



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:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>HCM</u>	<u>LOS</u>	<u>HCM</u>	<u>LOS</u>
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:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>HCM</u>	<u>LOS</u>	<u>HCM</u>	<u>LOS</u>
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:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>HCM</u>	<u>LOS</u>	<u>HCM</u>	<u>LOS</u>
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:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>HCM</u>	<u>LOS</u>	<u>HCM</u>	<u>LOS</u>
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.

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

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

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.

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.

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

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

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.

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.