236	211	1127	8	29	2449	919
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	45	21	420	24	236	211	1127	8	29	2449	919
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	11	5	105	6	59	53	282	2	7	612	230
Total Analysis Volume [veh/h]	40	45	21	420	24	236	211	1127	8	29	2449	919
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	2	0	0	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	6	0	6	6	6
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	30
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	10	0	0	39	0	10	61	0	10	61	61
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	28	0	0	14	0	0	24	24
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall		No			No		No	No		No	No	No
Maximum Recall		No			No		No	No		No	No	No
Pedestrian Recall		No			No		No	No		No	No	No
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	6	24	24	24	16	70	70	4	58	96
g / C, Green / Cycle	0.05	0.05	0.20	0.20	0.20	0.13	0.58	0.58	0.03	0.48	0.80
(v / s)_i Volume / Saturation Flow Rate	0.02	0.04	0.12	0.01	0.15	0.12	0.22	0.01	0.02	0.48	0.58
s, saturation flow rate [veh/h]	1781	1771	3459	1870	1589	1781	5094	1589	1781	5094	1589
c, Capacity [veh/h]	90	90	694	375	319	236	2971	927	57	2459	1273
d1, Uniform Delay [s]	55.33	56.19	43.65	38.85	45.03	51.24	13.38	10.47	57.20	30.94	5.65
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.37	10.96	0.85	0.07	3.37	11.22	0.37	0.02	6.93	17.25	3.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.73	0.60	0.06	0.74	0.89	0.38	0.01	0.51	1.00	0.72
d, Delay for Lane Group [s/veh]	58.71	67.15	44.50	38.92	48.40	62.47	13.75	10.49	64.12	48.20	9.22
Lane Group LOS	E	E	D	D	D	E	B	B	E	D	A
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.26	2.25	5.76	0.58	6.88	6.96	5.40	0.09	0.98	26.53	9.49
50th-Percentile Queue Length [ft/ln]	31.55	56.16	144.03	14.62	172.07	174.11	135.06	2.32	24.41	663.26	237.13
95th-Percentile Queue Length [veh/ln]	2.27	4.04	9.70	1.05	11.19	11.29	9.21	0.17	1.76	34.98	14.54
95th-Percentile Queue Length [ft/ln]	56.80	101.10	242.44	26.32	279.63	282.31	230.35	4.17	43.93	874.44	363.40

Movement, Approach, & Intersection Results

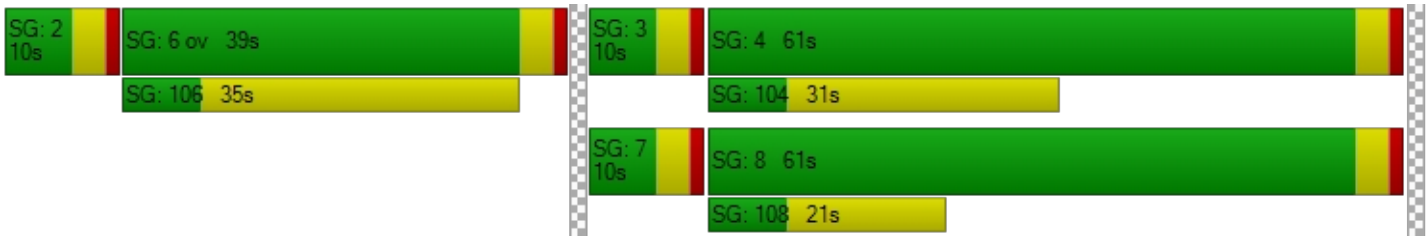
d_M, Delay for Movement [s/veh]	58.71	67.15	67.15	44.50	38.92	48.40	62.47	13.75	10.49	64.12	48.20	9.22
Movement LOS	E	E	E	D	D	D	E	B	B	E	D	A
d_A, Approach Delay [s/veh]	63.96			45.66			21.37			37.79		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	35.26											
Intersection LOS	D											
Intersection V/C	0.872											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.008	2.675	3.235	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	583	950	950
d_b, Bicycle Delay [s]	54.15	30.10	16.54	16.54
l_b,int, Bicycle LOS Score for Intersection	1.735	2.682	2.300	3.428
Bicycle LOS	A	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 28: Superior Avenue/Balboa Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	87.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

Intersection Setup

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Superior Avenue			Balboa Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	242	279	170	303	454	655	219	1048	214	428	2707	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	279	170	303	454	655	219	1048	214	428	2707	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	70	43	76	114	164	55	262	54	107	677	38
Total Analysis Volume [veh/h]	242	279	170	303	454	655	219	1048	214	428	2707	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	6	6	6	0	6	6	0
Maximum Green [s]	0	30	0	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	39	0	0	10	10	14	40	0	31	57	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	28	0	0	0	0	0	18	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			No	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	R	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	19	19	19	33	10	27	27	36	53	53
g / C, Green / Cycle	0.19	0.19	0.19	0.15	0.15	0.15	0.27	0.09	0.22	0.22	0.30	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.17	0.17	0.17	0.28	0.08	0.24	0.16	0.29	0.49	0.50
s, saturation flow rate [veh/h]	1500	1574	1247	1500	1560	1433	2369	2912	4290	1339	1500	4290	1522
c, Capacity [veh/h]	279	293	232	230	240	220	647	251	956	298	456	1891	671
d1, Uniform Delay [s]	47.33	47.29	47.39	50.80	50.80	50.80	43.64	54.22	46.65	43.15	40.69	33.57	33.57
k, delay calibration	0.12	0.12	0.13	0.21	0.21	0.21	0.12	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering 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	1.00
d2, Incremental Delay [s]	8.49	7.85	10.61	69.96	65.93	66.66	20.61	9.20	58.96	13.80	9.68	57.98	75.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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	1.00

Lane Group Results

X, volume / capacity	0.86	0.86	0.86	1.10	1.09	1.09	1.01	0.87	1.10	0.72	0.94	1.11	1.13
d, Delay for Lane Group [s/veh]	55.82	55.15	58.00	120.7	116.7	117.4	64.25	63.42	105.61	56.95	50.37	91.55	109.43
Lane Group LOS	E	E	E	F	F	F	F	E	F	E	D	F	F
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.58	7.87	6.49	11.37	11.56	10.66	11.35	3.59	14.67	7.02	13.40	27.92	33.04
50th-Percentile Queue Length [ft/ln]	189.50	196.73	162.13	284.2	289.0	266.5	283.7	89.73	366.84	175.38	334.95	698.06	826.12
95th-Percentile Queue Length [veh/ln]	12.09	12.47	10.66	17.67	17.86	16.67	17.00	6.46	22.01	11.36	19.40	39.44	46.34
95th-Percentile Queue Length [ft/ln]	302.37	311.74	266.54	441.7	446.5	416.8	424.9	161.51	550.25	283.97	485.02	986.12	1158.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.78	55.46	58.00	120.07	117.12	64.25	63.42	105.61	56.95	50.37	95.56	109.43
Movement LOS	E	E	E	F	F	F	E	F	E	D	F	F
d_A, Approach Delay [s/veh]	56.21			93.24			92.34			90.30		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	87.92											
Intersection LOS	F											
Intersection V/C	0.976											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.662	2.895	0.000	3.325
Crosswalk LOS	B	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	100	600	883
d_b, Bicycle Delay [s]	30.10	54.15	29.40	18.70
l_b,int, Bicycle LOS Score for Intersection	2.130	2.725	2.374	2.915
Bicycle LOS	B	B	B	C

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: Newport Boulevard at Pacific Coast Highway

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.996

Intersection Setup

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present					No			No			No	
Crosswalk		No			Yes			No			No	

Volumes

Name	Newport Boulevard			Newport Boulevard			Pacific Coast Highway			Pacific Coast Highway		
Base Volume Input [veh/h]	0	0	0	557	0	495	0	1679	90	0	2311	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	0	495	0	1679	90	0	2311	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	139	0	124	0	420	23	0	578	170
Total Analysis Volume [veh/h]	0	0	0	557	0	495	0	1679	90	0	2311	680
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	6	0	0	0	6	0	0	6	0
Maximum Green [s]	0	0	0	30	0	0	0	30	0	0	30	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	48	0	0	0	72	0	0	72	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	11	0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		120	120	120	120
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		44	44	68	68
g / C, Green / Cycle		0.37	0.37	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate		0.19	0.37	0.56	0.54
s, saturation flow rate [veh/h]		2912	1339	2998	4290
c, Capacity [veh/h]		1066	490	1701	2433
d1, Uniform Delay [s]		29.80	38.01	25.51	24.34
k, delay calibration		0.11	0.47	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.40	42.12	18.98	9.76
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.52	1.01	0.99	0.95
d, Delay for Lane Group [s/veh]		30.20	80.13	44.49	34.09
Lane Group LOS		C	F	D	C
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		6.34	19.82	26.51	21.48
50th-Percentile Queue Length [ft/ln]		158.41	495.43	662.70	536.95
95th-Percentile Queue Length [veh/ln]		10.46	27.32	34.95	29.08
95th-Percentile Queue Length [ft/ln]		261.62	682.92	873.79	726.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	30.20	0.00	80.13	0.00	44.49	0.00	0.00	34.09	0.00
Movement LOS				C		F		D			C	
d_A, Approach Delay [s/veh]	0.00			53.69			44.49			34.09		
Approach LOS	A			D			D			C		
d_I, Intersection Delay [s/veh]	41.64											
Intersection LOS	D											
Intersection V/C	0.996											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.401	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	1133	1133
d_b, Bicycle Delay [s]	60.00	60.00	11.27	11.27
l_b,int, Bicycle LOS Score for Intersection	4.132	4.132	2.945	2.831
Bicycle LOS	D	D	C	C

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

