LINSCOTT LAW & GREENSPAN engineers

TRAFFIC ANALYSIS REPORT
DOHENY VILLAGE ZONING DISTRICT OVERLAY

Dana Point, California

April 26, 2021

(Original dated August 26, 2020)

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EXECUTIVE SUMMARY

Project Description

- The Project study area, commonly referred to as Doheny Village, is generally located north of Pacific Coast Highway, south of Stonehill Drive, east of the OCTA Metrolink Railroad tracks, and west of the I-5 Freeway in the City of Dana Point, California. Based on the City of Dana Point General Plan Land Use Map, the project site is currently designated for Community Commercial (CC), Commercial/Residential (C/R), Residential 22-30 DU/AC (Res 22-30), Community Facility (CF) and Recreation/Open Space (R/OS) and is situated within the Coastal Overlay Boundary. Based on the City of Dana Point Zoning Map, the project site is zoned for Community Commercial/Vehicle (CC/V), Community Commercial/Pedestrian (CC/P), Commercial/Residential (C/R), Residential Multiple Family 30 DU/AC (RMF 30), Community Facilities (CF), and Recreation (REC) and is situated within the Floodplain Overlay (FP-2) district. The City of Dana Point provided their GIS database which was utilized to document existing land use information, building square footages, residential dwelling unit (DU) and acreages on a parcel-by-parcel basis which were then combined into Zones 1 through 26.

- The purpose of the Project is to preserve and enhance the eclectic combination of commercial, light industrial, and residential mixed-use in the area and achieve an integrated neighborhood-serving business and residential environment. Residential uses in the area provide housing near sources of employment or commercial and professional services, which is intended to add to the City's supply of affordable housing, reduce commutes between home and work, and promote a strong, stable, and desirable pedestrian-oriented environment. As such, the proposed Project includes a zoning ordinance for a new overlay, and proposes the following amendments to the City's zoning code:

  - Rezone commercial to commercial/light industrial mixed-use,
  - Rezone commercial frontage to vertical commercial/residential mixed-use,
  - Rezone existing vertical commercial/residential mixed-use to horizontal mixed-use,
  - Increase residential density from 10 du/ac to 30-50 du/ac, and
  - Flexible development standards, including parking reductions

- Upon implementation of the proposed Project, five (5) zoning districts have been established in the overlay area which include Village Commercial/Industrial (V-C/I), Village Main Street (V-MS), Village Commercial/Residential (V-C/R), Community Facilities (CF), and Recreation (REC). Parcels zoned for CF and REC will maintain their existing zoning district. The other three (3) districts are new as part of the zoning code update and consist of the following:

  - **Village Commercial/Industrial (V-C/I)** – The V-C/I district includes a mixture of commercial, office and light industrial uses.

- **Village Main Street (V-MS)** – The V-MS district is intended to accommodate mixed-use buildings with neighborhood serving retail, service, and other uses on the ground floor, and commercial or residential uses above non-residential space.
- **Village Commercial/Residential (V-C/R)** – The V-C/R district includes a mixture of commercial, office and residential uses.

The implementation of the proposed Project would also require a General Plan Amendment to reflect the new zoning district classifications via appropriate land use designations, development intensity, and density standards. Each district was categorized into the same zones as the existing development (Zones 1 through 26). Future land use sizes were determined based on proposed residential densities and floor-to-area ratios (FAR), which consist of the following:

Zoning District	Residential Density	FAR
▪ Village Commercial/Industrial (V-C/I)	--	1.1:1.0 [a]
▪ Village Main Street (V-MS)	10 DU/AC	0.25:1.0 [b]
	30 DU/AC	0.25:1.0 [b]
▪ Village Commercial/Residential (V-C/R)	30 DU/AC	0.25:1.0 [b]
	50 DU/AC	0.25:1.0 [b]
▪ Community Facilities (CF)	30 DU/AC	0.7:1.0 [c]
▪ Recreation (REC)	--	0.1-0.2:1.0

Notes:
[a] = Approved FAR range is 0.75-1.5:1.0
[b] = FAR was not provided, therefore a ratio of 0.25:1.0 has been assumed as part of the project
[c] = Approved FAR range is 0.4-1.0:1.0

For future development, parcels within the V-C/I district are assumed to be a mixture of industrial, commercial and office use. Parcels within the V-C/R and V-MS districts are assumed to be a mixture of residential and commercial uses. Parcels within CF and REC districts are assumed to remain as existing. The proportion for V-C/I future land uses were determined based on coordination with City Staff whereas proportions for V-C/R future land uses were determined based on existing land use information. Please note that V-C/R also allows for office uses, however, only commercial uses were assumed to be conservative. The V-MS district is planned for ground floor commercial with residential above and therefore future land use splits are not required.

The future development potential of the Project includes up to 251,533 SF industrial land uses, 68,599 office land uses, 364,902 SF commercial land uses, 1,256 DU multifamily housing, 2 DU single-family detached housing, and 11,204 SF church. Comparison of the proposed uses to the existing uses shows that the Project would result in an "net" increase of 113,804 SF of general light industrial uses, 11,412 SF of general office building uses, 192,401 SF of commercial uses, 983 DU of multifamily housing and a reduction of 35,486

SF of church space and 11 single family units, 160 DU mobile home park and 101,300 SF of other land uses.

- The future land uses are forecast to generate 7,256 more weekday daily trips, with 312 more trips during the AM peak hour and 619 more trips during the PM peak hour, and 7,618 more Saturday daily trips with 663 more trips during the Saturday Midday peak hour when compared to the existing land uses. The "net" trip generation potential will be analyzed in this report.

Study Area

- The following twenty-two (22) key study intersections and fourteen (14) roadway segments were selected for evaluation in this report, all of which provide local and/or regional access within the Project study area. The jurisdiction where each key study intersection/roadway segment is located is also identified with the following nomenclature: DP = City of Dana Point, SJC = City of San Juan Capistrano, and Caltrans.

Key Study Intersections

1. Camino Capistrano at Avenida Aeropuerto (SJC)
2. Camino Capistrano at Stonehill Drive/I-5 NB On-Ramp (SJC/Caltrans)
3. Camino Capistrano at Camino Capistrano (DP/SJC)
4. Camino Capistrano at Costco Driveway (DP/SJC)
5. Doheny Park Road at Victoria Boulevard (DP)
6. Doheny Park Road at Domingo Avenue (DP)
7. Doheny Park Road at Las Vegas Avenue/PCH Ramps (DP/Caltrans)
8. Doheny Park Road at PCH WB On-Ramp (DP/Caltrans)
9. Doheny Park Road at PCH EB On-Ramp (DP/Caltrans)
10. Doheny Park Road at PCH Side Path (DP/Caltrans)
11. Camino Capistrano at Sepulveda Avenue (DP)
12. Sepulveda Avenue at Victoria Boulevard (DP)
13. Sepulveda Avenue at Domingo Avenue (DP)
14. Camino Capistrano at Victoria Boulevard (DP)
15. Doheny Park Plaza at PCH (DP)
16. Del Obispo Street at PCH (DP)
17. Del Obispo Street at Stonehill Drive (DP)
18. Doheny Park Road at Smart & Final Driveway (DP)
19. I-5 SB Ramps at PCH/Camino Las Ramblas (DP/Caltrans)
20. I-5 NB Ramps at PCH/Camino Las Ramblas (SJC/Caltrans)
21. Camino Capistrano at I-5 SB Ramps (SJC/Caltrans)

22. Proposed Ganahl Lumber Driveway at Stonehill Drive (SJC)

Key Roadway Segments

A. Camino Capistrano west of Doheny Park Road (DP)
B. Doheny Park Road south of Camino Capistrano (DP)
C. Victoria Boulevard west of Doheny Park Road (DP)
D. Domingo Avenue west of Doheny Park Road (DP)
E. Las Vegas Avenue west of Doheny Park Road (DP)
F. Victoria Boulevard east of Doheny Park Road (DP)
G. Domingo Avenue east of Doheny Park Road (DP)
H. Camino Capistrano south of Victoria Boulevard (DP)
I. Camino Capistrano south of Sepulveda Avenue (DP)
J. Sepulveda Avenue, between Camino Capistrano and Victoria Boulevard (DP)
K. Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto (SJC)
L. Camino Capistrano, between Avenida Aeropuerto and Stonehill Drive (SJC)
M. Camino Capistrano, between Stonehill Drive and Costco Driveway (DP/SJC)
N. Stonehill Drive, between Camino Capistrano and Del Obispo Street (DP/SJC)

Level of Service (LOS) analyses of the above-identified study intersections and roadway segments were completed in conformance with the City of Dana Point General Plan Circulation Element Performance Criteria and Level of Service (LOS) standards/thresholds, as well as in consideration of the City of San Juan Capistrano guidelines to evaluate the traffic implications/circulation needs associated with area growth, cumulative projects and the proposed Project.

Future Traffic Conditions

- The Year 2045 traffic volume forecasts for this traffic study were developed via the utilization of the OCTAM 5.0 Year 2045 traffic model. To account for additional growth within the study area, cumulative project traffic was included in addition to the modeled traffic volumes. There are a total of thirty-three (33) cumulative projects that have been included as part of the background setting. The thirty-three (33) cumulative projects are expected to generate a combined total of 37,301 weekday daily trips (one half arriving, one half departing) on a "typical" weekday, with 2,512 trips (1,088 inbound and 1,424 outbound) forecast during the AM peak hour, 2,782 trips (1,562 inbound and 1,220 outbound) forecast during the PM peak hour, and 44,102 Saturday daily trips (one half arriving, one half departing), with 3,799 trips (2,046 inbound and 1,753 outbound) forecast during the Saturday Midday peak hour.

Existing Plus Project Conditions Traffic Analysis

- ***City of Dana Point Intersections:*** All seventeen (17) key study intersections located in the City of Dana Point will continue to operate at acceptable level of service during the weekday

AM, PM and Saturday Midday peak hours with the addition of project generated traffic to existing traffic.

- ***City of San Juan Capistrano Intersections:*** One (1) of the key study intersections exceeds the level of service thresholds, which is the Proposed Ganahl Lumber Driveway/Stonehill Drive (Intersection #22). However, although the intersection exceeds the level of service thresholds, there are planned improvements at this location which has been included as part of Year 2045 buildout traffic conditions. Therefore, additional improvements at this intersection are not necessary.

- ***City of Dana Point Roadway Segments:*** One (1) roadway segment (Roadway Segment N) exceeds the level of service thresholds. However, there are planned improvements at this location which has been included as part of Year 2045 buildout traffic conditions. Therefore, additional improvements are not necessary.

- ***City of San Juan Capistrano Roadway Segments:*** All four (4) roadway segments located within the City of San Juan Capistrano are forecast to operate at acceptable level of service during both the weekday and Saturday with the addition of project generated traffic.

Year 2045 Buildout Plus Project Conditions Traffic Analysis

- ***City of Dana Point Intersections:*** Two (2) of the key study intersections exceed the level of service thresholds, which include Camino Capistrano/Camino Capistrano (Intersection #3) and Doheny Park Road/Las Vegas Avenue/PCH Ramps (Intersection #7). The implementation of the planned improvements at the intersection of Doheny Park Road/Las Vegas Avenue/PCH Ramps (Intersection #7) will offset the Project's increment and help achieve acceptable level of service at the study intersection.

  The intersection of Camino Capistrano/Camino Capistrano (Intersection #3) exceeds the level of service thresholds and the location also satisfies the criteria for the peak hour traffic signal warrant during the Saturday Midday peak hour. However, physical improvements at this location are not feasible. The installation of a traffic signal at this location is not recommended due to the intersection being in close proximity to the signalized intersection of Camino Capistrano/Costco Driveway, which could potentially cause queueing issues along the major roadway. Additionally, it is not uncommon for minor streets at unsignalized intersections to experience longer delay due to the heavy volumes on the major street. Therefore, this location will remain unchanged.

- ***City of San Juan Capistrano Intersections:*** One (1) of key study intersection exceeds the level of service thresholds, which is Camino Capistrano/Stonehill Drive/I-5 NB On-Ramp (Intersection #2). The implementation of recommended improvements will offset the project's increment and help achieve acceptable level of service at the study intersection.

- ***City of Dana Point Roadway Segments:*** Two (2) roadway segments (Roadway Segments M and N) exceed the level of service thresholds. A peak hour link assessment was also completed at the two (2) roadway segments and indicates that the proposed project will not exceed the level of service thresholds at either of the roadway segments during the critical peak hours. As such, improvements at these locations are not recommended.

- ***City of San Juan Capistrano Roadway Segments:*** All four roadway segments located within the City of San Juan Capistrano are forecast to operate at acceptable level of service during both the weekday and Saturday under Year 2045 Buildout Plus Project traffic conditions.

State of California (Caltrans) Analysis

- ***Existing Plus Project Traffic Conditions:*** All of the eight (8) state-controlled study intersections will continue to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours with the addition of project generated traffic.

- ***Year 2045 Buildout Plus Project Traffic Conditions:*** Two (2) of the state-controlled study intersections exceed the level of service thresholds, which include Camino Capistrano/Stonehill Drive/I-5 NB On-ramp (Intersection #2) and Doheny Park Road/Las Vega Avenue/PCH Ramps (Intersection #7). The implementation of recommended improvements will offset the project's increment and help achieve acceptable level of service at the study intersections.

- ***Freeway Off-Ramp Queueing Analysis:*** The off-ramp queues under Existing Plus Project and Year 2045 Buildout traffic conditions are adequate at all four (4) study intersections during the weekday AM, PM and Saturday Midday peak hours. As such, it can be concluded that the proposed Project will not cause the off-ramp queues to affect the freeway mainline.

Planned Traffic Improvements

- The Cities of Dana Point and San Juan Capistrano, as well as the proposed Ganahl Lumber Development Project located in San Juan Capistrano, intend to implement improvements along Stonehill Drive. These improvements have been included within the Year 2045 Buildout traffic conditions and include the following:

  Intersections

  - **Intersection 17 – Del Obispo Street at Stonehill Drive:** Widen to accommodate a third eastbound through lane. Modify existing traffic signal as needed. These improvements are consistent with the Cities of Dana Point and/or San Juan Capistrano planned improvements.

  - **Intersection 22 – Proposed Ganahl Lumber Driveway at Stonehill Drive:** Install a five-phase (E/W protected) traffic signal at the intersection. Restripe the intersection to include a northbound left-turn, northbound shared through/right-turn, southbound shared

left/through, southbound right-turn, eastbound left-turn, three (3) eastbound through lanes, eastbound right-turn, westbound left-turn, two (2) westbound through lanes, and westbound right-turn. These improvements are consistent with the improvements identified as part of the Ganahl Lumber Development Project and are also consistent with the Cities of Dana Point and/or San Juan Capistrano planned improvements.

Roadway Segments

- **Segment N – Stonehill Drive Between Obispo Street at Stonehill Drive:** Restripe Stonehill Drive to accommodate a third eastbound through lane. These improvements are consistent with the Cities of Dana Point and/or San Juan Capistrano planned improvements.

Existing Plus Project Recommended Improvements

- ***Intersections:*** One (1) of the twenty-two key study intersections exceeds the level of service thresholds under the "Existing Plus Project" traffic scenario, which includes Proposed Ganahl Lumber Driveway/Stonehill Drive (intersection #22). However, planned improvements at the intersection will help improve level of service. Therefore, no improvements are recommended under this traffic scenario.
- ***Roadway Segments:*** One (1) of the fourteen study roadway segments exceed the level of service thresholds under the "Existing Plus Project" traffic scenario, which includes Roadway Segment N (Stonehill Drive between Camino Capistrano and Del Obispo Street). However, planned improvements at the segment will help improve level of service at the location. Therefore, no improvements are recommended under this traffic scenario.

Year 2045 Buildout Plus Project Recommended Improvements

- ***Intersections:*** Three (3) of the twenty-two key study intersections exceed the level of service thresholds under the "Year 2045 Buildout Plus Project" traffic scenario. This scenario is based on the current traffic model projections and site-specific analysis. Future development activity may alter or result in an update to the recommendations. The recommended improvements for consideration are as follows:

  - **Intersection 2 – Camino Capistrano at Stonehill Drive/I-5 NB On-Ramp:** Restripe the south leg to include northbound dual left-turn lanes, a through lane, and a right-turn lane. Modify the traffic signal to include protected phasing for the northbound and southbound directions. These improvements are subject to the approval of the City of San Juan Capistrano and Caltrans.

  - **Intersection 3 – Camino Capistrano at Camino Capistrano:** No physical mitigation measures are feasible or recommended; service level improvements would require the installation of a signal. However, the installation of a traffic signal at this location is not recommended due to the intersection being in close proximity to the signalized intersection of Camino Capistrano/Costco Driveway, which could potentially cause queueing issues along the major roadway. Additionally, it is not uncommon for minor

streets at unsignalized intersections to experience longer delay due to the heavy volumes on the major street. Therefore, the intersection will remain unchanged, unless site-specific development and associated traffic analysis, or other improvements, alter the configuration of the roadways in this area.

- **Intersection 7 – Doheny Park Road at Las Vegas Avenue/PCH Ramps:** Restripe the westbound shared left/through lane to a shared left/through/right lane. These improvements are subject to the approval of the City of Dana Point and Caltrans.

- ***Roadway Segments:*** Two (2) of the fourteen key roadway segments exceed the level of service thresholds under the "Year 2045 Buildout Plus Project" traffic scenario. However, a peak hour link assessment at the two (2) roadway segments indicate that the segments are forecast to operate at acceptable level of service during the critical peak hours. Therefore, no improvements are recommended under this traffic scenario.
- The recommended roadway improvements associated with the Project were determined based on the Existing Plus Project and Year 2045 Buildout traffic analyses. Per the direction of the Public Works Director/City Engineer, implementation of these recommended improvements will be provided as development, or other improvements, occurs. Funding of those improvements may be required for proposed major development in the project area. Further, the cost of recommended improvements may be shared by the development community and the agencies where these improvements are planned.

CMP Assessment

- The closest study intersection to the CMP location is located at Del Obispo Street at PCH and has a Project increase no greater than 2.2%. Therefore, it can be concluded that the Projects contribution to the CMP intersection would be less than the 10% threshold requirement.

Caltrans Freeway Mainline Segment Analysis

- Basic Freeway Segment Analysis for freeway segments was conducted at six (6) Caltrans freeway segments in the vicinity of the proposed Project:
    1. I-5 Northbound, north of Stonehill Drive
    2. I-5 Northbound, between Stonehill Drive and PCH/Camino Las Ramblas
    3. I-5 Northbound, south of PCH/Camino Las Ramblas
    4. I-5 Southbound, north of Camino Capistrano
    5. I-5 Southbound, between Camino Capistrano and PCH/Camino Las Ramblas
    6. I-5 Southbound, south of PCH/Camino Las Ramblas

- ***Existing Plus Project Traffic Conditions***: Three (3) of the six freeway segments are forecast to operate at an unacceptable level of service during the weekday AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining freeway segments are forecast to operate at acceptable LOS during the weekday

AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at three (3) of the six freeway segments under this traffic scenario.

- ***Year 2045 Buildout Plus Project Traffic Conditions***: Five (5) of the six freeway segments are forecast to operate at an unacceptable level of service during the weekday AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining one (1) freeway segment is forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at five (5) of the six freeway segments under this traffic scenario.

- ***Freeway Segment Traffic Improvements***: The development of the Project is anticipated to exceed level of service thresholds at five (5) of the six mainline freeway segments assessed in the report. However, the I-5 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of Dana Point) can construct or guarantee the construction of any improvements to these freeway segments. Therefore, the level of service deficiencies on freeway study segments assessed in the report are considered unavoidable as there are no feasible improvements that will reduce the mainline level of service to below acceptable thresholds or achieve acceptable service level goals.

Caltrans Freeway Merge/Diverge Ramp Junction Analysis

- The ramp junction analysis includes the following eight (8) junctions:

    1. I-5 Northbound On-Ramp from Stonehill Drive
    2. I-5 Northbound On-Ramp from PCH/Camino Las Ramblas
    3. I-5 Northbound Off-Ramp to PCH/Camino Las Ramblas
    4. I-5 Southbound Off-Ramp to Camino Capistrano
    5. I-5 Southbound On-Ramp from Camino Capistrano
    6. I-5 Southbound Off-Ramp to PCH/Camino Las Ramblas
    7. I-5 Southbound On-Ramp Loop to PCH/Camino Las Ramblas
    8. I-5 Southbound On-Ramp to PCH/Camino Las Ramblas

- ***Existing Plus Project Traffic Conditions***: One (1) of the eight freeway ramps are forecast to operate at an unacceptable level of service during the weekday PM peak hour when compared to the LOS standards defined in this report. The remaining freeway ramps are forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at one (1) of the eight ramp junctions under this traffic scenario.

- ***Year 2045 Buildout Plus Project Traffic Conditions***: Three (3) of the eight freeway ramps are forecast to operate at an unacceptable level of service during the weekday AM, PM

and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining freeway ramps are forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at three (3) of the eight ramp junctions under this traffic scenario.

- ***Freeway Ramp Junction Traffic Improvements***: The development of the Project is anticipated to exceed level of service thresholds at three (3) of the eight freeway ramp junctions assessed in the report. However, the I-5 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of Dana Point) can construct or guarantee the construction of any improvements to these ramp junctions. Therefore, the level of service deficiencies on freeway ramp junctions assessed in the report are considered unavoidable as there are no feasible improvements that will reduce the level of service to below acceptable thresholds or achieve acceptable service level goals.

TRAFFIC ANALYSIS REPORT

DOHENY VILLAGE ZONING DISTRICT OVERLAY

Dana Point, California

April 26, 2021 (Original dated August 26, 2020)

1.0 INTRODUCTION

This traffic analysis evaluates the potential traffic and circulation needs associated with the proposed Doheny Village Zoning District Overlay Project (hereinafter referred to as Project) located in the City of Dana Point, California. The Project site is generally located north of Pacific Coast Highway, south of Stonehill Drive, east of the OCTA Metrolink Railroad tracks, and west of the I-5 Freeway. The proposed Project includes a zoning ordinance for a new overlay which will require changes/modifications to the City's zoning code. The purpose and intent of the proposed Project is to preserve and enhance the eclectic combination of commercial, light industrial, and residential mixed uses in Doheny Village. The overlay will provide for three new zoning districts specific within the Project area.

1.1 Scope of Work

This report documents the findings and recommendations of a traffic analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) in conformance with the City of Dana Point General Plan Circulation Element Performance Criteria and Level of Service (LOS) standards/thresholds. The traffic analysis evaluates the operating conditions at twenty-two (22) key study intersections and fourteen (14) roadway segments within the Project vicinity, estimates the trip generation potential of the Project, estimates the trip generation potential of the cumulative projects, and forecasts future (existing and buildout) operating conditions without and with the Project.

Information concerning cumulative projects (planned and/or approved) in the vicinity of the Project has been researched at the City of Dana Point. Based on our research, there are thirty-three (33) planned and/or approved projects within the study area. These thirty-three (33) related projects were considered in the buildout traffic analysis for this Project and assumed to be completed either before or within the same timeline of the Project to provide a conservative traffic assessment.

This traffic analysis satisfies the traffic analysis requirements of the Cities of Dana Point and San Juan Capistrano and in consideration of the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County.*

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing traffic count information has been compiled to document existing weekday and Saturday traffic flow conditions and is utilized in this report in support of a detailed intersection capacity analysis.

1.2 Study Area

The following twenty-two (22) key study intersections and fourteen (14) roadway segments were selected for evaluation in this report, all of which provide local and/or regional access within the Project study area. The jurisdiction where each key study intersection/roadway segment is located is also identified with the following nomenclature: DP = City of Dana Point, SJC = City of San Juan Capistrano, and Caltrans.

Key Study Intersections

1. Camino Capistrano at Avenida Aeropuerto (SJC)
2. Camino Capistrano at Stonehill Drive/I-5 NB On-Ramp (SJC/Caltrans)
3. Camino Capistrano at Camino Capistrano (DP/SJC)
4. Camino Capistrano at Costco Driveway (DP/SJC)
5. Doheny Park Road at Victoria Boulevard (DP)
6. Doheny Park Road at Domingo Avenue (DP)
7. Doheny Park Road at Las Vegas Avenue/PCH Ramps (DP/Caltrans)
8. Doheny Park Road at PCH WB On-Ramp (DP/Caltrans)
9. Doheny Park Road at PCH EB On-Ramp (DP/Caltrans)
10. Doheny Park Road at PCH Side Path (DP/Caltrans)
11. Camino Capistrano at Sepulveda Avenue (DP)
12. Sepulveda Avenue at Victoria Boulevard (DP)
13. Sepulveda Avenue at Domingo Avenue (DP)
14. Camino Capistrano at Victoria Boulevard (DP)
15. Doheny Park Plaza at PCH (DP)
16. Del Obispo Street at PCH (DP)
17. Del Obispo Street at Stonehill Drive (DP)
18. Doheny Park Road at Smart & Final Driveway (DP)
19. I-5 SB Ramps at PCH/Camino Las Ramblas (DP/Caltrans)
20. I-5 NB Ramps at PCH/Camino Las Ramblas (SJC/Caltrans)
21. Camino Capistrano at I-5 SB Ramps (SJC/Caltrans)
22. Proposed Ganahl Lumber Driveway at Stonehill Drive (SJC)

Key Roadway Segments

A. Camino Capistrano west of Doheny Park Road (DP)
B. Doheny Park Road south of Camino Capistrano (DP)
C. Victoria Boulevard west of Doheny Park Road (DP)
D. Domingo Avenue west of Doheny Park Road (DP)
E. Las Vegas Avenue west of Doheny Park Road (DP)
F. Victoria Boulevard east of Doheny Park Road (DP)

G. Domingo Avenue east of Doheny Park Road (DP)
H. Camino Capistrano south of Victoria Boulevard (DP)
I. Camino Capistrano south of Sepulveda Avenue (DP)
J. Sepulveda Avenue, between Camino Capistrano and Victoria Boulevard (DP)
K. Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto (SJC)
L. Camino Capistrano, between Avenida Aeropuerto and Stonehill Drive (SJC)
M. Camino Capistrano, between Stonehill Drive and Costco Driveway (DP/SJC)
N. Stonehill Drive, between Camino Capistrano and Del Obispo Street (DP/SJC)

Figure 1-1 presents a vicinity map which identifies the locations of the study intersections and roadway segments, and the jurisdiction at which it is located.

1.3 Traffic Analysis Components

The Intersection Capacity Utilization (ICU), Highway Capacity Manual (HCM), and corresponding Level of Service (LOS) calculations at the key study intersections and roadway segments were used. When necessary, this report recommends intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service per City's General Plan Circulation Element.

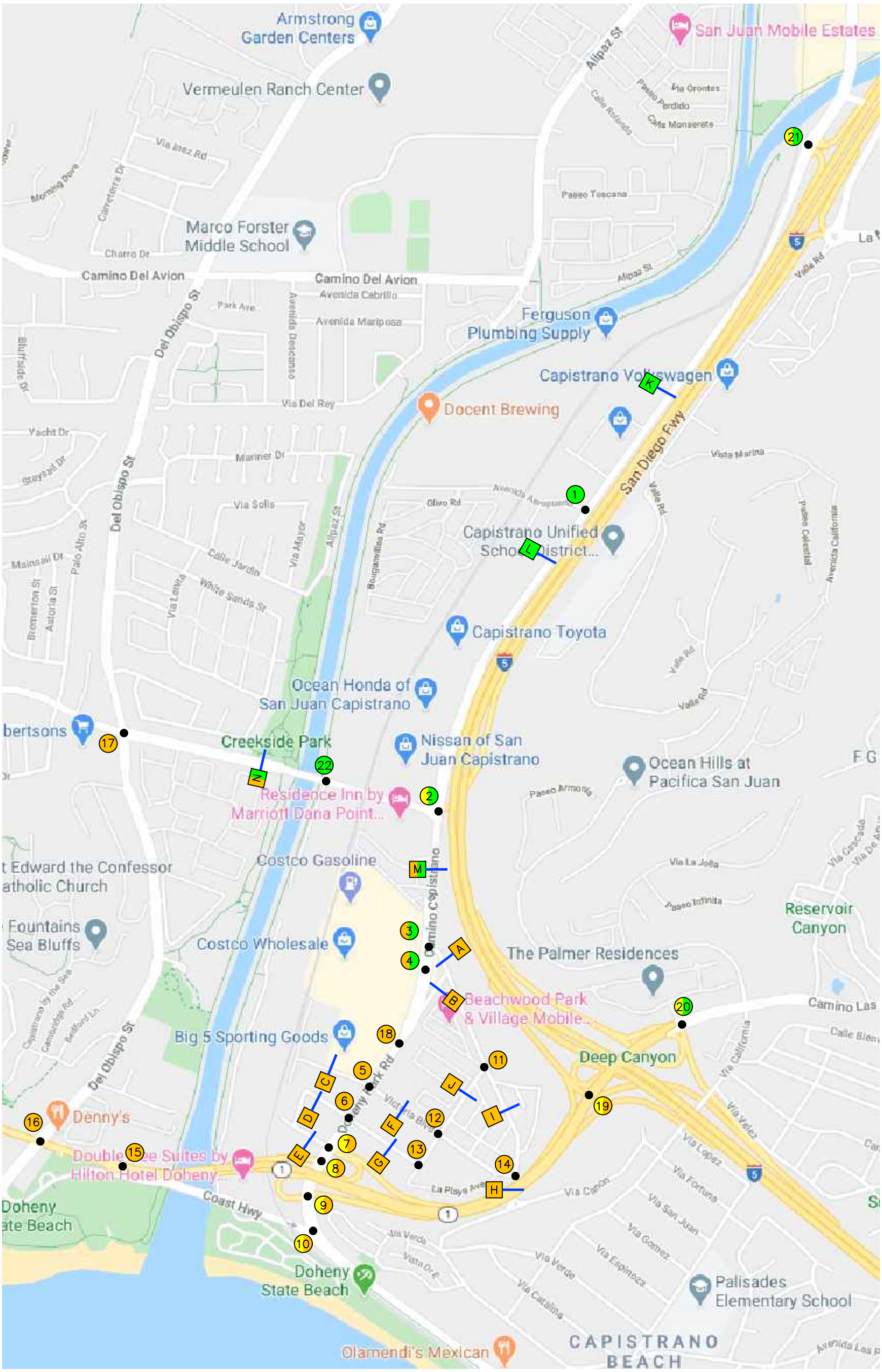
Included in this Traffic Analysis are:

- Existing Traffic Counts,
- Estimated Project traffic generation/distribution/assignment,
- Estimated Cumulative Projects traffic generation/distribution/assignment,
- Weekday Daily, AM and PM peak hour, as well as Saturday Daily and Midday peak hour LOS analyses for Existing Conditions,
- Weekday Daily, AM and PM peak hour, as well as Saturday Daily and Midday peak hour LOS analyses for Existing Conditions with Project traffic,
- Weekday Daily, AM and PM peak hour, as well as Saturday Daily and Midday peak hour LOS analyses for Year 2045 Conditions without and with Project traffic, and
- Caltrans Analysis and Freeway Off-Ramp Queueing Analysis,
- Recommended Improvements,
- Congestion Management Program (CMP) Compliance Assessment, and
- Caltrans Freeway Analysis.

1.4 Traffic Analysis Scenarios

The following scenarios are those for which ICU/HCM and corresponding LOS calculations have been performed at the key intersections and roadway segments for Existing and Year 2045 traffic conditions:

A. Existing Traffic Conditions,
B. Existing Plus Project Traffic Conditions,
C. Scenario (B) with Recommended Improvements, if any,
D. Year 2045 Buildout Traffic Conditions,
E. Year 2045 Buildout Plus Project Traffic Conditions, and
F. Scenario (E) With Recommended Improvements, if any.



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SOURCE: GOOGLE

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = DANA POINT INTERSECTION

(#) = SAN JUAN CAPISTRANO INTERSECTION

(#) = CALTRANS INTERSECTION

[#] = DANA POINT ROADWAY SEGMENT

[#] = SAN JUAN CAPISTRANO ROADWAY SEGMENT

FIGURE 1-1

VICINITY MAP

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

2.0 PROJECT DESCRIPTION AND LOCATION

The Project study area, commonly referred to as Doheny Village, is generally located north of Pacific Coast Highway, south of Stonehill Drive, east of the OCTA Metrolink Railroad tracks, and west of the I-5 Freeway in the City of Dana Point, California. The project site is currently developed with a wide range of commercial, industrial, institutional, and residential land uses totaling 55.96± acres. ***Figure 2-1*** presents an existing aerial of the project site.

2.1 Existing Land Uses and Entitlements

Based on the City of Dana Point General Plan Land Use Map, the project site is currently designated for Community Commercial (CC), Commercial/Residential (C/R), Residential 22-30 DU/AC (Res 22-30), Community Facility (CF) and Recreation/Open Space (R/OS) and is situated within the Coastal Overlay Boundary. ***Figure 2-2*** presents the existing General Plan land use map for the study area.

Based on the City of Dana Point Zoning Map, the project site is zoned for Community Commercial/Vehicle (CC/V), Community Commercial/Pedestrian (CC/P), Commercial/Residential (C/R), Residential Multiple Family 30 DU/AC (RMF 30), Community Facilities (CF), and Recreation (REC) and is situated within the Floodplain Overlay (FP-2) district. ***Figure 2-3*** presents the existing zoning map for the study area.

The City of Dana Point provided their GIS database which was utilized to document existing land use information, building square footages, residential dwelling unit (DU) and acreages on a parcel-by-parcel basis which were then combined into Zones 1 through 26. Column (1) of ***Table 2-1*** and ***Table 2-2*** presents the existing development totals for each zone. ***Figure 2-4*** presents the location of Zones 1 through 26.

2.2 Proposed Project Development

The purpose of the Project is to preserve and enhance the eclectic combination of commercial, light industrial, and residential mixed-use in the area and achieve an integrated neighborhood-serving business and residential environment. Residential uses in the area provide housing near sources of employment or commercial and professional services, which is intended to add to the City's supply of affordable housing, reduce commutes between home and work, and promote a strong, stable, and desirable pedestrian-oriented environment.

As such, the proposed Project includes a zoning ordinance for a new overlay, and proposes the following amendments to the City's zoning code:

- Rezone commercial to commercial/light industrial mixed-use,
- Rezone commercial frontage to vertical commercial/residential mixed-use,
- Rezone existing vertical commercial/residential mixed-use to horizontal mixed-use,
- Increase residential density from 10 du/ac to 30-50 du/ac, and
- Flexible development standards, including parking reductions

Upon implementation of the proposed Project, five (5) zoning districts have been established in the overlay area which include Village Commercial/Industrial (V-C/I), Village Main Street (V-MS), Village Commercial/Residential (V-C/R), Community Facilities (CF), and Recreation (REC). ***Figure 2-5*** illustrates the updated zoning districts as part of the Project. Parcels zoned for CF and REC will maintain their existing zoning district. The other three (3) districts are new as part of the zoning code update and consist of the following:

- **Village Commercial/Industrial (V-C/I)** – The V-C/I district includes a mixture of commercial, office and light industrial uses.
- **Village Main Street (V-MS)** – The V-MS district is intended to accommodate mixed-use buildings with neighborhood serving retail, service, and other uses on the ground floor, and commercial or residential uses above non-residential space.
- **Village Commercial/Residential (V-C/R)** – The V-C/R district includes a mixture of commercial, office and residential uses.

The implementation of the proposed Project would also require a General Plan Amendment to reflect the new zoning district classifications via appropriate land use designations, development intensity, and density standards. Each district was categorized into the same zones as the existing development (Zones 1 through 26), as shown in *Figure 2-4*, to determine future land uses. Column (2) of *Table 2-1* presents the future development totals for each zone.

Future land use sizes were determined based on proposed residential densities and floor-to-area ratios (FAR), which consist of the following:

Zoning District	Residential Density	FAR
▪ Village Commercial/Industrial (V-C/I)	--	1.1:1.0 [a]
▪ Village Main Street (V-MS)	10 DU/AC	0.25:1.0 [b]
	30 DU/AC	0.25:1.0 [b]
▪ Village Commercial/Residential (V-C/R)	30 DU/AC	0.25:1.0 [b]
	50 DU/AC	0.25:1.0 [b]
▪ Community Facilities (CF)	30 DU/AC	0.7:1.0 [c]
▪ Recreation (REC)	--	0.1-0.2:1.0

Notes:
[a] = Approved FAR range is 0.75-1.5:1.0
[b] = FAR was not provided, therefore a ratio of 0.25:1.0 has been assumed as part of the project
[c] = Approved FAR range is 0.4-1.0:1.0

Figure 2-5 also includes the proposed land use designations, intensities, and densities. Review of *Tables 2-1 and Table 2-2* indicates that for future development, parcels within the V-C/I district are assumed to be a mixture of industrial, commercial and office use. Parcels within the V-C/R and V-MS districts are assumed to be a mixture of residential and commercial uses. Parcels within CF and REC districts are assumed to remain as existing. The proportion for V-C/I future land uses were determined based on coordination with City Staff whereas proportions for V-C/R future land uses were determined based on existing land use information. Please note that V-C/R also allows for office uses, however, only commercial uses were assumed to be conservative. The V-MS district is planned for ground floor commercial with residential above and therefore future land use splits are not required.

As shown in the last row of *Table 2-2*, the future development potential of the Project includes up to 251,533 SF industrial land uses, 68,599 office land uses, 364,902 SF commercial land uses, 1,256 DU multifamily housing, 2 DU single family detached housing, and 11,204 SF church. Comparison of the proposed uses to the existing uses shows that the Project would result in an "net" increase of 113,804 SF of general light industrial uses, 11,412 SF of general office building uses, 192,401 SF of commercial uses, 983 DU of multifamily housing and a reduction of 35,486 SF of church space and 11 single family units, 160 DU mobile home park and 101,300 SF of other land uses.

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY
= PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

LAND USE DESIGNATIONS

	RES 0-3.5	Residential 0-3.5 DU/AC
	RES3.5-7	Residential 3.5-7 DU/AC
	RES 7-14	Residential 7-14 DU/AC
	RES 14-22	Residential 14-22 DU/AC
	RES 22-30	Residential 22-30 DU/AC
	NC	Neighborhood Commercial
	CC	Community Commercial
	V/RC	Visitor/Recreation Commer
	C/R	Commercial/Residential
	P/A	Prof. / Admin.
	I/BP	Industrial/Business Park
	CF	Community Facility
	R/OS	Recreation/Open Space
	HML	Harbor Marine Land
	HMW	Harbor Marine Water
	R/R	45% Res 3.5-7 & 55% Recre

CITY BOUNDARY

COASTAL OVERLAY BOUNDARY

HEADLANDS SPECIFIC PLAN BOUNDARY

MONARCH BEACH SPECIFIC PLAN BOUNDARY

WATER

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LINSCOTT LAW & GREENSPAN engineers

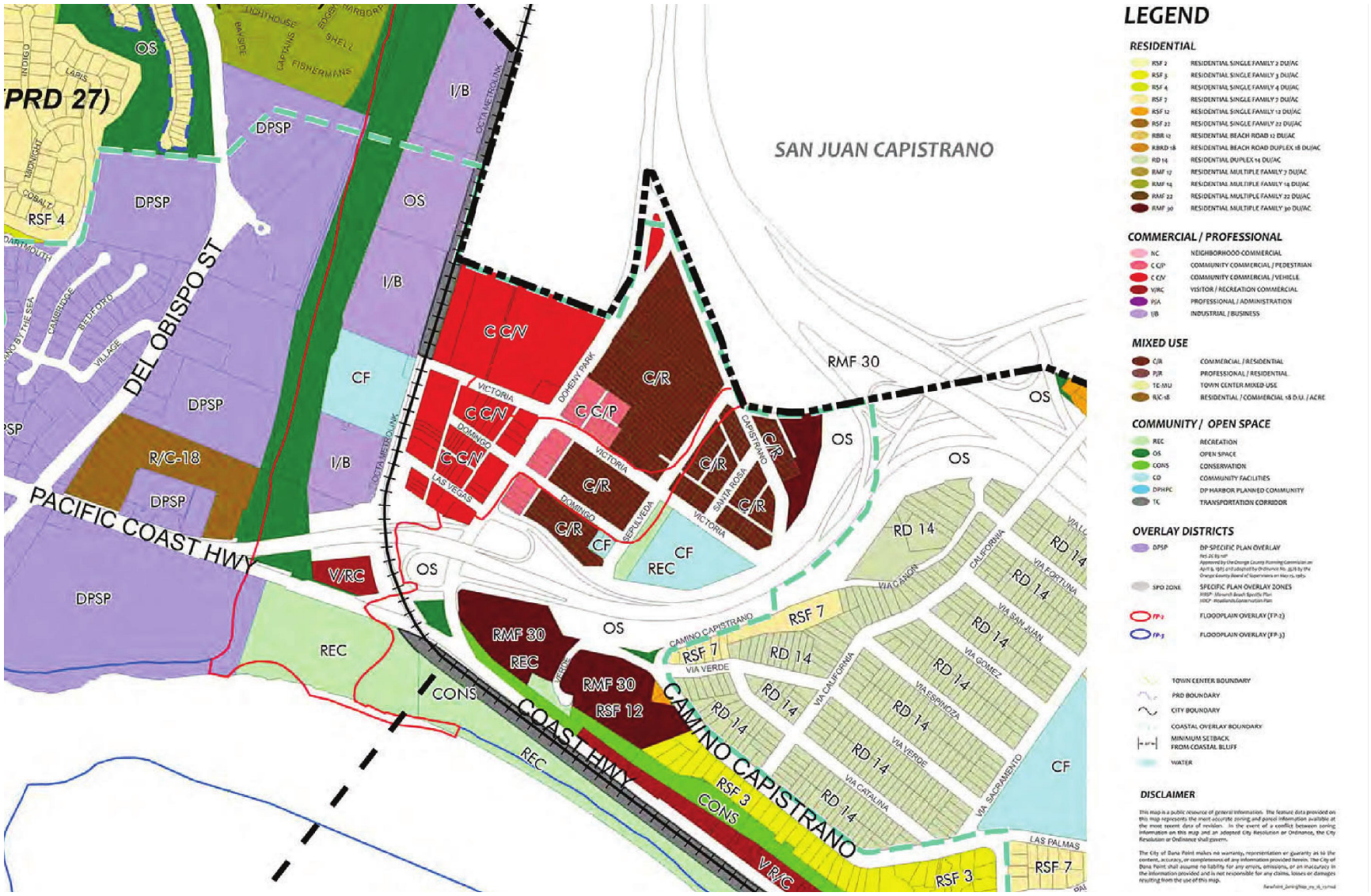
N NO SCALE

SOURCE: CITY OF DANA POINT

FIGURE 2-2

EXISTING GENERAL PLAN LAND USE MAP

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT



SOURCE: CITY OF DANA POINT

NO SCALE

FIGURE 2-3

EXISTING ZONING MAP

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

TABLE 2-1
PROJECT DEVELOPMENT SUMMARY

Zoning District	Lot Area (SF)	Lot Area (AC)	Land Use	(1) Existing Development	(2) Future Development
Village Commercial/Industrial (V-C/I)					
❑ Zone 1	156,977 SF	3.60 AC	Mini Warehouse	108,876 SF	--
			General Light Industrial	--	94,971 SF
			General Office Building	--	25,901 SF
			Commercial	--	51,802 SF
❑ Zone 2	161,129 SF	3.71 AC	Marina	144 dry slips	--
			Auto Care Center	1,939 SF	--
			General Light Industrial	9,499 SF	97,483 SF
			General Office Building	3,515 SF	26,586 SF
			Commercial	1,401 SF	53,173 SF
❑ Zone 3	33,208 SF	0.74 AC	General Light Industrial	7,284 SF	20,091 SF
			General Office Building	1,200 SF	5,479 SF
			Commercial	--	10,959 SF
❑ Zone 4	27,042 SF	0.61 AC	General Light Industrial	2,400 SF	16,360 SF
			General Office Building	2,400 SF	4,462 SF
			Commercial	--	8,924 SF
			Auto Care Center	3,600 SF	--
❑ Zone 5	37,402 SF	0.84 AC	Museum	5,100 SF	--
			General Light Industrial	7,820 SF	22,628 SF
			General Office Building	9,534 SF	6,171 SF
			Commercial	--	12,343 SF
Village Main Street (V-MS) (30 DU/AC)					
❑ Zone 6	305,124 SF	7.00 AC	Commercial	76,785 SF	76,281 SF
			Multifamily Housing (Mid-Rise)	--	210 DU
			Gas Station with Convenience Market	8 VFP	--
❑ Zone 10	30,342 SF	0.70 AC	Commercial	1,300 SF	7,586 SF
			Multifamily Housing (Mid-Rise)	--	21 DU
			Auto Care Center	3,800 SF	--
❑ Zone 11	69,259 SF	1.60 AC	Commercial	13,505 SF	17,315 SF
			Multifamily Housing (Mid-Rise)	--	48 DU

Notes:

- SF = square feet; AC = acres; DU = dwelling units; VFP = vehicle fueling positions

TABLE 2-1 (CONTINUED)
PROJECT DEVELOPMENT SUMMARY

Zoning District	Lot Area (SF)	Lot Area (AC)	Land Use	(1) Existing Development	(2) Future Development
V-MS (30 DU/AC) (Continued)					
❑ Zone 12	37,926 SF	0.88 AC	Commercial	8,668 SF	9,482 SF
			Multifamily Housing (Mid-Rise)	--	26 DU
❑ Zone 13	29,584 SF	0.68 AC	Commercial	8,700 SF	7,396 SF
			Multifamily Housing (Mid-Rise)	--	20 DU
Village Main Street (V-MS) (10 DU/AC)					
❑ Zone 7	30,810 SF	0.71 AC	Commercial	12,656 SF	7,703 SF
			Multifamily Housing (Mid-Rise)	--	7 DU
❑ Zone 8	44,806 SF	1.03 AC	Commercial	13,567 SF	11,202 SF
			Multifamily Housing (Mid-Rise)	--	10 DU
❑ Zone 9	16,448 SF	0.38 AC	Commercial	1,188 SF	4,112 SF
			Multifamily Housing (Mid-Rise)	--	4 DU
Village Commercial/Residential (V-C/R) (50 DU/AC)					
❑ Zone 14	585,224 SF	13.43 AC	Commercial	8,558 SF	42,429 SF
			Multifamily Housing (Mid-Rise)	--	477 DU
			Mobile Home Park	160 DU	--
Village Commercial/Residential (V-C/R) (30 DU/AC)					
❑ Zone 15	151,092 SF	3.47 AC	Commercial	--	10,954 SF
			Multifamily Housing (Low-Rise)	--	74 DU
			Church	35,486 SF	--
❑ Zone 16	94,886 SF	2.18 AC	Commercial	--	6,879 SF
			Multifamily Housing (Low-Rise)	24 DU	46 DU
			General Office Building	4,862 SF	--
❑ Zone 17	28,705 SF	0.67 AC	Commercial	2,475 SF	2,081 SF
			Multifamily Housing (Low-Rise)	--	14 DU
			General Office Building	6,460 SF	--
			General Light Industrial	1,850 SF	--
❑ Zone 18	39,532 SF	0.91 AC	Commercial	6,714 SF	2,866 SF
			Multifamily Housing (Low-Rise)	8 DU	19 DU
			General Office Building	2,059 SF	--
			Single Family Detached Housing	1 DU	--

Notes:

- SF = square feet; AC = acres; DU = dwelling units; VFP = vehicle fueling positions

TABLE 2-1 (CONTINUED)
PROJECT DEVELOPMENT SUMMARY

Zoning District	Lot Area (SF)	Lot Area (AC)	Land Use	(1) Existing Development	(2) Future Development
V-C/R (30 DU/AC) (Continued)					
❑ Zone 19	29,864 SF	0.70 AC	Commercial	--	2,165 SF
			Multifamily Housing (Low-Rise)	--	15 DU
			Single Family Detached Housing	6 DU	--
❑ Zone 20	31,289 SF	0.72 AC	Commercial	--	2,268 SF
			Multifamily Housing (Mid-Rise)	8 DU	15 DU
			Fire Station	9,300 SF	--
❑ Zone 21	32,244 SF	0.75 AC	Commercial	--	2,338 SF
			Multifamily Housing (Low-Rise)	--	16 DU
			General Office Building	8,746 SF	--
			Single Family Detached Housing	3 DU	--
❑ Zone 22	24,577 SF	0.56 AC	Commercial	--	1,782 SF
			Multifamily Housing (Low-Rise)	--	12 DU
			General Office Building	11,438 SF	--
❑ Zone 23	33,114 SF	0.77 AC	Commercial	--	2,401 SF
			Multifamily Housing (Low-Rise)	8 DU	16 DU
			General Office Building	3,643 SF	--
			Single Family Detached Housing	1 DU	--
			Daycare	1,776 SF	--
❑ Zone 24	144,293 SF	3.33 AC	Commercial	4,457 SF	10,461 SF
			Multifamily Housing (Low-Rise)	225 DU	71 DU
			General Office Building	3,330 SF	--
			Auto Care Center	1,998 SF	--
			Daycare	3,956 SF	--
			Athletic Club	2,661 SF	--
Community Facilities (CF)					
❑ Zone 25[1]	244,019 SF	5.60 AC	Bus Storage	19,300 SF	--
			Multifamily Housing (Low-Rise)	--	135 DU
❑ Zone 26	16,814 SF	0.39 AC	Church	11,204 SF	11,204 SF
			Single Family Detached Housing	2 DU	2 DU

Notes:

- SF = square feet; AC = acres; DU = dwelling units; VFP = vehicle fueling positions

[1] Please note that Victoria Boulevard Apartments has been included as a cumulative project within Zone 25 (refer to *Table 6-1*).

TABLE 2-2
TOTAL PROJECT DEVELOPMENT SUMMARY

Zoning District	Land Use	(1) Existing Development	(2) Future Development
❑ Village Commercial/Industrial (V-C/I)	General Light Industrial	135,879 SF	251,533 SF (55.0%)
	General Office Building	16,649 SF	68,599 SF (15.0%)
	Commercial	6,940 SF	137,201 SF (30.0%)
	Other Land Uses[2]	64,307 SF	--
❑ Village Main Street (V-MS) (30 DU/AC)	Commercial	113,948 SF	118,060 SF
	Multifamily Housing (Mid-Rise)	--	325 DU
❑ Village Main Street (V-MS) (10 DU/AC)	Commercial	27,411 SF	23,017 SF
	Multifamily Housing (Mid-Rise)	--	21 DU
❑ Village Commercial/Residential (V-C/R) (50 DU/AC)	Commercial	8,558 SF	42,429 SF (29.0%)
	Multifamily Housing (Low-Rise)	--	477 DU (71.0%)
	Mobile Home Park	160 DU	--
❑ Village Commercial/Residential (V-C/R) (30 DU/AC)	Commercial	15,644 SF	44,195 SF (29.0%)
	Multifamily Housing (Low-Rise)	273 DU	298 DU (71.0%)
	Single-Family Detached Housing	11 DU	--
	General Office Building	40,538 SF	--
	General Light Industrial	1,850 SF	--
	Church	35,486 SF	--
	Other Land Uses[2]	17,693 SF	--
❑ Community Facilities (CF)	Multifamily Housing (Low-Rise)	--	135 DU
	Church	11,204 SF	11,204 SF
	Single Family Detached Housing	2 DU	2 DU
	Other Land Uses[2]	19,300 SF	--
❑ ***Total Development Potential***	***General Light Industrial***	***137,729 SF***	***251,533 SF***
	General Office Building	***57,187 SF***	***68,599 SF***
	Commercial	***172,501 SF***	***364,902 SF***
	Multifamily Housing (Mid-Rise)	***--***	***346 DU***
	Multifamily Housing (Low-Rise)	***273 DU***	***910 DU***
	Church	***46,690 SF***	***11,204 SF***
	Single Family Detached Housing	***13 DU***	***2 DU***
	Mobile Home Park	***160 DU***	***--***
	Other Land Uses[2]	***101,300 SF***	***--***

[2] Other Land Uses consist of boat storage and museum for V-C/I, fire station, daycare, and athletic club for V-C/R, and bus storage for CF.

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

FIGURE 2-4

ZONE LOCATIONS

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

ZONING DISTRICT	DENSITY	FAR
VILLAGE COMMERCIAL/INDUSTRIAL (V-C/I)	–	1.1:1.0 [A]
VILLAGE MAIN STREET (V-MS)	30 DU/AC	0.25:1.0 [B]
VILLAGE MAIN STREET (V-MS)	10 DU/AC	0.25:1.0 [B]
VILLAGE COMMERCIAL/RESIDENTIAL (V-C/R)	30 DU/AC	0.25:1.0 [B]
VILLAGE COMMERCIAL/RESIDENTIAL (V-C/R)	50 DU/AC	0.25:1.0 [B]
COMMUNITY FACILITIES (CF)	30 DU/AC	0.7:1.0 [B]
RECREATION (REC)	–	0.1-0.2:1.0 [C]

NOTES
[A] = APPROVED FAR IS 0.75-1.5:1.0
[B] = FAR WAS NOT PROVIDED, THEREFORE A RATIO OF 0.25:1.0 HAS BEEN ASSUMED
[C] = APPROVED FAR IS 0.4-1.0:1.0

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 2-5

PROJECT ZONING DISTRICTS AND LAND USE DESIGNATIONS

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

3.0 ANALYSIS CONDITIONS AND METHODOLOGY

3.1 Existing Street System

The principal local network of Streets serving the Project includes Doheny Park Road, Del Obispo Street, Camino Capistrano, Pacific Coast Highway (PCH), Stonehill Drive, Victoria Boulevard, Domingo Avenue, Las Vegas Avenue, and Sepulveda Avenue.

Doheny Park Road is primarily a four-lane, divided roadway oriented in the north-south direction. Parking is generally permitted on both sides of the roadway in the vicinity of the Project. The posted speed limit on Doheny Park Road is 35 mph. Doheny Park Road is designated as a primary arterial per the Dana Point Circulation Element.

Del Obispo Street is primarily a four-lane, divided roadway oriented in the north-south direction. Parking is generally not permitted on either side of the roadway in the vicinity of the Project. The posted speed limit on Del Obispo Street is 40 mph. Del Obispo Street is designated as a primary arterial per the Dana Point Circulation Element and OC MPAH.

Camino Capistrano is primarily a four-lane, divided roadway oriented in the north-south direction. Parking is generally not permitted on either side of the roadway. The posted speed limit on Camino Capistrano is 40 mph south of Avenida Aeropuerto and 45 mph north of Avenida Aeropuerto. Camino Capistrano is designated as a primary arterial per the Dana Point Circulation Element.

Pacific Coast Highway (PCH) is primarily a six-lane, divided roadway oriented in the east-west direction. Parking is generally not permitted on either side of the roadway. The posted speed limit on Pacific Coast Highway is 35 mph. PCH is designated as a major arterial per the Dana Point Circulation Element.

Stonehill Drive is primarily a four-lane, divided roadway oriented in the east-west direction. Parking is generally not permitted on either side of the roadway. The posted speed limit on Stonehill Drive is 40 mph. Stonehill Drive is designated as a primary arterial per the Dana Point Circulation Element.

Victoria Boulevard is primarily a two-lane, undivided roadway oriented in the east-west direction. Parking is generally permitted on both sides of the roadway. The posted speed limit on Victoria Boulevard is 25 mph. Victoria Boulevard is designated as a collector street per the Dana Point Circulation Element.

Domingo Avenue is primarily a two-lane, undivided roadway oriented in the east-west direction. Parking is generally permitted on both sides of the roadway. The posted speed limit on Domingo Avenue is 25 mph. Domingo Avenue is designated as a collector street per the Dana Point Circulation Element.

Las Vegas Avenue is primarily a two-lane, undivided roadway oriented in the east-west direction. Parking is generally permitted on both sides of this roadway. The posted speed limit on Las Vegas Boulevard is 25 mph. Las Vegas Avenue is designated as a collector street per the Dana Point Circulation Element.

Sepulveda Avenue is primarily a two-lane, undivided roadway oriented in the north-south direction. Parking is generally permitted on both sides of this roadway. The posted speed limit on Sepulveda Avenue is 25 mph. Sepulveda Avenue is designated as a collector street per the Dana Point Circulation Element.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area intersections neighboring the Project site.

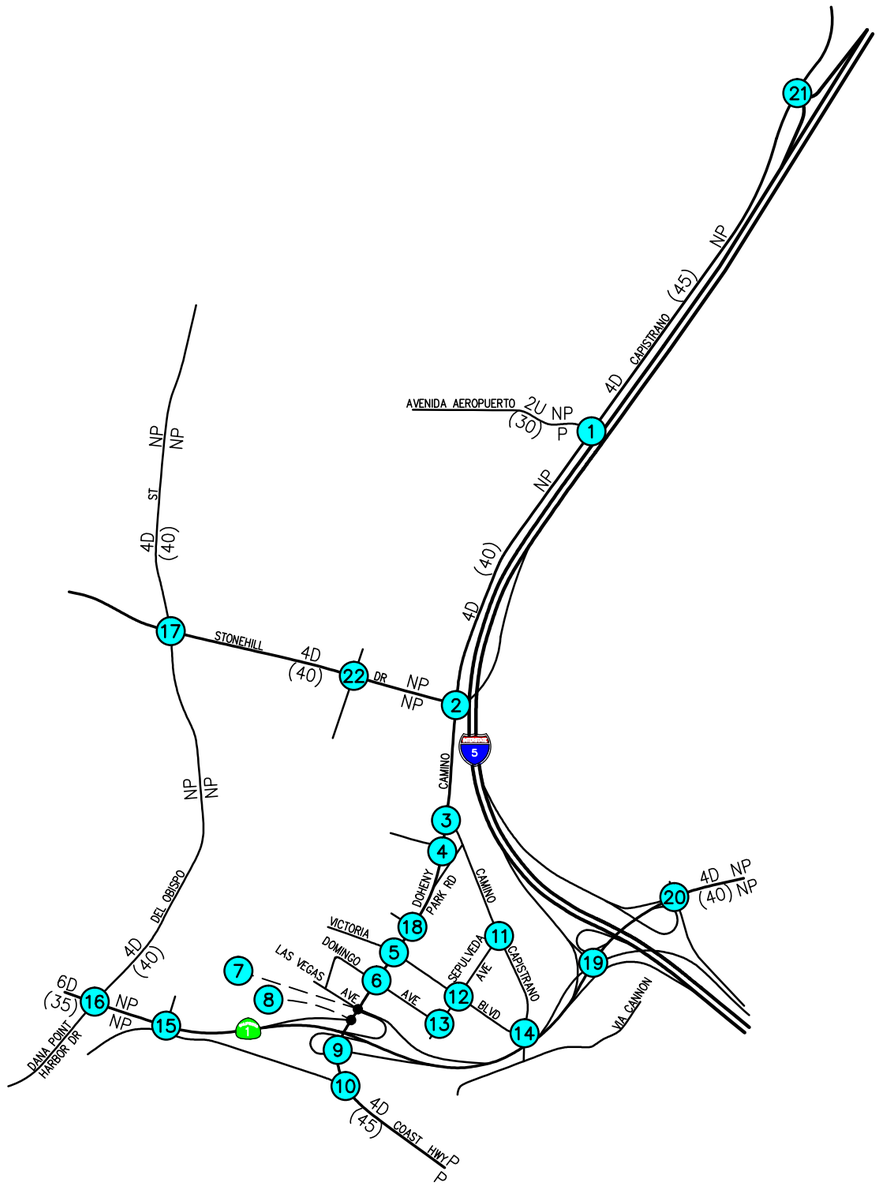
3.2 Existing Traffic Volumes

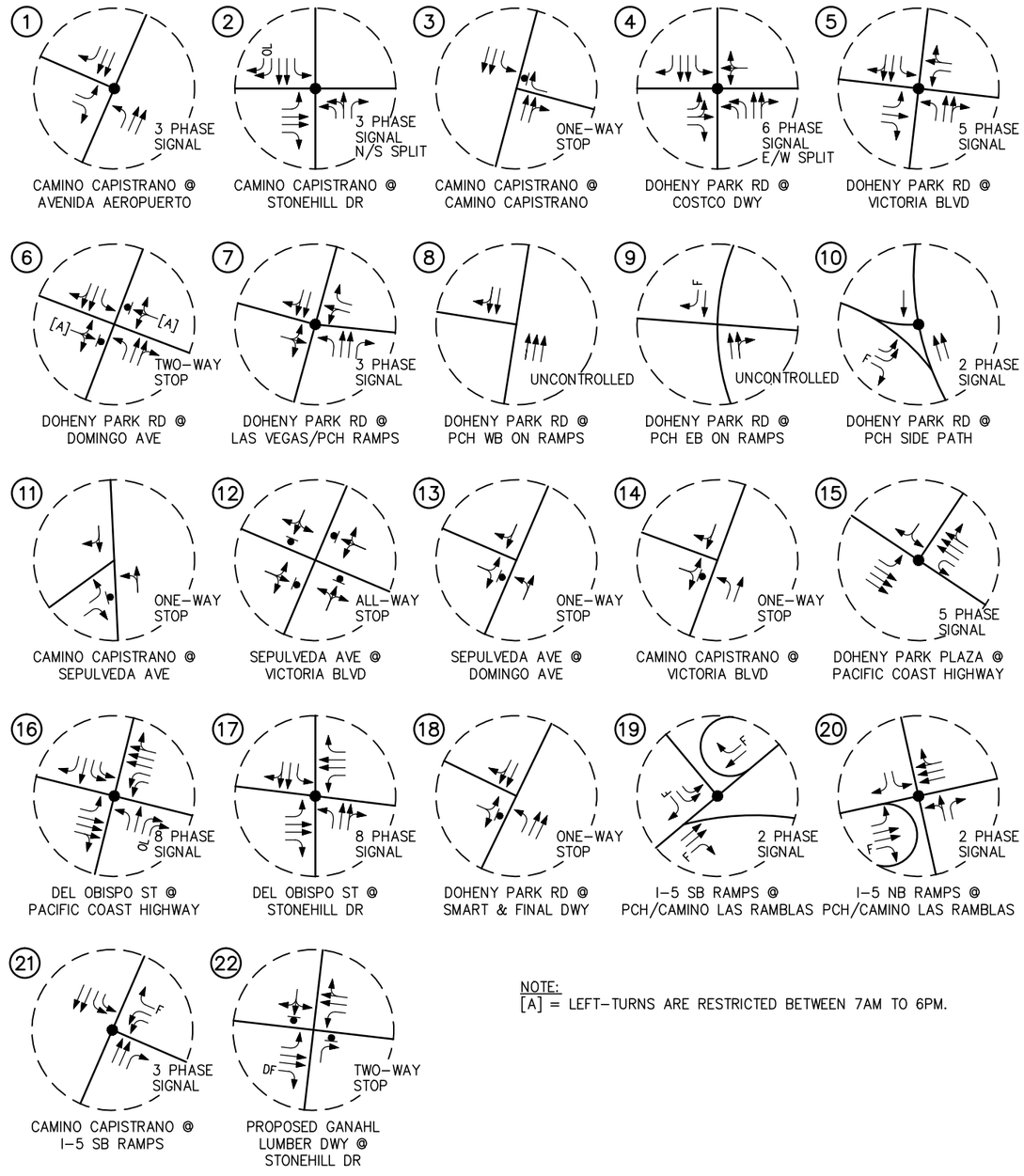
Existing weekday AM, PM and Saturday Midday peak hour traffic volumes for twenty (20) of the twenty-two key study intersections, and weekday and Saturday daily traffic volumes for the ten (10) of the fourteen roadway segments, were obtained from manual turning movement counts and tube counts conducted by Transportation Studies, Inc. in December 2019 and January 2020.

Existing weekday peak hour traffic counts for the remaining two intersections (intersections #21 and #22) and four roadway segments (segments K through N) were referenced from the *Ganahl Lumber Development Project TIA,* prepared by LSA, which were obtained from manual turning movement counts and tube counts conducted by National Data & Surveying Services, Inc. in November 2018. To provide a conservative forecast, counts have been grown by 1% per year to create an existing "baseline" condition of Year 2020.

Saturday Midday peak hour traffic counts were unavailable for intersections #21 and #22, therefore, to forecast Saturday Midday peak hour conditions the following methodology was applied. The Saturday Midday counts were estimated by applying a factor to the PM peak hour counts. The factor was developed based on an average of the PM peak hour and Saturday Midday counts from all the intersections collected in Year 2020. Similarly, Saturday daily traffic counts for segments K through N were estimated by applying a factor to the weekday daily counts. The factor was developed based on an average of the weekday daily and Saturday daily counts from all the segments collected in Year 2020.

Figures 3-2 through ***3-4*** illustrate the existing weekday AM, PM, and Saturday Midday peak hour traffic volumes at the key study intersections and roadway segments evaluated in this report, respectively. *Figures 3-3* and *3-4* also include existing weekday and Saturday daily volumes, respectively. ***Appendix A*** contains the detailed peak hour count sheets for the key intersections evaluated in this report.





NOTE:
[A] = LEFT-TURNS ARE RESTRICTED BETWEEN 7AM TO 6PM.

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

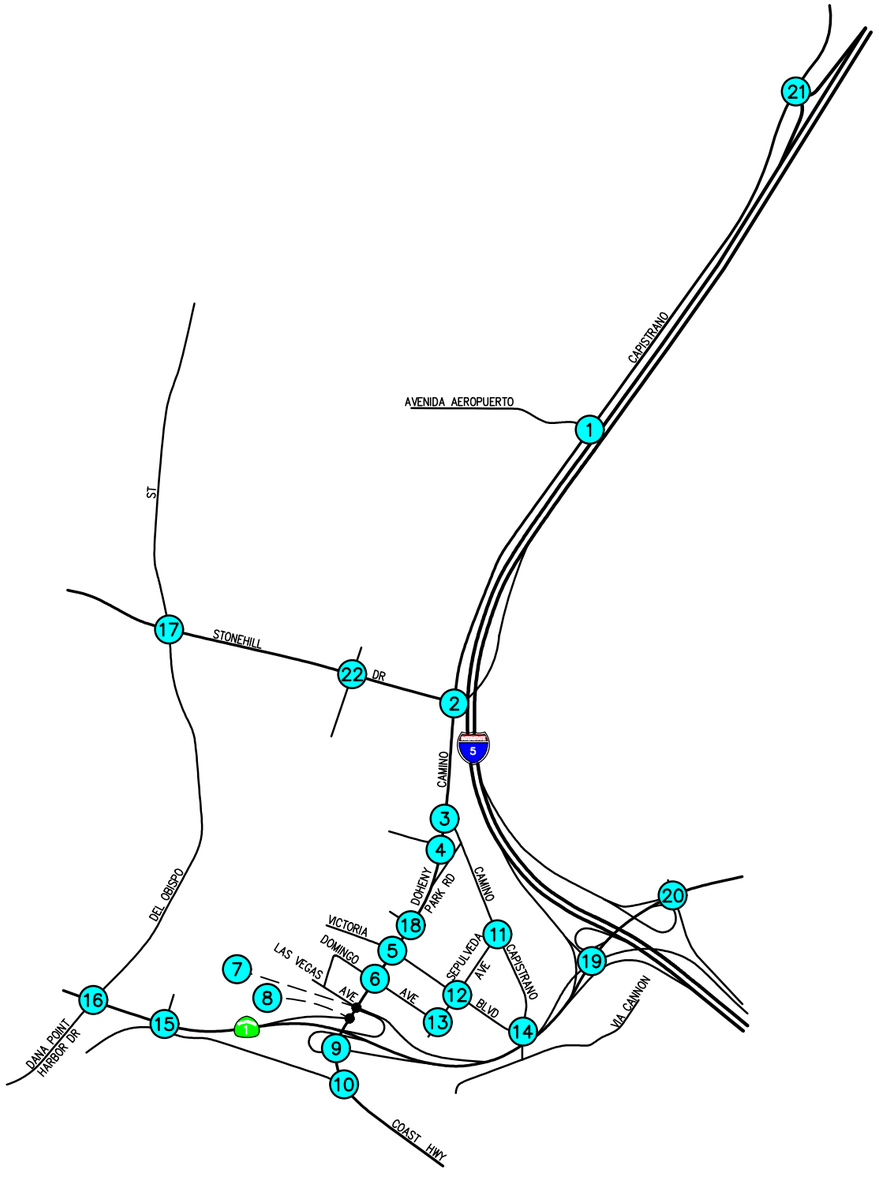
KEY

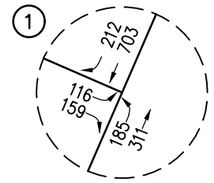
- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL, ▲ STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- F = FREE-RIGHT, OL = OVERLAP
- DF = DEFACTO RIGHT-TURN
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)

FIGURE 3-1

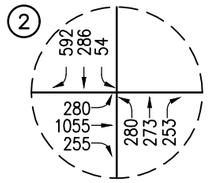
EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

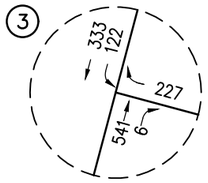




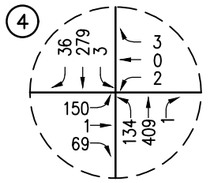
1 CAMINO CAPISTRANO @ AVENIDA AEROPUERTO



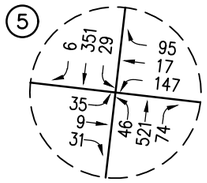
2 CAMINO CAPISTRANO @ STONEHILL DR



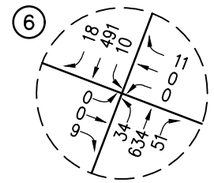
3 CAMINO CAPISTRANO @ CAMINO CAPISTRANO



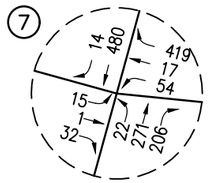
4 DOHENY PARK RD @ COSTCO DWY



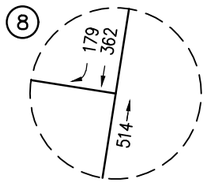
5 DOHENY PARK RD @ VICTORIA BLVD



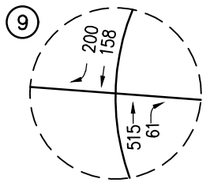
6 DOHENY PARK RD @ DOMINGO AVE



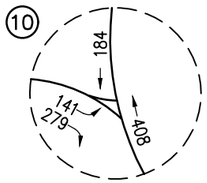
7 DOHENY PARK RD @ LAS VEGAS/PCH RAMPS



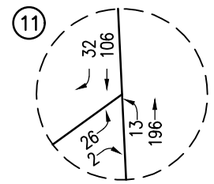
8 DOHENY PARK RD @ PCH WB ON RAMPS



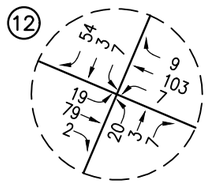
9 DOHENY PARK RD @ PCH EB ON RAMPS



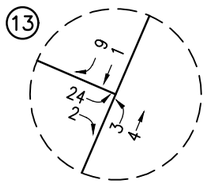
10 DOHENY PARK RD @ PCH SIDE PATH



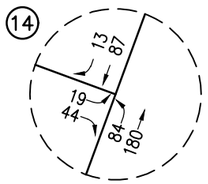
11 CAMINO CAPISTRANO @ SEPULVEDA AVE



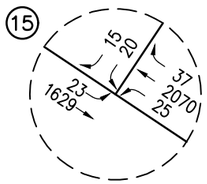
12 SEPULVEDA AVE @ VICTORIA BLVD



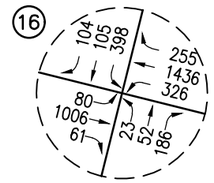
13 SEPULVEDA AVE @ DOMINGO AVE



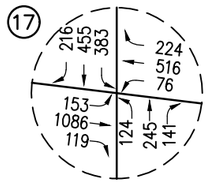
14 CAMINO CAPISTRANO @ VICTORIA BLVD



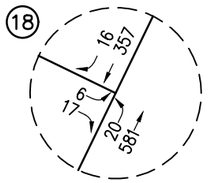
15 DOHENY PARK PLAZA @ PACIFIC COAST HIGHWAY



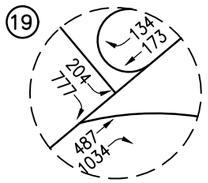
16 DEL OBISPO ST @ PACIFIC COAST HIGHWAY



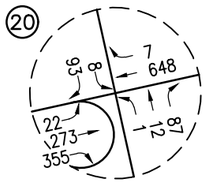
17 DEL OBISPO ST @ STONEHILL DR



18 DOHENY PARK RD @ SMART & FINAL DWY



19 I-5 SB RAMPS @ PCH/CAMINO LAS RAMBLAS



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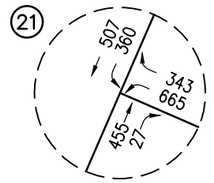
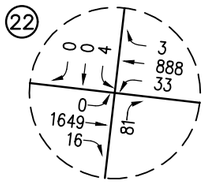


21 CAMINO CAPISTRANO @ I-5 SB RAMPS



22 PROPOSED GANAHL LUMBER DWY @ STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

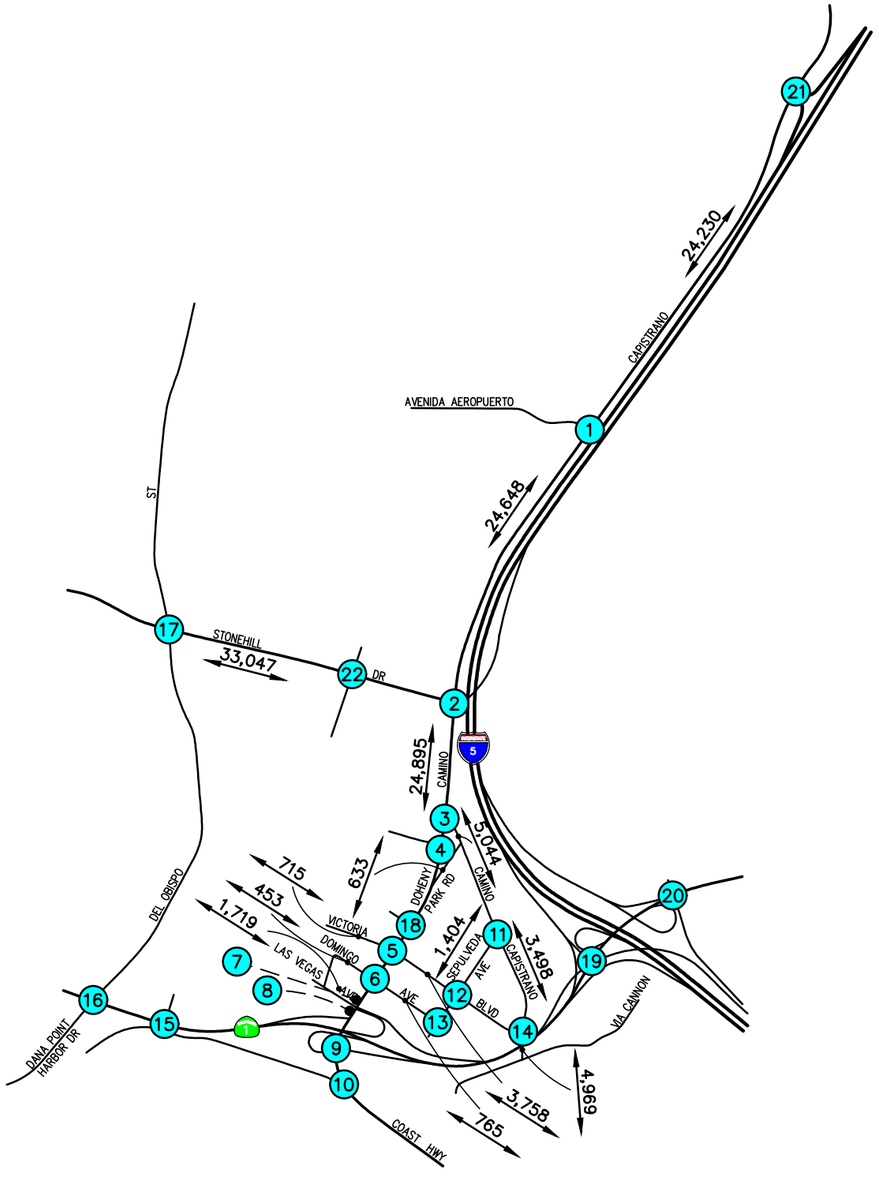
KEY

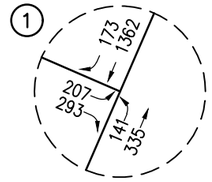
(#) = STUDY INTERSECTION

FIGURE 3-2

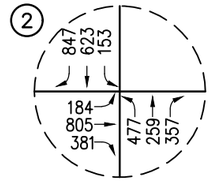
EXISTING AM PEAK HOUR TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

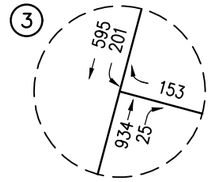




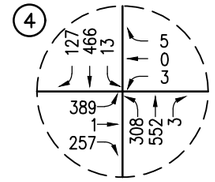
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



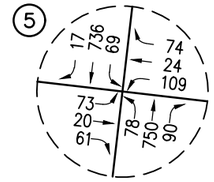
CAMINO CAPISTRANO @
STONEHILL DR



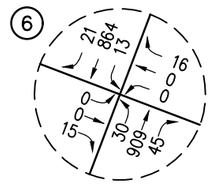
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



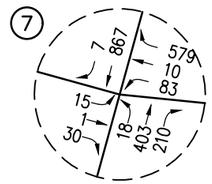
DOHENY PARK RD @
COSTCO DWY



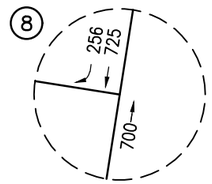
DOHENY PARK RD @
VICTORIA BLVD



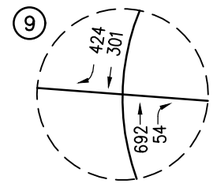
DOHENY PARK RD @
DOMINGO AVE



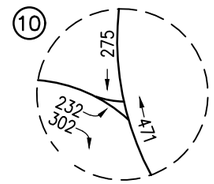
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



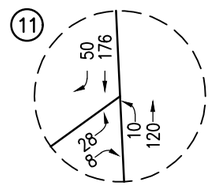
DOHENY PARK RD @
PCH WB ON RAMPS



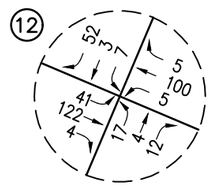
DOHENY PARK RD @
PCH EB ON RAMPS



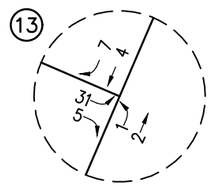
DOHENY PARK RD @
PCH SIDE PATH



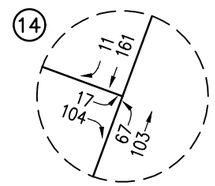
CAMINO CAPISTRANO @
SEPULVEDA AVE



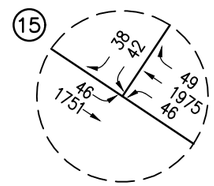
SEPULVEDA AVE @
VICTORIA BLVD



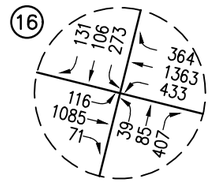
SEPULVEDA AVE @
DOMINGO AVE



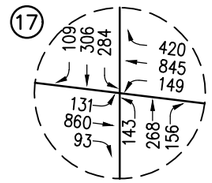
CAMINO CAPISTRANO @
VICTORIA BLVD



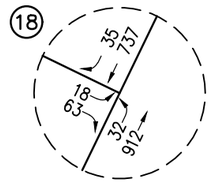
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



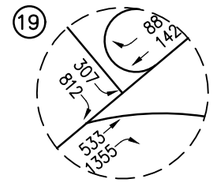
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



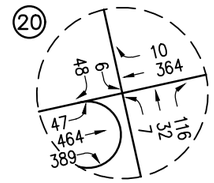
DEL OBISPO ST @
STONEHILL DR



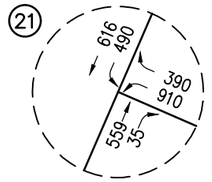
DOHENY PARK RD @
SMART & FINAL DWY



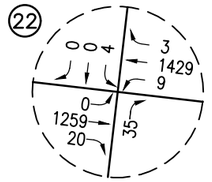
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

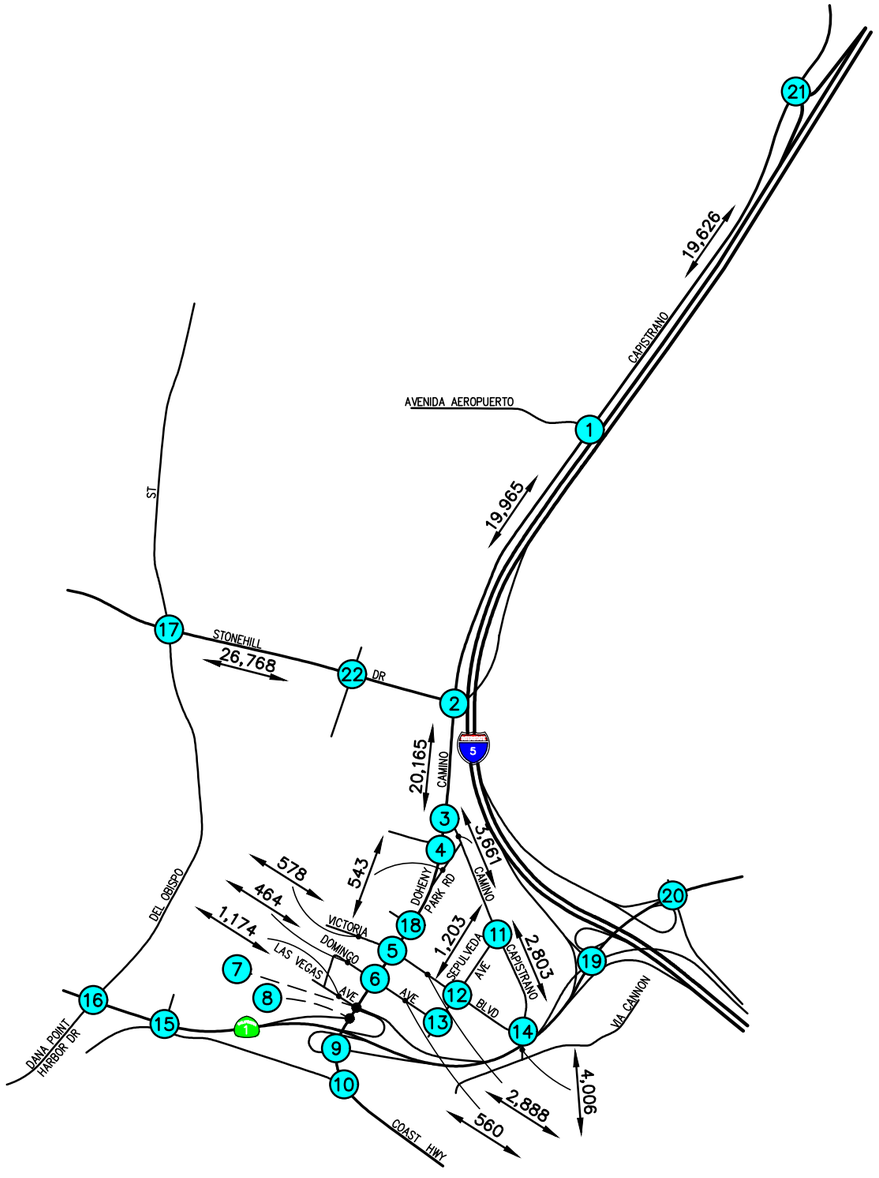
N
NO SCALE

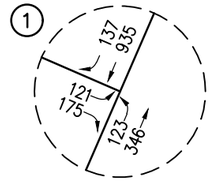
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 3-3

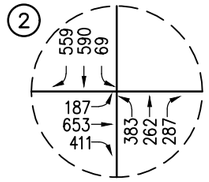
EXISTING PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

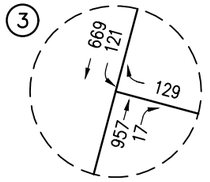




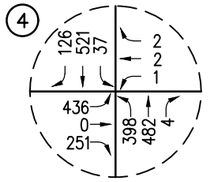
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



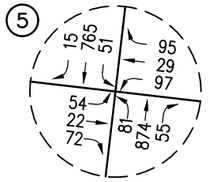
CAMINO CAPISTRANO @
STONEHILL DR



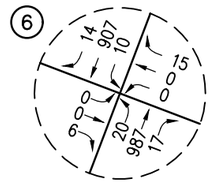
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



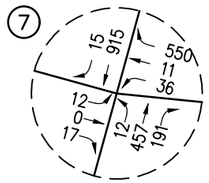
DOHENY PARK RD @
COSTCO DWY



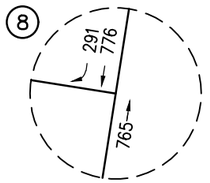
DOHENY PARK RD @
VICTORIA BLVD



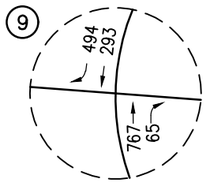
DOHENY PARK RD @
DOMINGO AVE



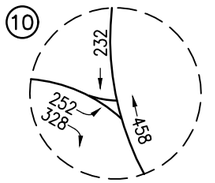
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



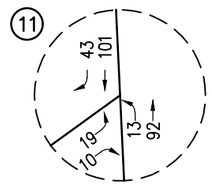
DOHENY PARK RD @
PCH WB ON RAMPS



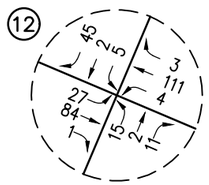
DOHENY PARK RD @
PCH EB ON RAMPS



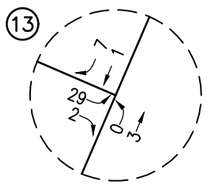
DOHENY PARK RD @
PCH SIDE PATH



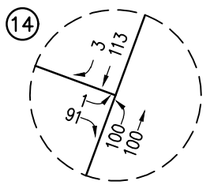
CAMINO CAPISTRANO @
SEPULVEDA AVE



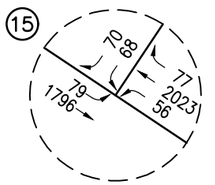
SEPULVEDA AVE @
VICTORIA BLVD



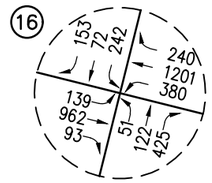
SEPULVEDA AVE @
DOMINGO AVE



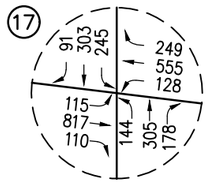
CAMINO CAPISTRANO @
VICTORIA BLVD



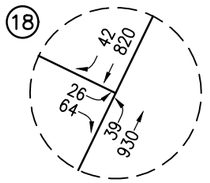
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



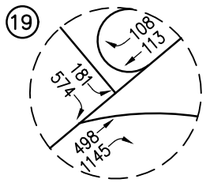
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



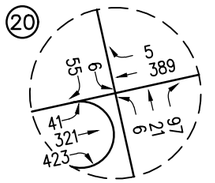
DEL OBISPO ST @
STONEHILL DR



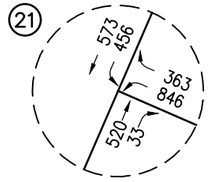
DOHENY PARK RD @
SMART & FINAL DWY



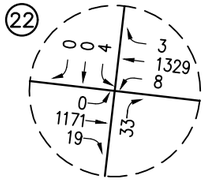
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

N
NO SCALE

KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 3-4

EXISTING SATURDAY MIDDAY PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

3.3 Existing Public Transit

Orange County Transportation Authority (OCTA) currently provides public transit services in the vicinity of the Project. OCTA Route 91 currently serves Del Obispo Street. Additionally, during the summer months the City of Dana Point operates a trolley service that also serves the project study area. Existing transit stops are located along Doheny Park Road/Camino Capistrano, Stonehill Drive, Pacific Coast Highway (PCH), and Del Obispo Street. Transit stops along Doheny Park Road/Camino Capistrano are located in the southwest corner of Camino Capistrano/Avenida Aeropuerto, southeast corner of Camino Capistrano/Camino Capistrano, the southwest corner of Doheny Park Road/Costco Driveway, and in the northeast and southwest corners of Doheny Park Road/Victoria Boulevard. Transit stops along Stonehill Drive are located in the northwest corner of Camino Capistrano/Stonehill Drive, and the northwest corner of Del Obispo Street/Stonehill Drive. Transit stops along PCH are located in the northwest and southwest corners of Doheny Park Plaza/PCH and the northeast and southeast corners of Del Obispo Street/PCH. Transit stops along Del Obispo Street are evenly dispersed along the roadway between PCH and Camino Del Avion, with a total of twenty (20) stops located within the project vicinity. ***Figure 3-5*** graphically illustrates the transit routes of OCTA within the vicinity of the Project site. ***Figure 3-6*** identifies the location of the existing bus stops in proximity to the Project site.

3.4 Existing Bicycle Facilities

The City of Dana Point currently has Class II bike lanes along Del Obispo Street and for the majority of Doheny Park Road, a Class I bike path along the San Juan Creek Trail, and a Class III bike route that traverses adjacent to Pacific Coast Highway in the vicinity of the project area. ***Figure 3-7*** presents the locations of existing bicycle facilities in Dana Point.

Please note that the following intersection and bikeway facility improvements are proposed as part of the Doheny Village Connectivity Enhancement Study, prepared by LLG:

- **Doheny Park Road at PCH Eastbound On-Ramps:** Restripe southbound direction for a second through-lane along Doheny Park Road.
- **Doheny Park Road at Coast Highway Connector:** Restripe to provide a second southbound through-lane along Doheny Park Road. Remove the eastbound free-right turn lane and replace it with a right-turn pocket. Install a pedestrian crosswalk on the south and west legs of the intersection.
- Install a buffered **Class II bicycle lane** along the east side and west site of Doheny Park Road in both direction between Las Vegas Boulevard/PCH WB Ramps and Coast Highway Connector.

These improvements would support all modes of transport and would significantly improve connectivity for bicyclists and pedestrians than what currently exists.

LINSCOTT LAW & GREENSPAN engineers

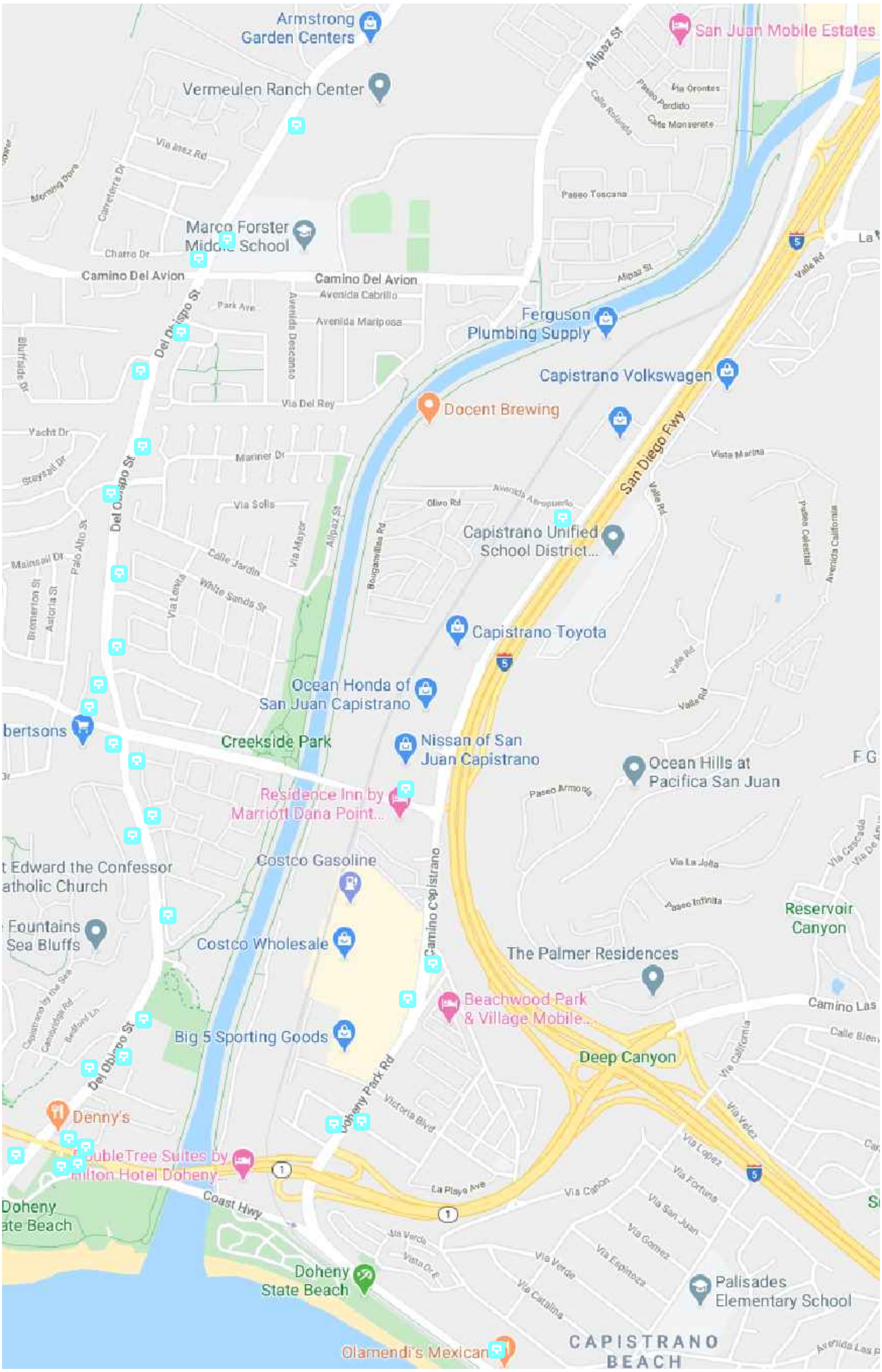
N NO SCALE

SOURCE: OCTA

FIGURE 3-5

OCTA TRANSIT MAP

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT



n:\4200\2204244 – doheny village zoning district overlay, dana point\dwg\existing conditions memo\4244 f3-6.dwg LDP 13:28:38 08-20-2020 aguilar

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

= PROJECT SITE

= TRANSIT STOP

FIGURE 3-6

TRANSIT STOP LOCATIONS

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

n:\4200\2204244 - doheny village zoning district overlay, dana point\dwg\existing conditions memo\4244 f3-7.dwg LDP 13:30:49 08-20-2020 aguilar

LINSCOTT LAW & GREENSPAN engineers

SOURCE: CITY OF DANA POINT

N NO SCALE

FIGURE 3-7

EXISTING BICYCLE FACILITIES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

3.5 Level of Service (LOS) Analysis Methodologies

Pursuant to the City of Dana Point guidelines and in conformance with the City's General Plan Circulation Element, the key study intersections in Dana Point were evaluated using the *Intersection Capacity Utilization (ICU)* methodology for signalized intersections and the *Highway Capacity Manual (HCM)* methodology for unsignalized intersections. Daily operating conditions for the key study roadway segments were analyzed using the *Volume to Capacity (V/C) Ratio* method.

In conformance with City of San Juan Capistrano guidelines, the key study intersections in San Juan Capistrano were evaluated using both the *Intersection Capacity Utilization (ICU)* and the *Highway Capacity Manual (HCM)* methodologies for signalized intersections and the *Highway Capacity Manual (HCM)* methodology for unsignalized intersections. Daily operating conditions for the key study roadway segments were analyzed using the *Volume to Capacity (V/C) Ratio* method.

In conformance with Caltrans guidelines, the key study intersections under Caltrans jurisdiction were evaluated using the *Highway Capacity Manual (HCM)* methodology for both signalized and unsignalized intersections.

3.5.1 *Intersection Capacity Utilization (ICU) Method of Analysis (Signalized Intersections)*

In conformance with the Cities of Dana Point and San Juan Capistrano guidelines, peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per Cities of Dana Point and San Juan Capistrano guidelines, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for left-turn, through, and right-turn lanes. A clearance interval of 0.05 (5%) is also added to each Level of Service calculation.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in ***Table 3-1***. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements.

3.5.2 *Highway Capacity Manual (HCM) Method of Analysis (Signalized)*

In conformance with the City of San Juan Capistrano and Caltrans guidelines, peak hour operating conditions for the key signalized study intersections were evaluated using Highway Capacity Manual (HCM) method. Based on the HCM 6th Edition operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road.

In the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Table 3-2***.

3.5.3 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle, and level of service is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in ***Table 3-3***.

3.5.4 *Daily Volume to Capacity (V/C) Ratio Method of Analysis (Roadway Segments)*

In conformance with the Cities of Dana Point and San Juan Capistrano guidelines, daily operating conditions for the key study roadway segments have been investigated according to the Volume to Capacity (V/C) Ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the City's classification of each roadway. The six qualitative categories of Level of Service have been defined along with the corresponding Volume to Capacity (V/C) value range and are shown in ***Table 3-4***.

The roadway link capacity of each street classification according to the Orange County Master Plan of Arterial Highways (MPAH) is presented in ***Table 3-5***, along with the six corresponding service levels and associated V/C ratios.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU)[3]

Level of Service (LOS)	Intersection Capacity Utilization Value (ICU)	Level of Service Description
A	≤ 0.600	**EXCELLENT**. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 – 0.700	**VERY GOOD**. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	**GOOD**. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	**FAIR**. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	**POOR**. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	**FAILURE**. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

[3] Source: *Transportation Research Board Circular 212 - Interim Materials on Highway Capacity.*

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM)[4]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and $\leq$ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and $\leq$ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and $\leq$ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and $\leq$ 80.0	Very long traffic delays. This level is considered by many agencies (i.e. SANBAG) to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	$\geq$ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[4] Source: *Highway Capacity Manual* (Signalized Intersections).

TABLE 3-3

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM)[5]

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[5] Source: *Highway Capacity Manual*, (Unsignalized Intersections).

TABLE 3-4
LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)[6]

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Level of Service Description
A	≤ 0.600	**EXCELLENT**. Describes primarily free flow operations at average travel speeds, usually about 90% of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.601 – 0.700	**VERY GOOD**. Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.701 – 0.800	**GOOD**. Represents stable conditions; however, ability to maneuver and change lanes in mid-block location may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of the average free flow speed for the arterial class. Motorists will experience appreciable tension while driving.
D	0.801 – 0.900	**FAIR**. Borders on a range in which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40% of free flow speed.
E	0.901 – 1.000	**POOR**. Characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
F	> 1.000	**FAILURE**. Characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with resultant high approach delays. Adverse progression is frequently a contributor to this condition.

[6] Source: *Transportation Research Board 2000.*

TABLE 3-5
LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)[7]

Facility Type	Number of Lanes	Level of Service Criteria With Associated Roadway Capacity						
		Daily Values (VPD)						Peak Hour Capacity (VPH)[8]
		Level of Service (LOS)						
		A	B	C	D	E	F	
Principal	8-lanes divided	45,000	52,500	60,000	67,500	75,000	--	7,500
Smart Street[9]	6-lanes divided	36,300	42,200	48,200	54,200	60,200	--	6,020
Major	6-lanes divided	33,900	39,400	45,000	50,600	56,300	--	5,630
Primary	4-lanes divided	22,500	26,300	30,000	33,800	37,500	--	3,750
Secondary	4-lanes undivided	15,000	17,500	20,000	22,500	25,000	--	2,500
Commuter	2-lanes undivided	7,500	8,800	10,000	11,300	12,500	--	1,250
V/C Ratio		≤ 0.600	0.601-0.700	0.701-0.800	0.801-0.900	0.901-1.000	≥ 1.01	

Notes:
- VPD = vehicles per day
- VPH = vehicles per hour

7 Source: *Transportation Research Board 2000.*

8 Peak hour capacity based on 10% of the daily LOS "E" capacity.

9 The capacity of a Smart Street is seven percent higher than the capacity of a major arterial, due to traffic flow operation enhancements that are associated with the Smart Street facility designation.

3.6 General Plan Standards

3.6.1 *City of Dana Point*

The City of Dana Point has established the following minimum acceptable level of service standard/goal that should be maintained during the peak hours for both intersections and roadway segments per the City's Circulation System Performance Criteria:

- LOS "C" – Primary arterials, secondary arterials, and local streets
- LOS "D" – Major arterials and state highways
- LOS "E" – CMP designated roadways

Based on the above, the following summarizes the LOS goal for each key study intersection and roadway segment:

- ***LOS "C" Requirements:***

Key Study Intersections:

3. Camino Capistrano at Camino Capistrano
4. Camino Capistrano at Costco Dwy
5. Doheny Park Rd at Victoria Blvd
6. Doheny Park Rd at Domingo Ave
11. Camino Capistrano at Sepulveda Ave
12. Sepulveda Ave at Victoria Blvd
13. Sepulveda Ave at Domingo Ave
14. Camino Capistrano at Victoria Boulevard
15. Doheny Park Plaza at PCH
16. Del Obispo Street at PCH
17. Del Obispo Street at Stonehill Drive
18. Doheny Park Road at Smart & Final Dwy
19. I-5 SB Ramps at PCH/Camino Las Ramblas

Key Roadway Segments:

A. Camino Capistrano west of Doheny Park Rd
B. Doheny Park Rd south of Camino Capistrano
C. Victoria Blvd west of Doheny Park Rd
D. Domingo Ave west of Doheny Park Rd
E. Las Vegas Ave west of Doheny Park Rd
F. Victoria Blvd east of Doheny Park Rd
G. Domingo Ave east of Doheny Park Rd
H. Camino Capistrano south of Victoria Blvd
I. Camino Capistrano south of Sepulveda Ave
J. Sepulveda Ave, between Camino Capistrano and Victoria Blvd
M. Camino Capistrano, between Stonehill Dr and Costco Dwy
N. Stonehill Dr, between Camino Capistrano and Del Obispo St

- ***LOS "D" Requirements:***

Key Study Intersections:

7. Doheny Park Rd at as Vegas Ave/PCH Ramps
8. Doheny Park Rd at PCH WB On-Ramp
9. Doheny Park Rd at PCH EB On-Ramp
10. Doheny Park Rd at PCH Side Path

3.6.2 *City of San Juan Capistrano*

According to City of San Juan Capistrano criteria, LOS "D" is the level of service goal during the peak hours at all City intersections. LOS "E" is the level of service goal during the peak hours at all City-designated "Hot Spot" intersections. The study intersection of Camino Capistrano/I-5 SB Ramps (Intersection #21) is considered a "Hot Spot" intersection.

The City of San Juan Capistrano General Plan Circulation Element has established LOS "D" as the minimum link level of service performance goal for major, primary, secondary and limited secondary arterials and LOS "C" for local residential arterials within the City. It has also established LOS "E" as the minimum link level of service performance goal for designated "Hot Spot" locations within the City. The study roadway segment of Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto, is considered a "Hot Spot location.

Based on the above, the following summarizes the LOS goals for each key study intersection and roadway segment:

- ***LOS "D" Requirements:***

  Key Study Intersections:

  1. Camino Capistrano at Avenida Aeropuerto
  2. Camino Capistrano at Stonehill Dr/I-5 NB On-Ramp
  3. Camino Capistrano at Camino Capistrano
  4. Camino Capistrano at Costco Dwy
  20. I-5 NB Ramps at PCH/Camino Las Ramblas
  22. Proposed Ganahl Lumber Dwy at Stonehill Dr

  Key Roadway Segments:

  L. Camino Capistrano, between Avenida Aeropuerto and Stonehill Dr

  M. Camino Capistrano, between Stonehill Dr and Costco Dwy

  N. Stonehill Dr, between Camino Capistrano and Del Obispo St

- ***LOS "E" Requirements:***

  Key Study Intersections:

  21. Camino Capistrano at I-5 SB Ramps

  Key Roadway Segments:

  K. Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto

3.6.3 *Caltrans*

Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the need for potential Project-related improvements at the state-controlled study intersections, except for the intersection of Camino Capistrano/I-5 SB Ramps (Intersection #21) which has a target of LOS E.

3.7 Level of Service Consequences and Thresholds

The potential LOS consequences of the added Project traffic volumes generated by the proposed Project during the weekday AM and PM and Saturday Midday peak hours was evaluated based on analysis of future operating conditions at the key study intersections, without, then with, the proposed Project using the *Intersection Capacity Utilization (ICU) Methodology* and the *Highway Capacity Manual (HCM) Methodology*. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships, delay and service level characteristics at each key study intersection. The following criteria was then used to determine if the addition of project traffic would be responsible for LOS deficiencies and whether feasible Project-related roadway improvements should be identified to improve performance:

3.7.1 *City of Dana Point*

Signalized Intersections and Roadway Segment Criteria

- For signalized intersections, Project-related improvements are required if an undesirable peak hour Level of Service (LOS) (i.e. LOS D, E or F) at any of the key intersections or roadway segments are projected. As mentioned earlier, the City of Dana Point considers LOS C (ICU = 0.71 – 0.80) to be the minimum acceptable level of service for primary, secondary, and local streets. LOS D (ICU = 0.81 – 0.90) is the minimum acceptable level of service for major arterials and State highways; and

- The Project increases traffic demand at the key signalized study intersection or roadway segments by 1% of capacity (ICU increase ≥ 0.010), where the final (future) LOS is unacceptable.

Unsignalized Intersections Criteria

- For unsignalized intersections, Project-related improvements are required if the project causes an intersection at LOS C or better to degrade to LOS D, E or F.

  However, unsignalized intersection LOS is based on the control delay, but delay is only assessed for those traffic movements that are stopped or must yield to through traffic. Some movements, including cross traffic on the minor street or left turns onto the major street are acceptable with long delays, provided through traffic and right turns from a major street do not experience any delays at stopped intersections. When delay for cross traffic is severe (LOS F), the intersection should be further evaluated for possible improvement with traffic signals. In some cases, this analysis determines that the delay is being experienced by a very low number of vehicles and traffic signals are not warranted. For this condition, the intersection does not satisfy the requirement for Project-related improvements, but measures to reduce delay may be considered, if appropriate. In other cases, the number of stopped vehicles is substantial and traffic signals may be justified as an improvement. Therefore, the following criteria for unsignalized intersections are used:

An unsignalized intersection requires Project-related improvements if the project causes an intersection at LOS C or better to degrade to LOS D, E or F, and the traffic signal warrant analysis determines that a signal is justified.

3.7.2 *City of San Juan Capistrano*

ICU Method of Analysis (Intersections)

- Per the City's guidelines, Project-related improvements ***(Direct)*** on the existing street system are required if the Project's ICU increase is 0.010 or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "E" or "F" (ICU > 0.900). For "Hot Spot" intersections, Project-related improvements ***(Direct)*** on the existing street system are required if the Project's ICU increase is 0.010 or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "F" (ICU > 1.000).

- Within a cumulative traffic setting, Project-related improvements ***(Cumulative)*** are required if the Project-related ICU increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions is 0.010 or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B", "C" or "D" (ICU ≤ 0.900) **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "E" or "F" (ICU > 0.900). For "Hot Spot" intersections, within a cumulative traffic setting, Project-related improvements ***(Cumulative)*** are required if the Project-related ICU increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions is 0.010 or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B", "C" "D" or "E" (ICU ≤ 1.000) **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "F" (ICU > 1.000).

HCM Method of Analysis (Intersections)

- Per the City's guidelines, Project-related improvements ***(Direct)*** on the existing street system are required if the Project's delay increase is 1.0 second or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "E" or "F" (Delay "> 35.0 s/v" or "> 55.0 s/v"). For "Hot Spot" intersections, Project-related improvements ***(Direct)*** on the existing street system are required if the Project's HCM increase is 1.0 second or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "F" (Delay "> 50.0 s/v" or "> 80.0 s/v").

- Within a cumulative traffic setting, Project-related improvements ***(Cumulative)*** are required if the Project-related delay increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions is 1.0 seconds or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B", "C" or "D" (Delay "≤ 35.0 s/v" or "≤ 55.0 s/v") **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "E" or "F" (Delay "> 35.0 s/v" or "> 55.0 s/v"). For "Hot Spot" intersections, within a cumulative traffic setting, Project-related improvements ***(Cumulative)*** are required if the Project-related Delay increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions is 1.0 second or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B", "C" "D" or "E"

(Delay "≤ 50.0 s/v" or "≤ 80.0 s/v") **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "F" (Delay "> 50.0 s/v" or "> 80.0 s/v").

- For those intersections evaluated using the Synchro software and HCM method of analysis, the Delay thresholds are increased to 2.0 second per vehicles, except at "Hot Spot" intersections.

V/C Ratio Method of Analysis (Roadway Segments)

- Per the City's guidelines, Project-related improvements ***(Direct)*** on the existing street system (major, primary, secondary or limited secondary arterials) are required if the Project's V/C ratio increase is 0.010 or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "E" or "F" (V/C > 0.900). Project-related improvements ***(Direct)*** on the existing street system (local residential arterials) are required if the Project's V/C ratio increase is 0.010 or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "D", "E" or "F" (V/C > 0.800). For "Hot Spot" roadway segments, Project-related improvements ***(Direct)*** on the existing street system are required if the Project's ICU increase is 0.010 or greater **and** the resulting Existing plus Project Traffic Conditions LOS is "F" (V/C > 1.000).

- Within a cumulative traffic setting, Project-related improvements ***(Cumulative)*** are required if the Project-related V/C ratio increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions for major, primary, secondary or limited secondary arterials is 0.010 or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B", "C" or "D" (V/C ≤ 0.900) **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "E" or "F" (V/C > 0.900). Project-related improvements ***(Cumulative)*** are required if the Project-related V/C ratio increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions for local residential arterials is 0.010 or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B" or "C" (V/C ≤ 0.800) **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "D", "E" or "F" (V/C > 0.800). For "Hot Spot" roadway segments, within a cumulative traffic setting, Project-related improvements ***(Cumulative)*** are required if the Project-related V/C ratio increment for Existing Plus Project Traffic conditions minus Existing Traffic conditions is 0.010 or greater **and** the Existing Plus Project Traffic conditions LOS is "A", "B", "C" "D" or "E" (V/C ≤ 1.000) **and** the Buildout Plus Project (Year 2045) Traffic conditions LOS" is "F" (V/C > 1.000).

3.7.3 *Caltrans*

The Caltrans *Guide for the Preparation of Traffic Impact Studies, dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e. LOS D or E); the existing service level should be maintained. Based on Caltrans Criteria, Project-related improvements are required if the Project causes the LOS to change from an acceptable LOS (i.e., LOS D or better) to a deficient LOS (i.e. LOS E or F).

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic characteristics of the Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Trip Generation Forecast

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors and equations used in this analysis are based on information found in the 10th Edition of *Trip Generation,* published by the Institute of Transportation Engineers (ITE) [Washington, D.C., 2017].

5.1.1 *Existing Trip Generation*

Table 5-1 summarizes the trip generation rates used to forecast both existing and future land use trips. Based on the description of the existing developments as shown in column (1) of *Table 2-1,* the existing trip generation potential was estimated using trip rates from the following ITE land uses:

- 110: General Light Industrial
- 151: Mini Warehouse
- 210: Single Family Detached Housing
- 220: Multifamily Housing (Low-Rise)
- 240: Mobile Home Park
- 420: Marina
- 493: Athletic Club
- 560: Church
- 565: Day Care Center
- 575: Fire and Rescue Station
- 580: Museum
- 710: General Office Building
- 820: Shopping Center
- 942: Automobile Care Center
- 945: Gas Station with Convenience Market

Table 5-2 summarizes the trip generation forecast for existing land uses for each district/zone. As shown at the bottom of *Table 5-2*, the existing land uses, after adjustments for pass-by and internal capture trips, are forecast to generate 12,656 weekday daily trips, with 718 trips (385 inbound, 333 outbound) generated during the AM peak hour and 975 trips (473 inbound, 502 outbound) generated during the PM peak hour, and 13,861 Saturday daily trips with 1,452 trips (756 inbound, 696 outbound) generated during the Saturday Midday peak hour.

Please note that based on common traffic engineering practices, the traffic generated by the existing land uses/development may be considered to represent a "trip budget" for the Project site, against which the proposed Project might be compared.

5.1.2 *Proposed Project Trip Generation*

Based on the description of the future developments as shown in column (2) of *Table 2-1* and column (1) of *Table 2-2,* the future trip generation potential of the proposed Project was estimated using trip rates from the following ITE land uses:

- 110: General Light Industrial
- 210: Single Family Detached Housing
- 220: Multifamily Housing (Low-Rise)
- 221: Multifamily Housing (Mid-Rise)
- 560: Church
- 710: General Office Building
- 820: Shopping Center

Table 5-3 summarizes the trip generation forecast for future land uses for each district/zone. As shown at the bottom of *Table 5-3*, the future land uses, after adjustments for pass-by trips, internal capture trips, and a non-auto factor, are forecast to generate 19,912 weekday daily trips, with 1,030 trips (537 inbound, 493 outbound) generated during the AM peak hour and 1,594 trips (763 inbound, 831 outbound) generated during the PM peak hour, and 21,479 Saturday daily trips with 2,115 trips (1,067 inbound, 1,048 outbound) generated during the Saturday Midday peak hour.

Table 5-4 presents a summary comparing trips from existing and future land uses for each district. Review of the bottom of *Table 5-4* indicates that the future land uses are forecast to generate 7,256 more weekday daily trips, with 312 more trips during the AM peak hour and 619 more trips during the PM peak hour, and 7,618 more Saturday daily trips with 663 more trips during the Saturday Midday peak hour when compared to the existing land uses. The "net" trip generation potential will be analyzed in this report.

Appendix B contains detailed existing and future trip generation tables for each zone.

Please note that the overall project trip generation includes adjustments for pass-by as recommended by ITE. The pass-by reduction factors that are utilized for the Project are based on a review of available information published in the *Trip Generation Handbook, 3rd Edition*, published by ITE (2017) and are summarized in the tables of *Appendix B*.

The overall project trip generation also includes a 10% adjustment for internal capture. Since it is assumed that interaction between zones will occur, the internal capture rate was determined based on the total project site trips rather than for each individual zone. This resulted in an average rate of 15% for existing land uses and 18% for future land uses, however, to provide a conservative assessment an internal capture rate of 10% was applied to both existing and future trip generation.

Additionally, a 5% non-auto trip reduction was applied to the future trip generation to account for other modes of transportation within a pedestrian-oriented area (i.e. public transit, walking, biking, etc.).

5.2 Project Trip Distribution and Assignment

The directional traffic distribution pattern for the proposed Project industrial, commercial/office, and residential land uses are presented in ***Figures 5-1*** through ***5-3***. Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers (i.e. Pacific Coast Highway, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- and existing intersection traffic volumes.

The anticipated weekday AM, PM and Saturday Midday peak hour Project volumes associated with the proposed Project are presented in ***Figures 5-4*** through ***5-6,*** respectively. *Figures 5-5* and *5-6* also include weekday and Saturday daily volumes, respectively.

TABLE 5-1
TRAFFIC GENERATION RATES[10]

ITE Land Use Code	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Trip Generation Factors:											
▪ 110: General Light Industrial – Total (TE/1000 SF)[11]	4.96	88%	12%	0.70	13%	87%	0.63	1.99	47%	53%	0.41
❑ *Passenger Cars – 78.6% Daily*	*3.90*	*88%*	*12%*	*0.42*	*13%*	*87%*	*0.48*	*1.56*	*47%*	*53%*	*0.31*
❑ *2 Axle Trucks – 8.0% Daily/32.7% Peak Hour*	*0.40*	*88%*	*12%*	*0.09*	*13%*	*87%*	*0.05*	*0.16*	*47%*	*53%*	*0.03*
❑ *3 Axle Trucks – 3.9% Daily/17.9% Peak Hour*	*0.19*	*88%*	*12%*	*0.05*	*13%*	*87%*	*0.03*	*0.08*	*47%*	*53%*	*0.02*
❑ *4+ Axle Trucks – 9.5% Daily/49.4% Peak Hour*	*0.47*	*88%*	*12%*	*0.14*	*13%*	*87%*	*0.07*	*0.19*	*47%*	*53%*	*0.05*
▪ 151: Mini Warehouse (TE/1000 SF)	1.51	60%	40%	0.10	47%	53%	0.17	1.95	59%	41%	0.31
▪ 210: Single Family Detached Housing (TE/DU)	9.44	25%	75%	0.74	63%	37%	0.99	9.54	54%	46%	0.93
▪ 220: Multifamily Housing (Low-Rise) (TE/DU)	7.32	23%	77%	0.46	63%	37%	0.56	8.14	49%	51%	0.70[12]
▪ 221: Multifamily Housing (Mid-Rise) (TE/DU)	5.44	26%	74%	0.36	61%	39%	0.44	4.91	49%	51%	0.44
▪ 240: Mobile Home Park (TE/DU)	5.00	31%	69%	0.26	62%	38%	0.46	4.61	50%	50%	0.40
▪ 420: Marina (TE/Dry Slips)	2.41	33%	67%	0.07	60%	40%	0.21	2.61	44%	56%	0.22
▪ 493: Athletic Club (TE/1000 SF)	58.62[13]	61%	39%	3.16	62%	38%	6.29	64.50[13]	49%	51%	8.60

[10] Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Average rates used. When available, Saturday daily and Saturday peak hour trip rates of the generator were used to estimate the Saturday daily and Saturday Midday peak hour, respectively.

[11] Recommended mix of traffic, including mix of 2-axle, 3-axle, and 4+-axle trucks are based on the *Truck Trip Generation Study – City of Fontana, August 2003.* All 2-axle, 3-axle and 4+-axle trucks are converted to passenger car equivalents using a factor of 1.5 vehicles per truck, 2.0 vehicles per truck, and 3.0 vehicles per truck, respectively. Saturday daily and Midday peak hour mix are not provided in the City of Fontana study, therefore the splits are assumed to patch the weekday daily and weekday PM peak hour, respectively.

[12] Directional splits for Saturday peak hour trip rates of the generator are not available for this land use per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Therefore, the directional splits were matched to ITE Land Use 221: Multifamily Housing (Mid-Rise).

[13] Weekday daily trip rate is not available for this land use per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Therefore, the weekday daily trip rate was estimated by applying the same relationship between Daily and PM ratio from the ITE Land Use 492: Health/Fitness Club from *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012). Similarly, the Saturday daily trip rate is not available for this land use. Therefore, the Saturday daily trip rate was estimated by applying the same relationship between Saturday Daily and Saturday peak hour trip rates of the generator ratio from the ITE Land Use 492: Health/Fitness Club from *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).

TABLE 5-1 (CONTINUED)
TRAFFIC GENERATION RATES[14]

ITE Land Use Code	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Trip Generation Factors:											
▪ 560: Church (TE/1000 SF)	6.95	60%	40%	0.33	45%	55%	0.49	5.99	59%	41%	2.78
▪ 565: Day Care Center (TE/1000 SF)	47.62	53%	47%	11.00	47%	53%	11.12	6.22	63%	37%	1.70
▪ 575: Fire and Rescue Station (TE/1000 SF)	4.30[15]	50%	50%	0.48[15]	29%	71%	0.48	4.30[15]	50%	50%	0.48[15]
▪ 580: Museum (TE/1000 SF)	1.96[16]	86%	14%	0.28	16%	84%	0.18	5.88[16]	71%	29%	0.66
▪ 710: General Office Building (TE/1000 SF)	9.74	86%	14%	1.16	16%	84%	1.15	2.21	54%	46%	0.53
▪ 820: Shopping Center (TE/1000 SF)	37.75	62%	38%	0.94	48%	52%	3.81	46.12	52%	48%	4.50
▪ 942: Automobile Care Center (TE/1000 SF)	22.39[17]	66%	34%	2.25	48%	52%	3.11	23.72	46%	54%	9.11
▪ 945: Gas Station with Convenience Market (TE/VFP)	205.36	51%	49%	12.47	51%	49%	13.99	283.42[18]	50%	50%	19.28

Notes:
- TE/1,000 SF = Trip ends per thousand square-feet (SF)
- TE/VFP = Trip ends per vehicle fuel pump (VFP)
- TE/DU = Trip ends per dwelling unit (DU)
- TE/Dry Slip = Trip ends per dry slip

14 Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Average rates used. When available, Saturday daily and Saturday peak hour trip rates of the generator were used to estimate the Saturday daily and Saturday Midday peak hour, respectively.

15 Weekday and Saturday daily trip rates are not available for this land use per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Therefore, the weekday and Saturday daily trip rates were estimated by applying a factor of 10 to the PM peak hour trips. Similarly, weekday AM peak hour and Saturday peak hour trip rates of the generator are also not available for this land use. Therefore, the AM peak hour and Saturday Midday peak hour trip rates are assumed to match the PM peak hour trip rates with a directional split of 50% entering and 50% exiting.

16 Weekday and Saturday daily trip rates are not available for this land use per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Therefore, the weekday and Saturday daily trip rates were estimated by applying a factor of 10 to the PM peak hour trips and Saturday Midday peak hour trips, respectively.

17 Weekday daily trip rate is not available for this land use per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Therefore, the weekday daily trip rate was estimated by applying the same relationship between Daily and PM ratio from the ITE Land Use 943: Automobile Parts & Services Center. Similarly, Saturday peak hour trip rates of the generator is not available for this land use. Therefore, the Saturday Midday peak hour rate was estimated by applying the same relationship between PM and Saturday peak hour of the generator ratio from the ITE Land Use 943: Automobile Parts & Services Center.

18 Saturday daily trip rate is not available for this land use per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). Therefore, the Saturday daily trip rate was estimated by applying the same relationship between Daily and PM ratio from the ITE Land Use 943: Automobile Parts & Services Center to the Saturday peak hour of generator trip rate.

TABLE 5-2

EXISTING LAND USE TRAFFIC GENERATION FORECAST SUMMARY[19]

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Village Commercial/Industrial (V-C/I)											
▪ Zone 1	148	6	4	10	8	9	17	191	18	13	31
▪ Zone 2	479	19	8	27	22	25	47	464	25	30	55
▪ Zone 3	51	8	0	8	0	6	6	20	2	2	4
▪ Zone 4	107	9	3	12	4	11	15	85	14	18	32
▪ Zone 5	137	16	2	18	3	14	17	440	23	22	45
V-C/I Total	**922**	**58**	**17**	**75**	**37**	**65**	**102**	**1200**	**82**	**85**	**167**
Village Main Street (V-MS) (30 DU/AC)											
▪ Zone 6	3,457	53	39	92	106	112	218	4,398	198	186	384
▪ Zone 10	116	6	3	9	6	8	14	130	17	18	35
▪ Zone 11	2,215	102	82	184	57	72	129	2,262	111	93	204
▪ Zone 12	265	4	2	6	9	11	20	324	16	15	31
▪ Zone 13	265	4	2	6	9	11	20	325	16	15	31
V-MS (30 DU/AC) Total	**6,318**	**169**	**128**	**297**	**187**	**214**	**401**	**7,439**	**358**	**327**	**685**
Village Main Street (V-MS) (10 AC/DU)											
▪ Zone 7	387	5	5	10	14	14	28	473	24	22	46
▪ Zone 8	415	6	5	11	15	16	31	507	26	23	49
▪ Zone 9	36	1	0	1	1	2	3	44	3	1	4
V-MS (10 AC/DU) Total	**838**	**12**	**10**	**22**	**30**	**32**	**62**	**1,024**	**53**	**46**	**99**

[19] *Table 5-2* presents a summary of total trips for each zone. Please refer to *Appendix C* for detailed trip generation calculations for each zone. Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

TABLE 5-2 (CONTINUED)
EXISTING LAND USE TRAFFIC GENERATION FORECAST SUMMARY[20]

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Village Commercial/Residential (V-C/R) (50 DU/AC)											
▪ Zone 14	982	16	28	44	50	37	87	983	45	44	89
Village Commercial/Residential (V-C/R) (30 DU/AC)											
▪ Zone 15	222	6	5	11	7	8	15	192	52	37	89
▪ Zone 16	200	7	8	15	8	9	17	190	9	9	18
▪ Zone 17	144	8	2	10	4	8	12	110	6	7	13
▪ Zone 18	284	7	4	11	11	11	22	322	18	13	31
▪ Zone 19	51	1	3	4	4	1	5	51	3	2	5
▪ Zone 20	89	3	5	8	4	4	8	94	5	4	9
▪ Zone 21	101	9	2	11	4	8	12	43	5	2	7
▪ Zone 22	100	10	2	12	2	10	12	22	3	2	5
▪ Zone 23	168	14	13	27	13	14	27	74	5	3	8
▪ Zone 24	1,996	55	98	153	109	78	187	2,040	95	102	197
V-C/R (30 DU/AC) Total	**3,355**	**120**	**142**	**262**	**166**	**151**	**317**	**3138**	**201**	**181**	**382**
Community Facilities (CF)											
▪ Zone 25	154	8	5	13	0	0	0	0	0	0	0
▪ Zone 26	87	2	3	5	3	3	6	77	17	13	30
CF Total	**241**	**10**	**8**	**18**	**3**	**3**	**6**	**77**	**17**	**13**	**30**
Total Existing Land Use Trip Generation	**12,656**	**385**	**333**	**718**	**473**	**502**	**975**	**13,861**	**756**	**696**	**1,452**

[20] *Table 5-2* presents a summary of total trips for each zone. Please refer to *Appendix C* for detailed trip generation calculations for each zone. Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

TABLE 5-3

FUTURE LAND USE TRAFFIC GENERATION FORECAST SUMMARY[21]

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Village Commercial/Industrial (V-C/I)											
▪ Zone 1	2,231	121	30	151	66	138	204	2,092	121	115	236
▪ Zone 2	2,289	125	29	154	67	143	210	2,148	123	118	241
▪ Zone 3	472	24	6	30	14	29	43	442	25	25	50
▪ Zone 4	385	21	4	25	10	24	34	362	20	20	40
▪ Zone 5	532	29	7	36	16	32	48	499	28	28	56
V-C/I Total	**5,909**	**320**	**76**	**396**	**173**	**366**	**539**	**5,543**	**317**	**306**	**623**
Village Main Street (V-MS) (30 DU/AC)											
▪ Zone 6	3,193	51	69	120	126	117	243	3,588	175	168	343
▪ Zone 10	317	6	5	11	12	12	24	357	17	17	34
▪ Zone 11	727	11	16	27	29	26	55	816	40	38	78
▪ Zone 12	396	6	8	14	15	14	29	446	21	22	43
▪ Zone 13	308	6	4	10	11	12	23	346	16	17	33
V-MS (30 DU/AC) Total	**4,941**	**80**	**102**	**182**	**193**	**181**	**374**	**5,553**	**269**	**262**	**531**
Village Main Street (V-MS) (10 AC/DU)											
▪ Zone 7	256	5	3	8	10	9	19	302	14	15	29
▪ Zone 8	372	6	6	12	14	14	28	439	22	20	42
▪ Zone 9	138	2	3	5	6	4	10	163	9	7	16
V-MS (10 AC/DU) Total	**766**	**13**	**12**	**25**	**30**	**27**	**57**	**904**	**45**	**42**	**87**

[21] *Table 5-3* presents a summary of total trips for each zone. Please refer to *Appendix C* for detailed trip generation calculations for each zone. Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

TABLE 5-3 (CONTINUED)
FUTURE LAND USE TRAFFIC GENERATION FORECAST SUMMARY[22]

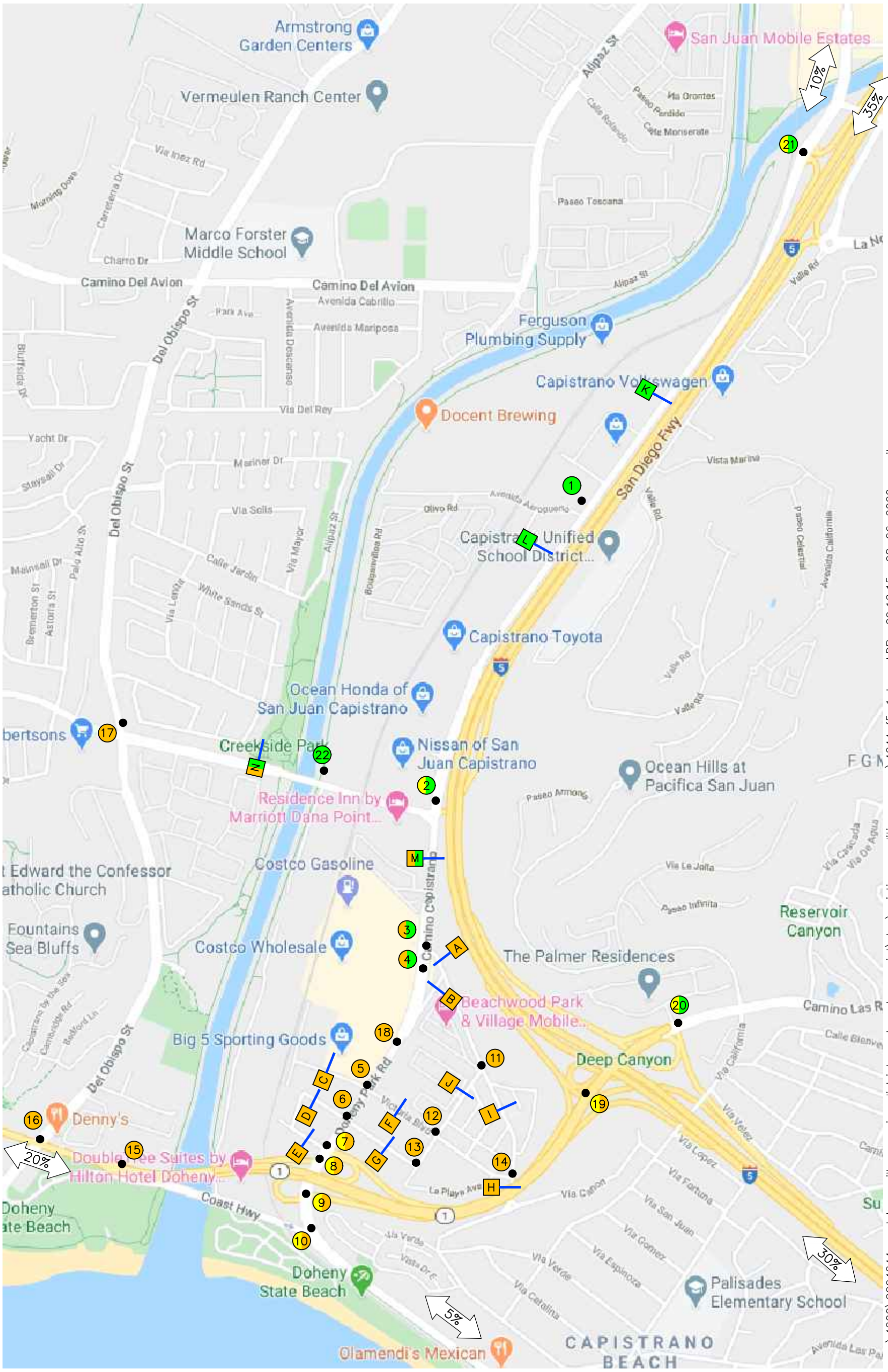
Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Village Commercial/Residential (V-C/R) (50 DU/AC)											
▪ Zone 14	4,219	62	156	218	187	132	319	4,826	217	216	433
Village Commercial/Residential (V-C/R) (30 DU/AC)											
▪ Zone 15	783	10	27	37	33	26	59	903	40	43	83
▪ Zone 16	488	8	14	22	20	16	36	563	26	25	51
▪ Zone 17	148	2	5	7	7	4	11	171	8	7	15
▪ Zone 18	201	4	6	10	9	7	16	234	9	13	22
▪ Zone 19	158	3	5	8	7	4	11	181	8	9	17
▪ Zone 20	160	3	5	8	7	4	11	185	8	9	17
▪ Zone 21	167	3	5	8	8	4	12	194	8	10	18
▪ Zone 22	126	2	5	7	6	3	9	147	8	4	12
▪ Zone 23	170	3	5	8	8	4	12	197	8	10	18
▪ Zone 24	748	10	26	36	31	26	57	865	40	39	79
V-C/R (30 DU/AC) Total	**3,149**	**48**	**103**	**151**	**136**	**98**	**234**	**3,640**	**163**	**169**	**332**
Community Facilities (CF)											
▪ Zone 25	845	12	41	53	41	24	65	940	40	41	81
▪ Zone 26	83	2	3	5	3	3	6	73	16	12	28
CF Total	**928**	**14**	**44**	**58**	**44**	**27**	**71**	**1,013**	**56**	**53**	**109**
Total Future Land Use Trip Generation	**19,912**	**537**	**493**	**1,030**	**763**	**831**	**1,594**	**21,479**	**1,067**	**1,048**	**2,115**

[22] *Table 5-3* presents a summary of total trips for each zone. Please refer to *Appendix C* for detailed trip generation calculations for each zone. Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

TABLE 5-4

TOTAL PROJECT TRAFFIC GENERATION FORECAST SUMMARY

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Village Commercial/Industrial (V-C/I)											
▪ Existing Land Use Trips	922	58	17	75	37	65	102	1200	82	85	167
▪ Future Land Use Trips	5,909	320	76	396	173	366	539	5,543	317	306	623
Village Main Street (V-MS) (30 DU/AC)											
▪ Existing Land Use Trips	6,318	169	128	297	187	214	401	7,439	358	327	685
▪ Future Land Use Trips	4,941	80	102	182	193	181	374	5,553	269	262	531
Village Main Street (V-MS) (10 AC/DU)											
▪ Existing Land Use Trips	838	12	10	22	30	32	62	1,024	53	46	99
▪ Future Land Use Trips	766	13	12	25	30	27	57	904	45	42	87
Village Commercial/Residential (V-C/R) (50 DU/AC)											
▪ Existing Land Use Trips	982	16	28	44	50	37	87	983	45	44	89
▪ Future Land Use Trips	4,219	62	156	218	187	132	319	4,826	217	216	433
Village Commercial/Residential (V-C/R) (30 DU/AC)											
▪ Existing Land Use Trips	3,355	120	142	262	166	151	317	3138	201	181	382
▪ Future Land Use Trips	3,149	48	103	151	136	98	234	3,640	163	169	332
Community Facilities (CF)											
▪ Existing Land Use Trips	241	10	8	18	3	3	6	77	17	13	30
▪ Future Land Use Trips	928	14	44	58	44	27	71	1,013	56	53	109
Total Existing Land Use Trip Generation [A]	**12,656**	**385**	**333**	**718**	**473**	**502**	**975**	**13,861**	**756**	**696**	**1,452**
Total Future Land Use Trip Generation [B]	**19,912**	**537**	**493**	**1,030**	**763**	**831**	**1,594**	**21,479**	**1,067**	**1,048**	**2,115**
Total "Net" Project Trip Generation ([B] – [A])	**7,256**	**152**	**160**	**312**	**290**	**329**	**619**	**7,618**	**311**	**352**	**663**



n:\4200\2204244 – doheny village zoning district overlay, dana point\dwg\existing conditions memo\4244 f5–1.dwg LDP 09:12:15 08–26–2020 aguilar

SOURCE: GOOGLE

KEY

(#) = DANA POINT INTERSECTION

(#) = SAN JUAN CAPISTRANO INTERSECTION

(#) = CALTRANS INTERSECTION

[#] = DANA POINT ROADWAY SEGMENT

[#] = SAN JUAN CAPISTRANO ROADWAY SEGMENT

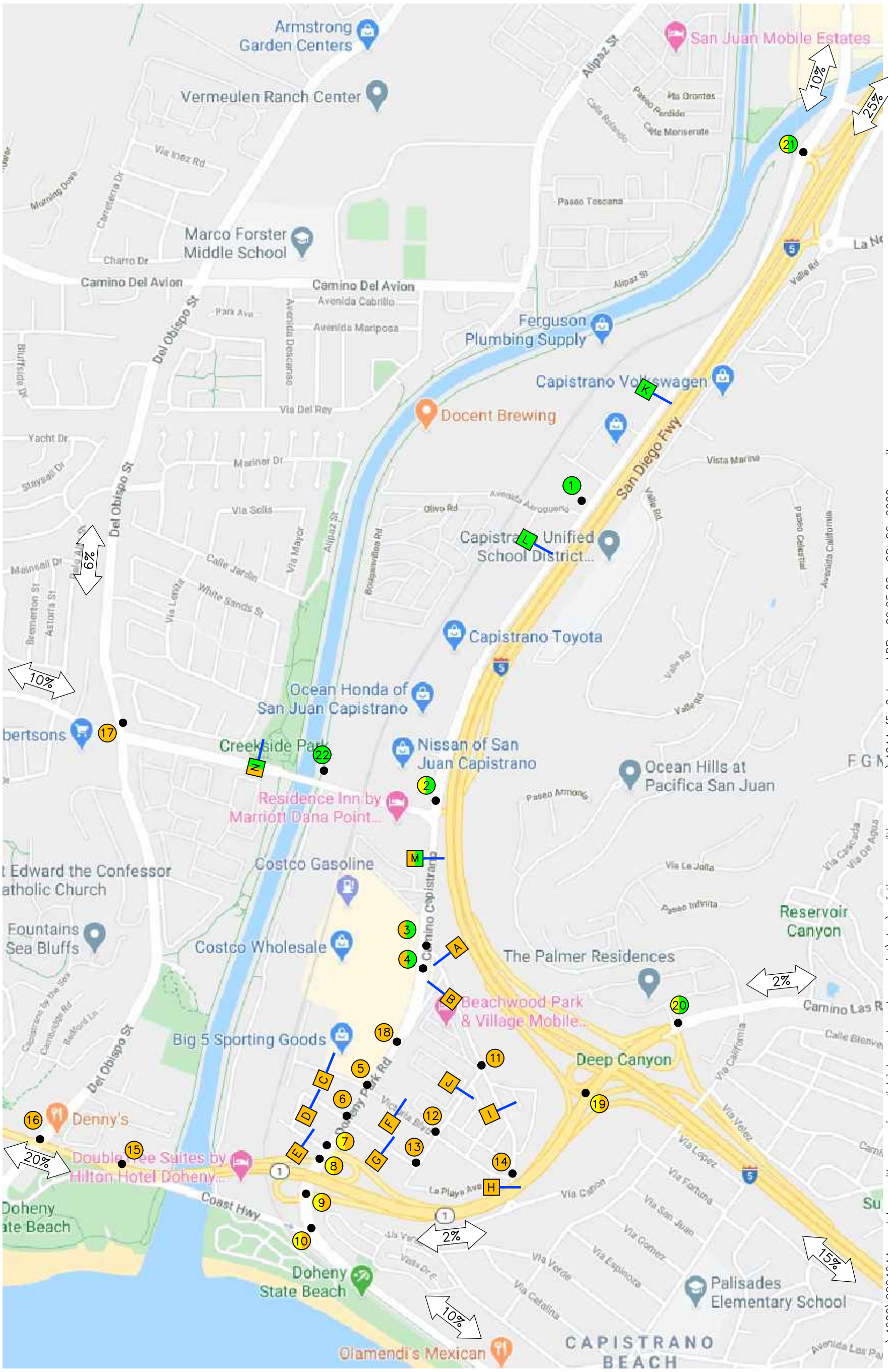
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 5–1

INDUSTRIAL PROJECT TRAFFIC DISTRIBUTION PATTERN

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT



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SOURCE: GOOGLE

KEY

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- (#) = SAN JUAN CAPISTRANO INTERSECTION
- (#) = CALTRANS INTERSECTION
- [#] = DANA POINT ROADWAY SEGMENT
- [#] = SAN JUAN CAPISTRANO ROADWAY SEGMENT

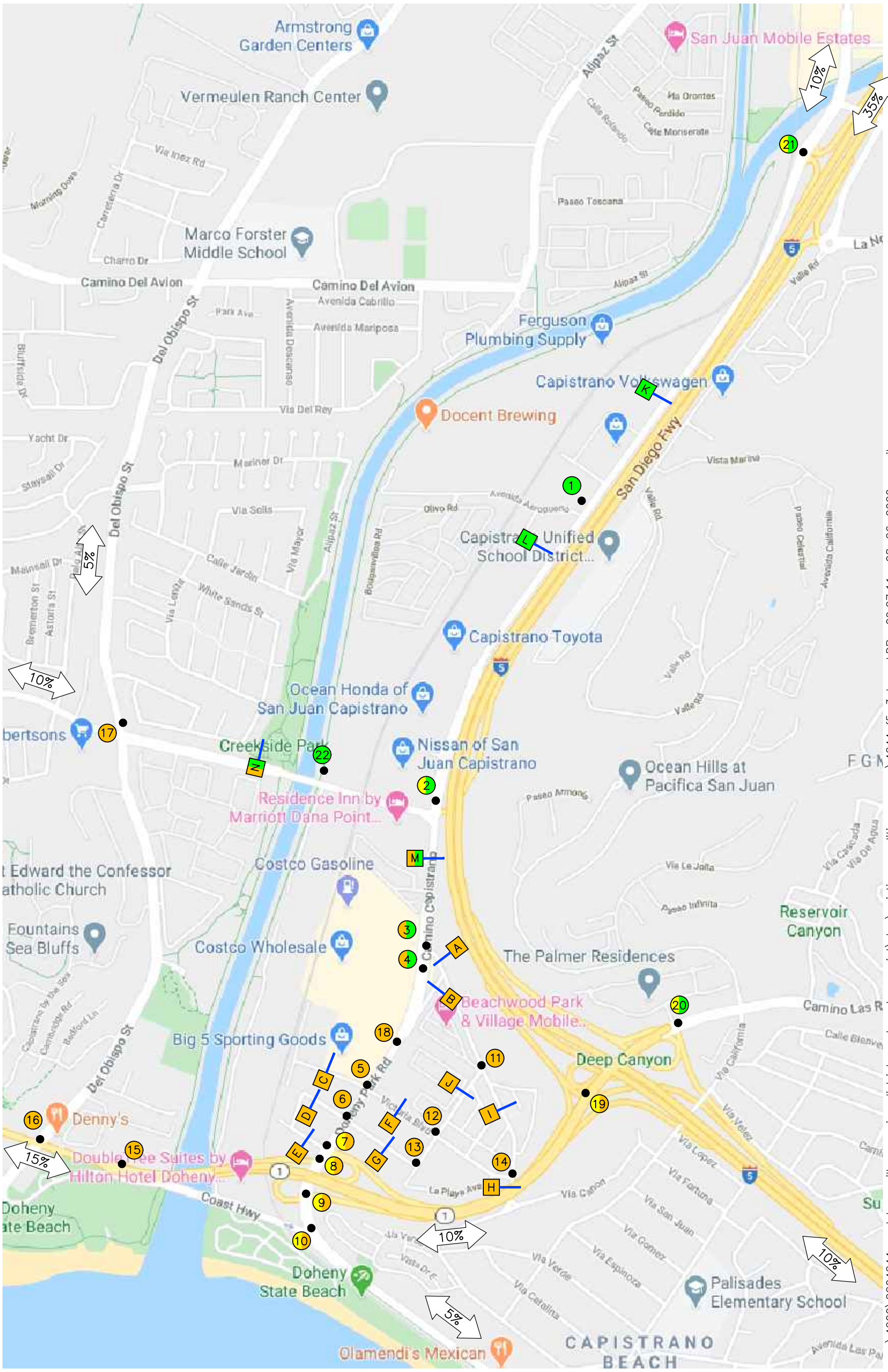
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 5-2

COMMERCIAL/OFFICE PROJECT TRAFFIC DISTRIBUTION PATTERN

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT



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SOURCE: GOOGLE

KEY

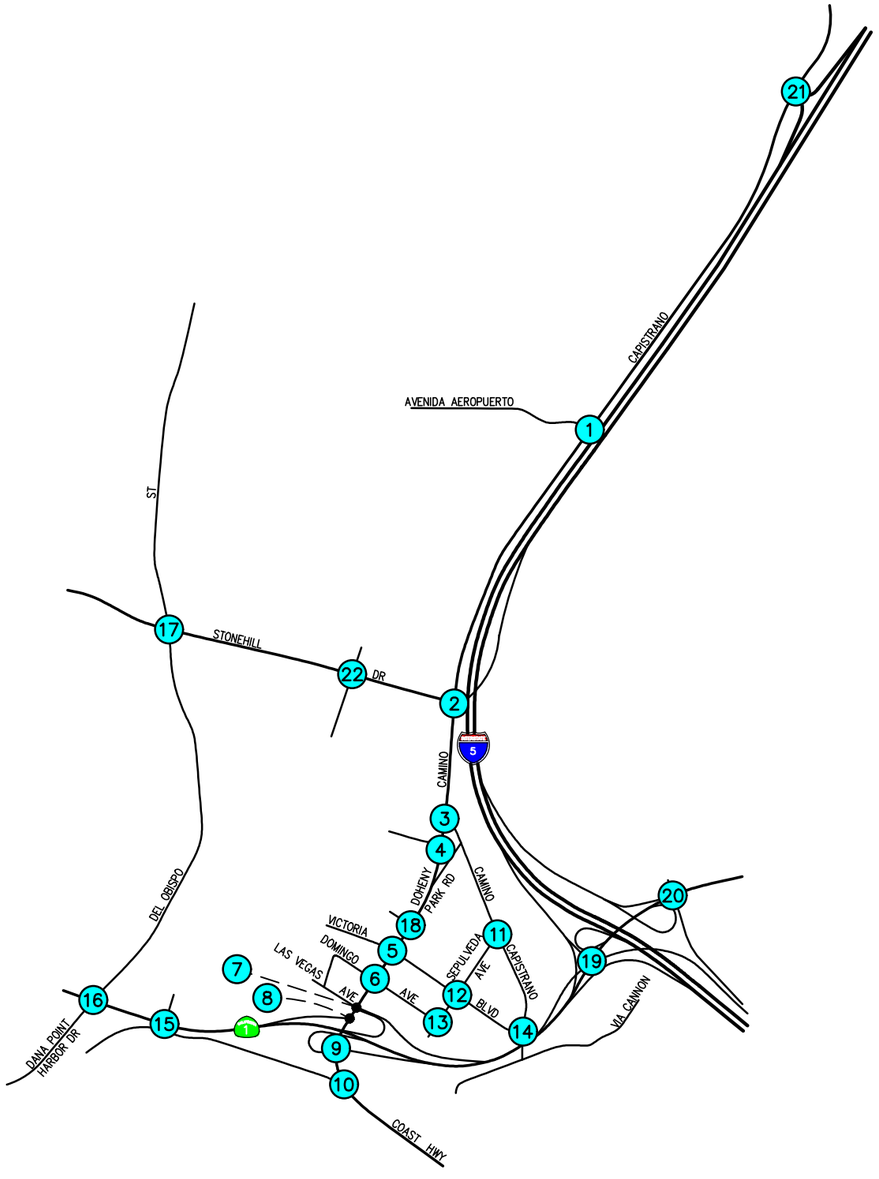
- # = DANA POINT INTERSECTION
- # = SAN JUAN CAPISTRANO INTERSECTION
- # = CALTRANS INTERSECTION
- # = DANA POINT ROADWAY SEGMENT
- # = SAN JUAN CAPISTRANO ROADWAY SEGMENT

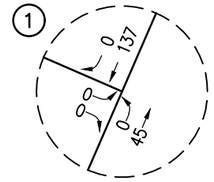
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

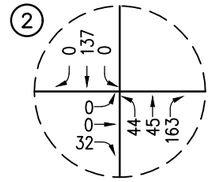
FIGURE 5-3

RESIDENTIAL PROJECT
TRAFFIC DISTRIBUTION PATTERN
DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

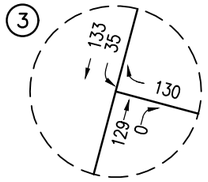




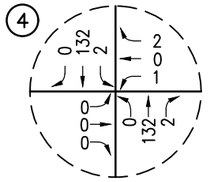
1 CAMINO CAPISTRANO @ AVENIDA AEROPUERTO



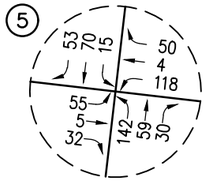
2 CAMINO CAPISTRANO @ STONEHILL DR



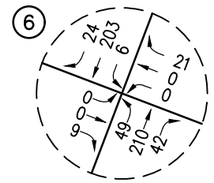
3 CAMINO CAPISTRANO @ CAMINO CAPISTRANO



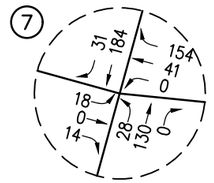
4 DOHENY PARK RD @ COSTCO DWY



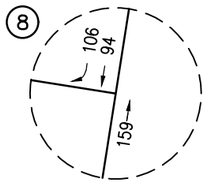
5 DOHENY PARK RD @ VICTORIA BLVD



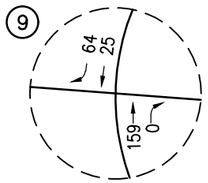
6 DOHENY PARK RD @ DOMINGO AVE



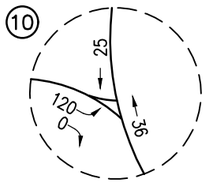
7 DOHENY PARK RD @ LAS VEGAS/PCH RAMPS



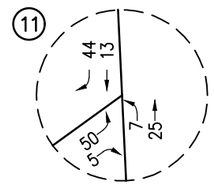
8 DOHENY PARK RD @ PCH WB ON RAMPS



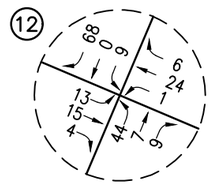
9 DOHENY PARK RD @ PCH EB ON RAMPS



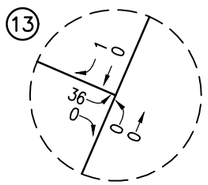
10 DOHENY PARK RD @ PCH SIDE PATH



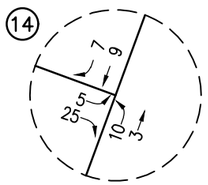
11 CAMINO CAPISTRANO @ SEPULVEDA AVE



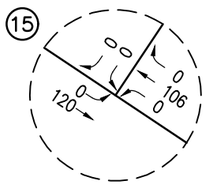
12 SEPULVEDA AVE @ VICTORIA BLVD



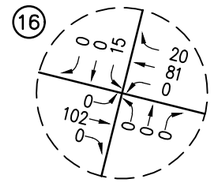
13 SEPULVEDA AVE @ DOMINGO AVE



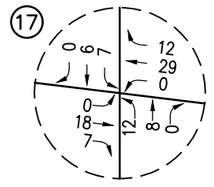
14 CAMINO CAPISTRANO @ VICTORIA BLVD



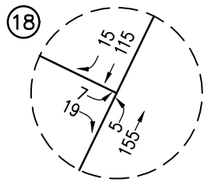
15 DOHENY PARK PLAZA @ PACIFIC COAST HIGHWAY



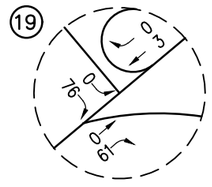
16 DEL OBISPO ST @ PACIFIC COAST HIGHWAY



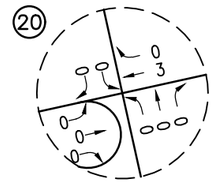
17 DEL OBISPO ST @ STONEHILL DR



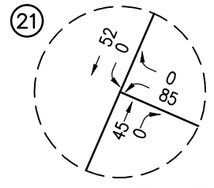
18 DOHENY PARK RD @ SMART & FINAL DWY



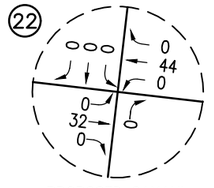
19 I-5 SB RAMPS @ PCH/CAMINO LAS RAMBLAS



20 I-5 NB RAMPS @ PCH/CAMINO LAS RAMBLAS



21 CAMINO CAPISTRANO @ I-5 SB RAMPS



22 PROPOSED GANAHL LUMBER DWY @ STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

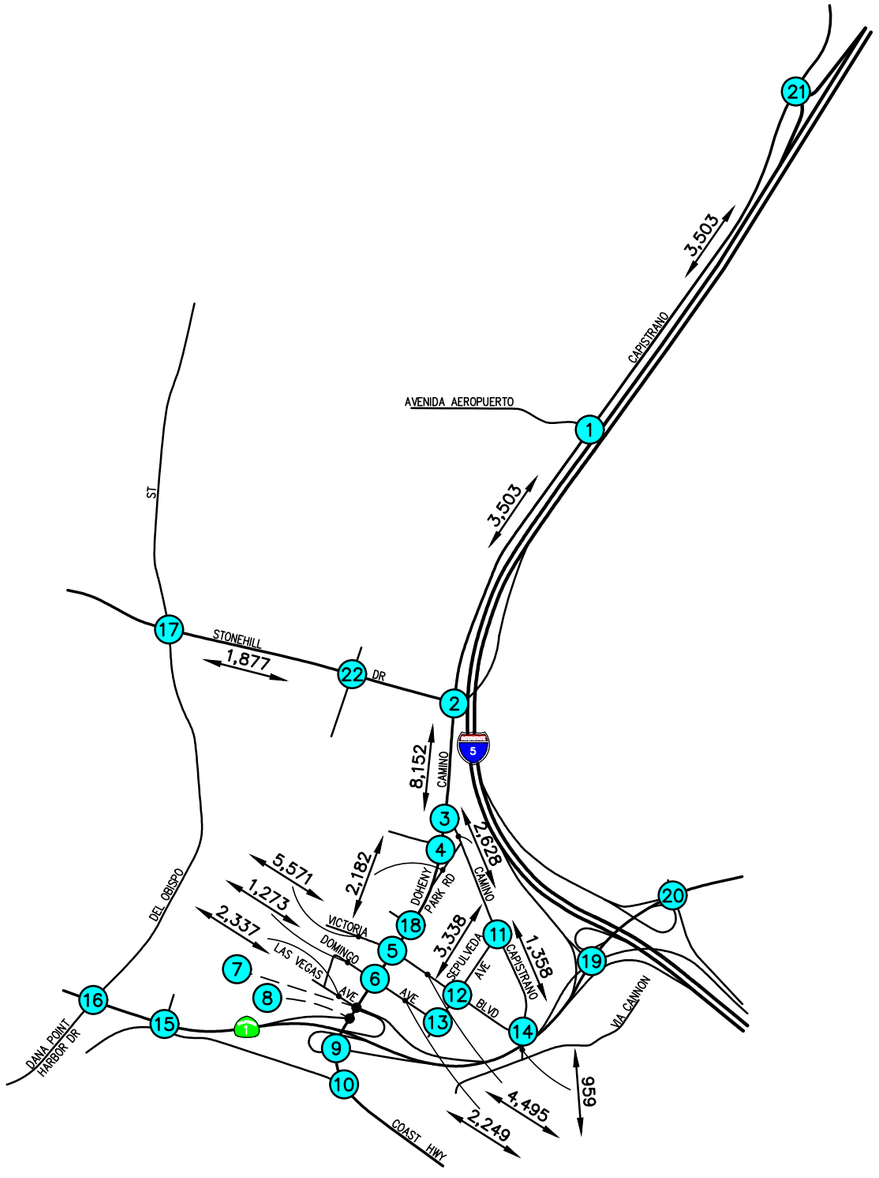
KEY

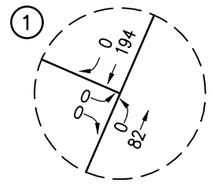
(#) = STUDY INTERSECTION

FIGURE 5-4

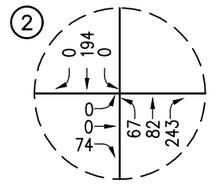
AM PEAK HOUR PROJECT TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

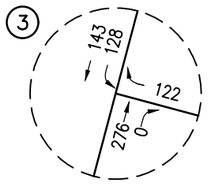




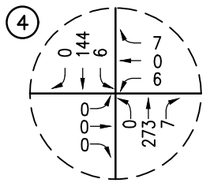
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



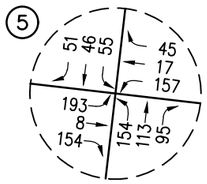
CAMINO CAPISTRANO @
STONEHILL DR



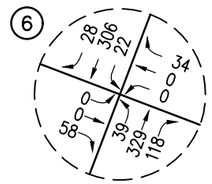
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



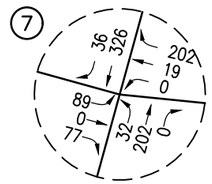
DOHENY PARK RD @
COSTCO DWY



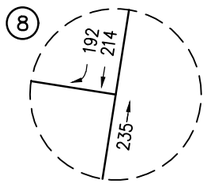
DOHENY PARK RD @
VICTORIA BLVD



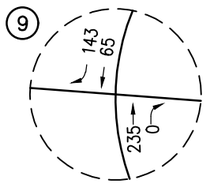
DOHENY PARK RD @
DOMINGO AVE



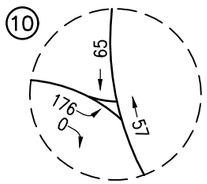
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



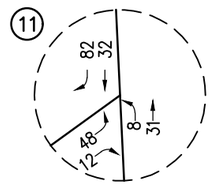
DOHENY PARK RD @
PCH WB ON RAMPS



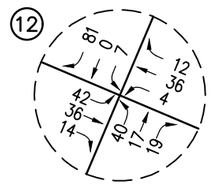
DOHENY PARK RD @
PCH EB ON RAMPS



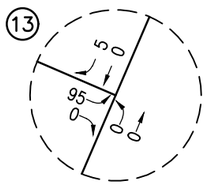
DOHENY PARK RD @
PCH SIDE PATH



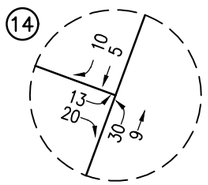
CAMINO CAPISTRANO @
SEPULVEDA AVE



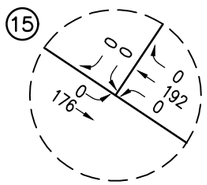
SEPULVEDA AVE @
VICTORIA BLVD



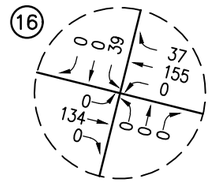
SEPULVEDA AVE @
DOMINGO AVE



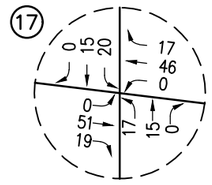
CAMINO CAPISTRANO @
VICTORIA BLVD



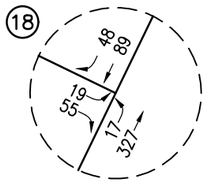
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



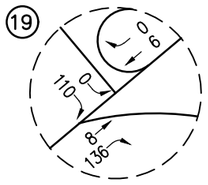
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



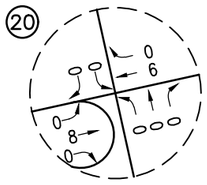
DEL OBISPO ST @
STONEHILL DR



DOHENY PARK RD @
SMART & FINAL DWY



I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



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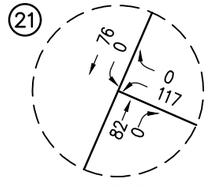
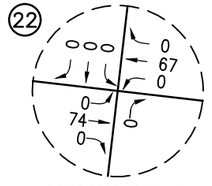
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

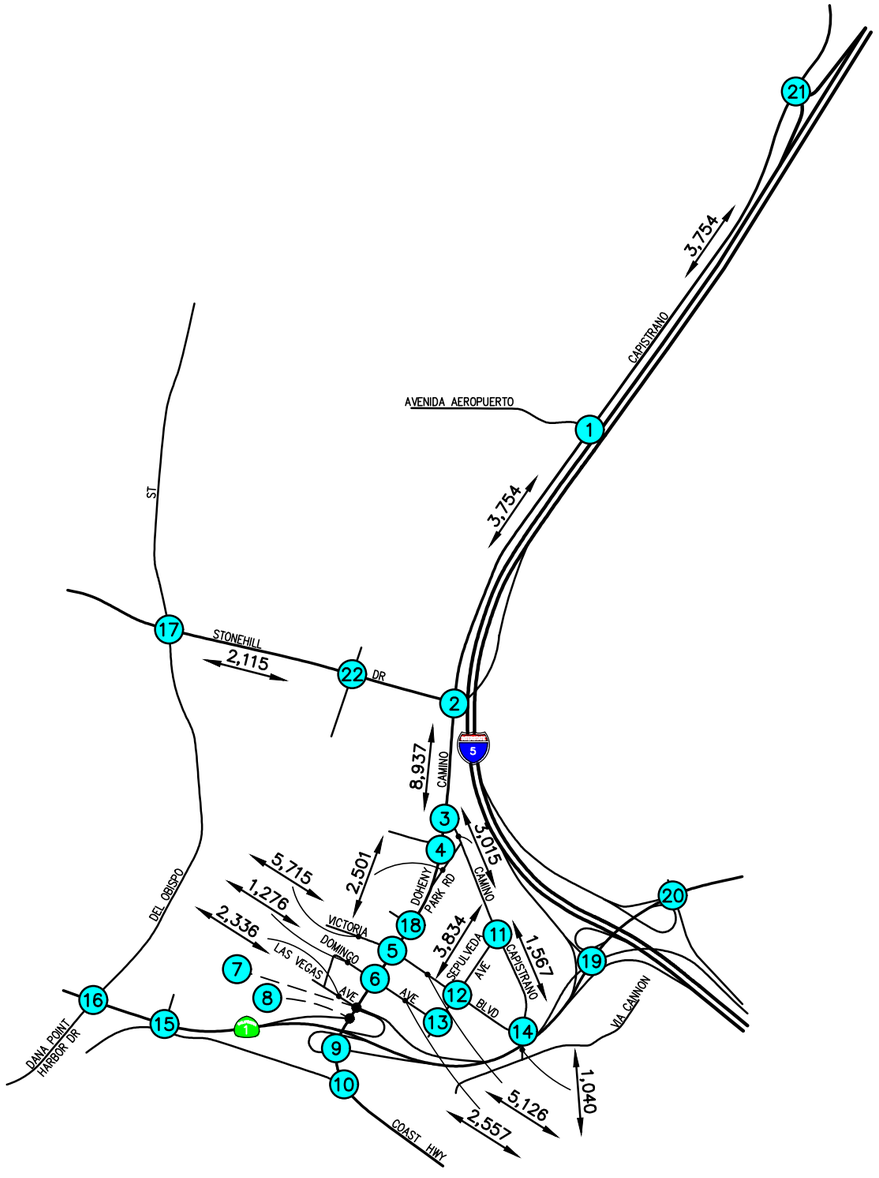
N
NO SCALE

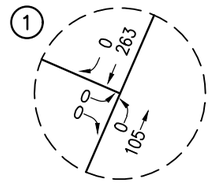
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 5-5

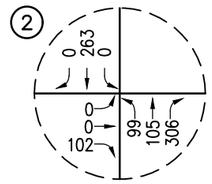
PM PEAK HOUR AND DAILY PROJECT TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

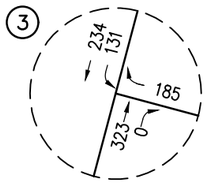




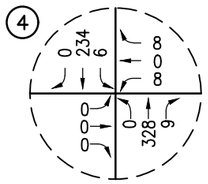
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



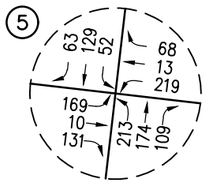
CAMINO CAPISTRANO @
STONEHILL DR



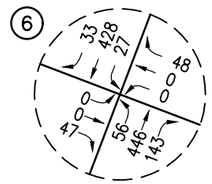
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



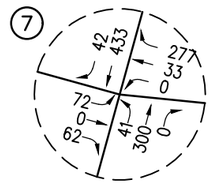
DOHENY PARK RD @
COSTCO DWY



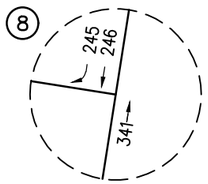
DOHENY PARK RD @
VICTORIA BLVD



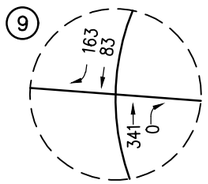
DOHENY PARK RD @
DOMINGO AVE



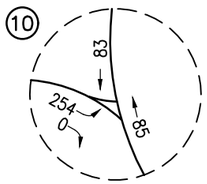
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



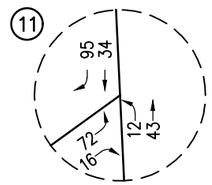
DOHENY PARK RD @
PCH WB ON RAMPS



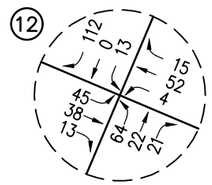
DOHENY PARK RD @
PCH EB ON RAMPS



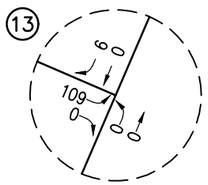
DOHENY PARK RD @
PCH SIDE PATH



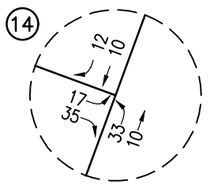
CAMINO CAPISTRANO @
SEPULVEDA AVE



SEPULVEDA AVE @
VICTORIA BLVD



SEPULVEDA AVE @
DOMINGO AVE



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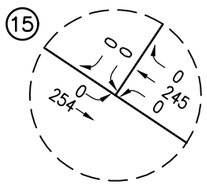
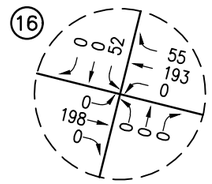
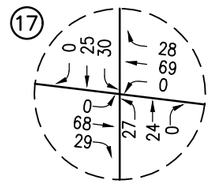
VICTORIA BLVD



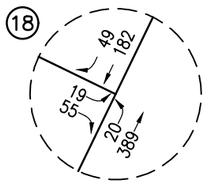
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



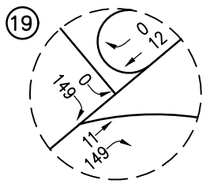
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



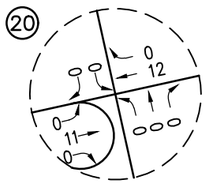
DEL OBISPO ST @
STONEHILL DR



DOHENY PARK RD @
SMART & FINAL DWY



I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



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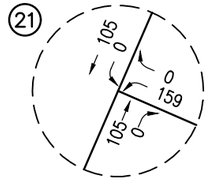
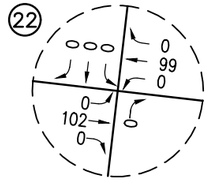
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

N
NO SCALE

KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 5-6

SATURDAY MIDDAY PEAK HOUR AND DAILY PROJECT TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Existing With Project Traffic Volumes

The existing with project traffic conditions have been generated based upon existing conditions and the estimated project traffic. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to improve intersection performance, if any.

Figures 6-1 through ***6-3*** present projected weekday AM, PM and Saturday Midday peak hour traffic volumes at the key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively. *Figures 6-2* and *6-3* also include weekday and Saturday daily volumes, respectively.

6.2 Year 2045 Buildout Traffic Volumes

The Year 2045 traffic volume forecasts for this traffic study were developed via the utilization of the OCTAM 5.0 Year 2045 traffic model. Specifically, AM peak period and PM peak period link traffic volumes were developed for the existing base year (i.e. Year 2016) and for the Year 2045. The AM peak period corresponds to a three-hour morning commute period while the PM peak period corresponds to a four-hour afternoon commute period. Using the peak period model runs and the OCTA approved peak hour factors (i.e. AM = 0.3566 and PM = 0.2662), the one-hour peak hour link traffic volumes were determined. These future year 2045 link traffic volumes were post-processed based on the relationship of the base year validation model run output to the base year ground traffic counts resulting in Year 2045 without project daily traffic volumes for the AM peak hour/PM peak hour turning movements for the key study intersections. Year 2045 Saturday Midday peak hour volumes were developed by applying a factor to the PM peak hour traffic model. The model post-processing worksheets are contained in ***Appendix C***.

6.2.1 *Cumulative Projects Traffic*

To account for additional growth within the study area, cumulative project traffic was included in addition to the modeled traffic volumes. There are a total of thirty-three (33) cumulative projects that have been included as part of the background setting. Cumulative projects are closely related past, present and reasonably foreseeable probable future projects. In addition, these cumulative projects would likely be, or have been, subject to circulation enhancements, which could reduce potential adverse service levels. Under this analysis, however, those circulation enhancements are not considered. The locations of the thirty-three (33) cumulative projects are presented in ***Figure 6-4***.

Table 6-1 presents the address and description/size of the thirty-three (33) cumulative projects. ***Table 6-2*** presents the resultant trip generation for the thirty-three (33) cumulative projects. As shown in *Table 6-2*, the thirty-three (33) cumulative projects are expected to generate a combined total of 37,301 weekday daily trips (one half arriving, one half departing) on a "typical" weekday, with 2,512 trips (1,088 inbound and 1,424 outbound) forecast during the AM peak hour, 2,782 trips (1,562 inbound and 1,220 outbound) forecast during the PM peak hour, and 44,102 Saturday daily

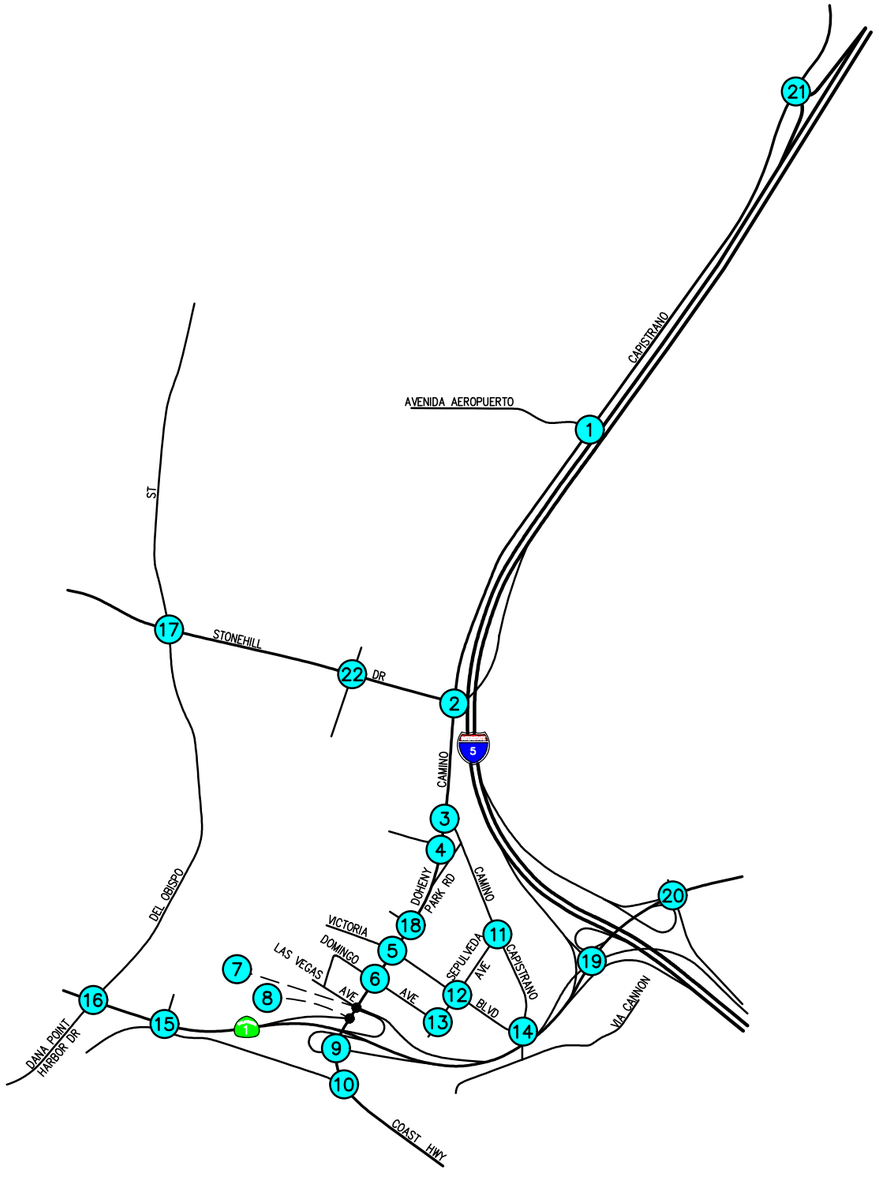
trips (one half arriving, one half departing), with 3,799 trips (2,046 inbound and 1,753 outbound) forecast during the Saturday Midday peak hour.

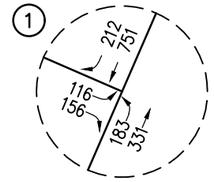
The anticipated weekday AM, PM and Saturday Midday peak hour cumulative projects traffic volumes at the key study intersections are presented in ***Figures 6-5*** through ***6-7***, respectively. *Figures 6-6* and *6-7* also include weekday and Saturday daily volumes, respectively.

6.3 Year 2045 Buildout Plus Project Traffic Volumes

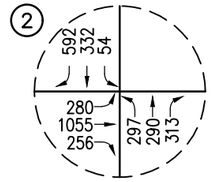
Figures 6-8 through ***6-10*** present Year 2045 Buildout weekday AM, PM and Saturday Midday peak hour traffic volumes at the key study intersections respectively. *Figures 6-9* and *6-10* also include weekday and Saturday daily volumes, respectively.

Figures 6-11 through ***6-13*** present Year 2045 Buildout Plus Project weekday AM, PM and Saturday Midday peak hour traffic volumes at the key study intersections respectively. *Figures 6-12* and *6-13* also include weekday and Saturday daily volumes, respectively.

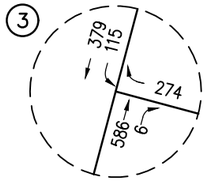




CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



CAMINO CAPISTRANO @
STONEHILL DR



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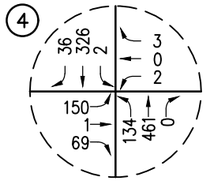
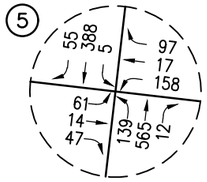
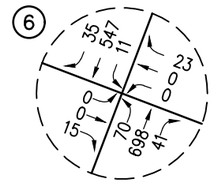
CAMINO CAPISTRANO



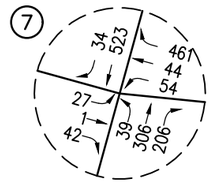
DOHENY PARK RD @
COSTCO DWY



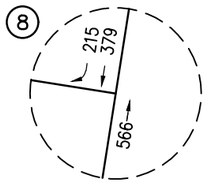
DOHENY PARK RD @
VICTORIA BLVD



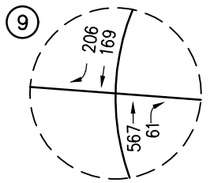
DOHENY PARK RD @
DOMINGO AVE



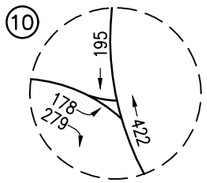
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



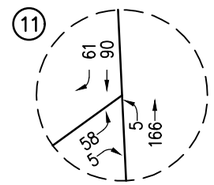
DOHENY PARK RD @
PCH WB ON RAMPS



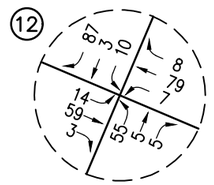
DOHENY PARK RD @
PCH EB ON RAMPS



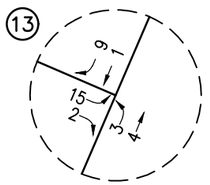
DOHENY PARK RD @
PCH SIDE PATH



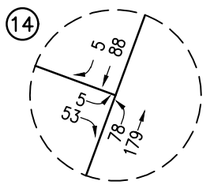
CAMINO CAPISTRANO @
SEPULVEDA AVE



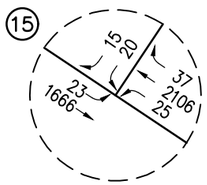
SEPULVEDA AVE @
VICTORIA BLVD



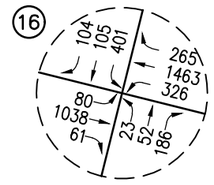
SEPULVEDA AVE @
DOMINGO AVE



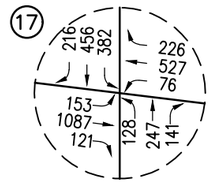
CAMINO CAPISTRANO @
VICTORIA BLVD



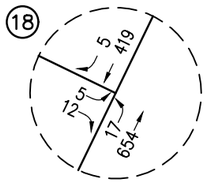
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



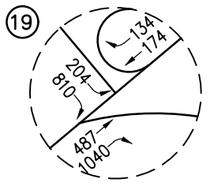
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



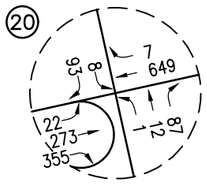
DEL OBISPO ST @
STONEHILL DR



DOHENY PARK RD @
SMART & FINAL DWY



I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



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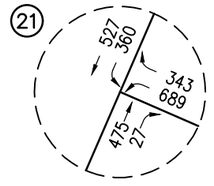
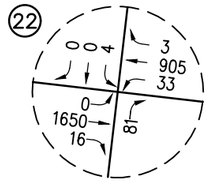
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

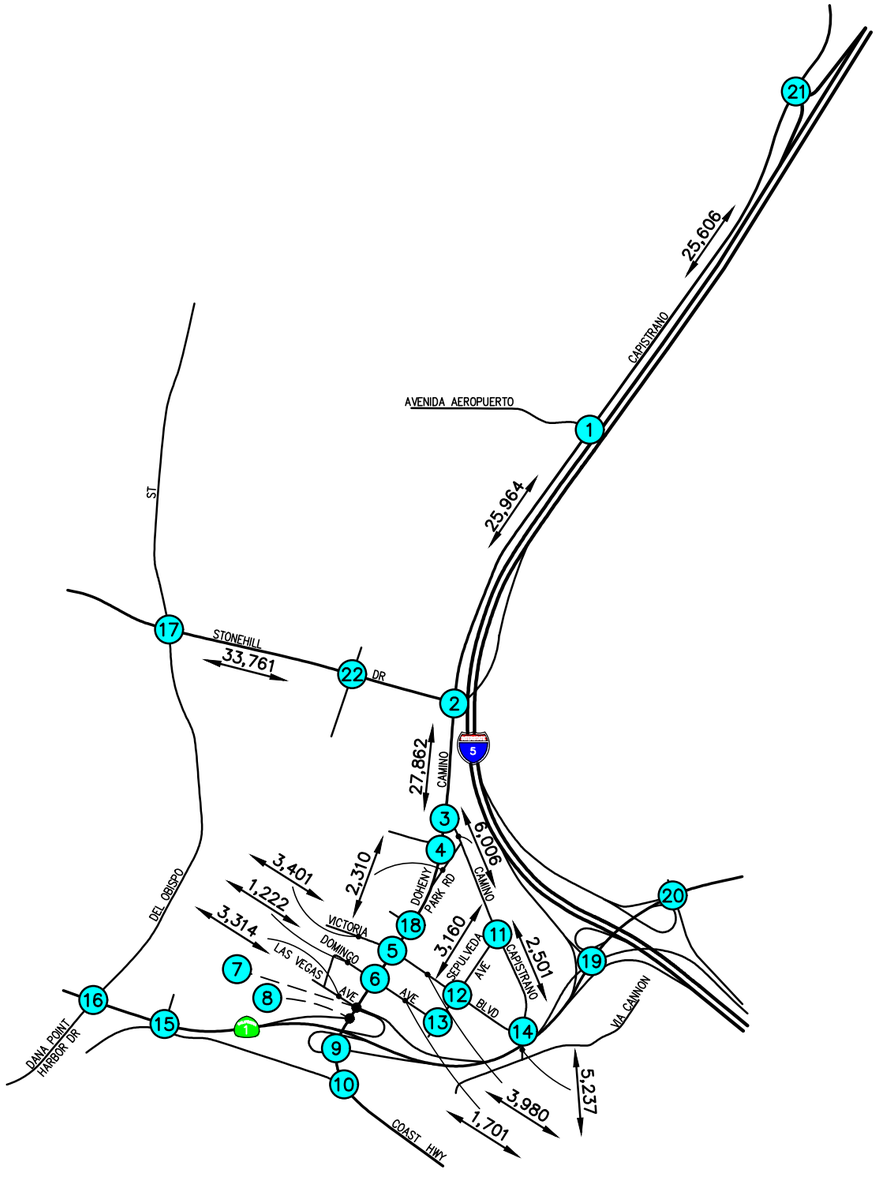
N
NO SCALE

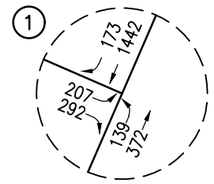
KEY
(#) = STUDY INTERSECTION

FIGURE 6-1

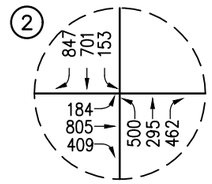
EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

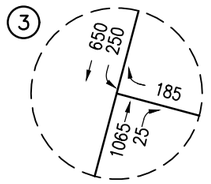




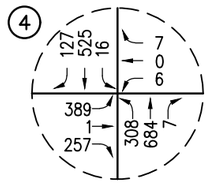
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



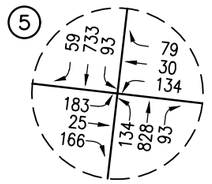
CAMINO CAPISTRANO @
STONEHILL DR



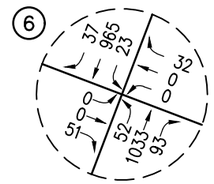
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



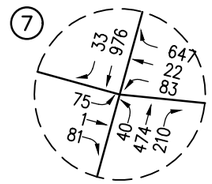
DOHENY PARK RD @
COSTCO DWY



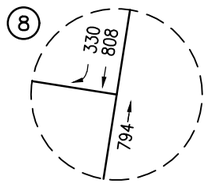
DOHENY PARK RD @
VICTORIA BLVD



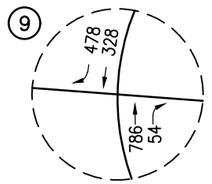
DOHENY PARK RD @
DOMINGO AVE



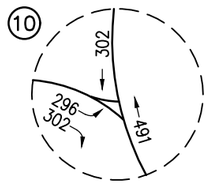
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



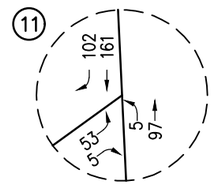
DOHENY PARK RD @
PCH WB ON RAMPS



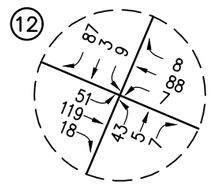
DOHENY PARK RD @
PCH EB ON RAMPS



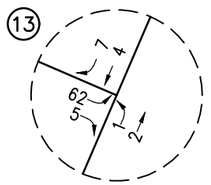
DOHENY PARK RD @
PCH SIDE PATH



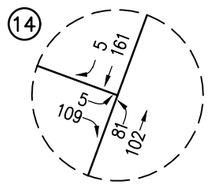
CAMINO CAPISTRANO @
SEPULVEDA AVE



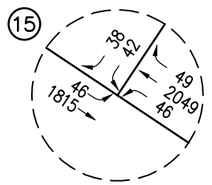
SEPULVEDA AVE @
VICTORIA BLVD



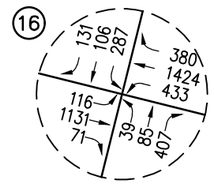
SEPULVEDA AVE @
DOMINGO AVE



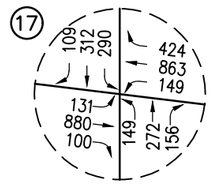
CAMINO CAPISTRANO @
VICTORIA BLVD



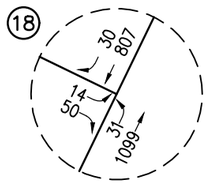
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



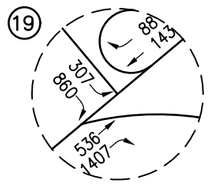
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



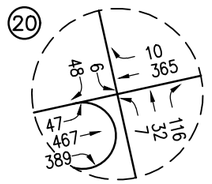
DEL OBISPO ST @
STONEHILL DR



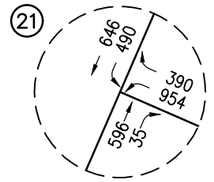
DOHENY PARK RD @
SMART & FINAL DWY



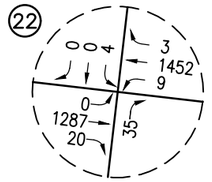
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

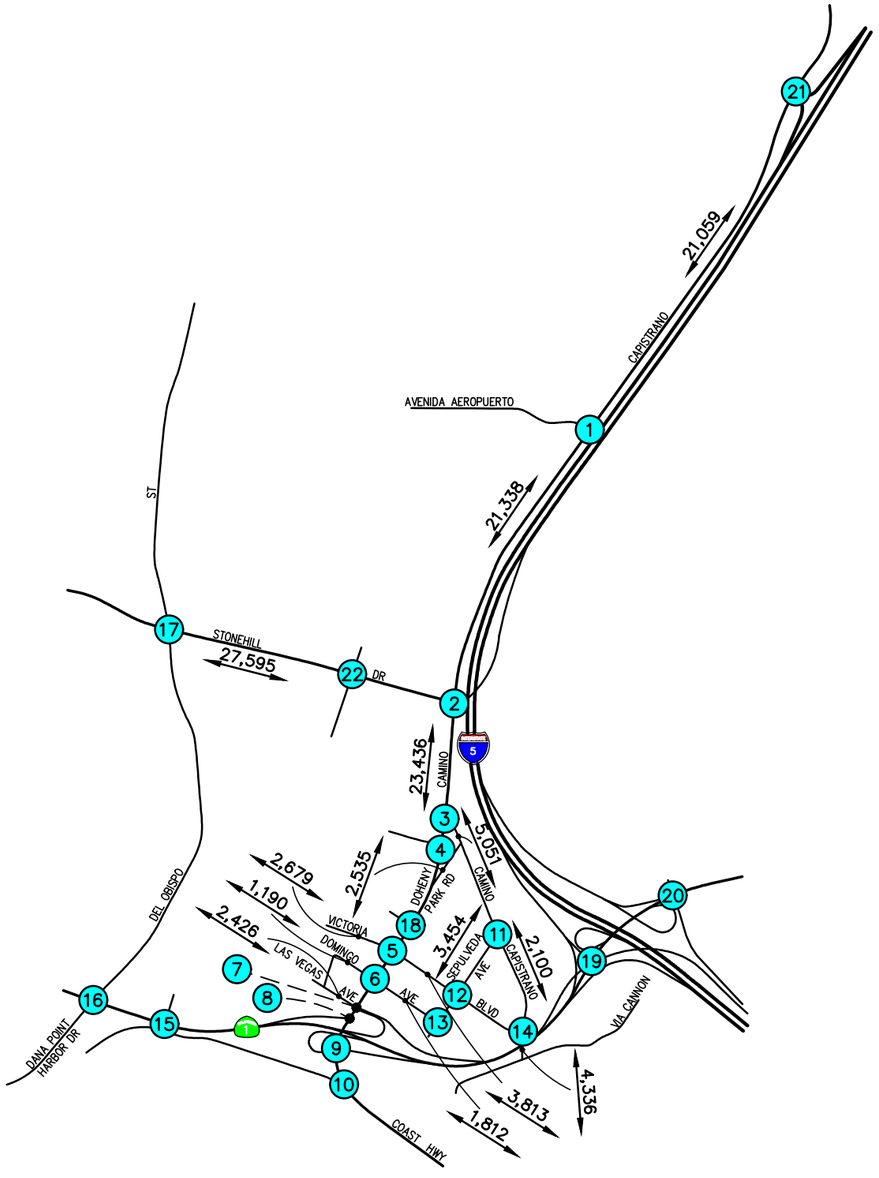
N
NO SCALE

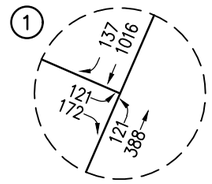
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-2

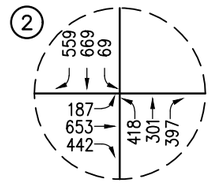
EXISTING PLUS PROJECT PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

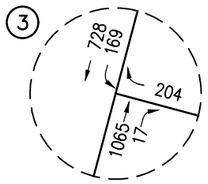




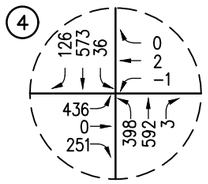
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



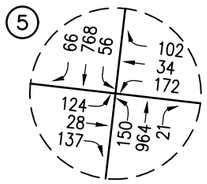
CAMINO CAPISTRANO @
STONEHILL DR



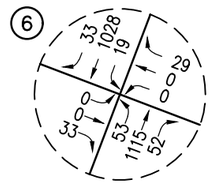
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



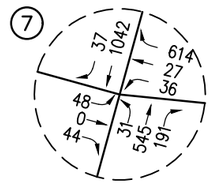
DOHENY PARK RD @
COSTCO DWY



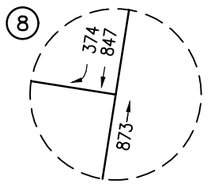
DOHENY PARK RD @
VICTORIA BLVD



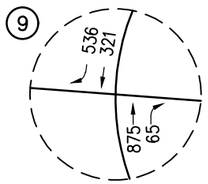
DOHENY PARK RD @
DOMINGO AVE



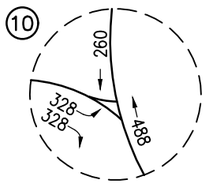
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



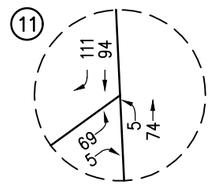
DOHENY PARK RD @
PCH WB ON RAMPS



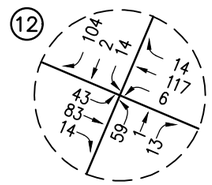
DOHENY PARK RD @
PCH EB ON RAMPS



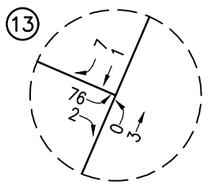
DOHENY PARK RD @
PCH SIDE PATH



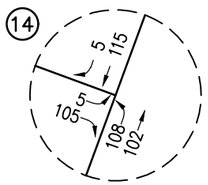
CAMINO CAPISTRANO @
SEPULVEDA AVE



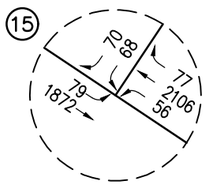
SEPULVEDA AVE @
VICTORIA BLVD



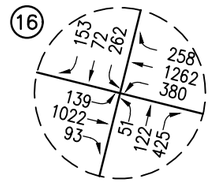
SEPULVEDA AVE @
DOMINGO AVE



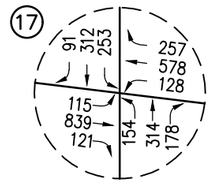
CAMINO CAPISTRANO @
VICTORIA BLVD



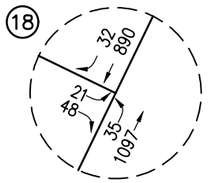
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



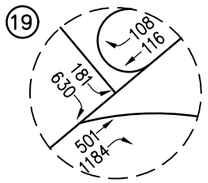
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



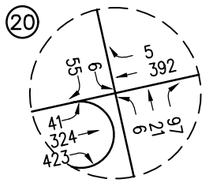
DEL OBISPO ST @
STONEHILL DR



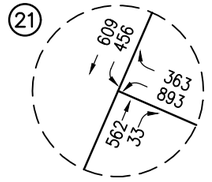
DOHENY PARK RD @
SMART & FINAL DWY



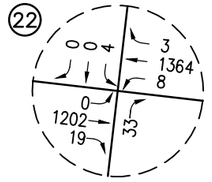
I−5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I−5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I−5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

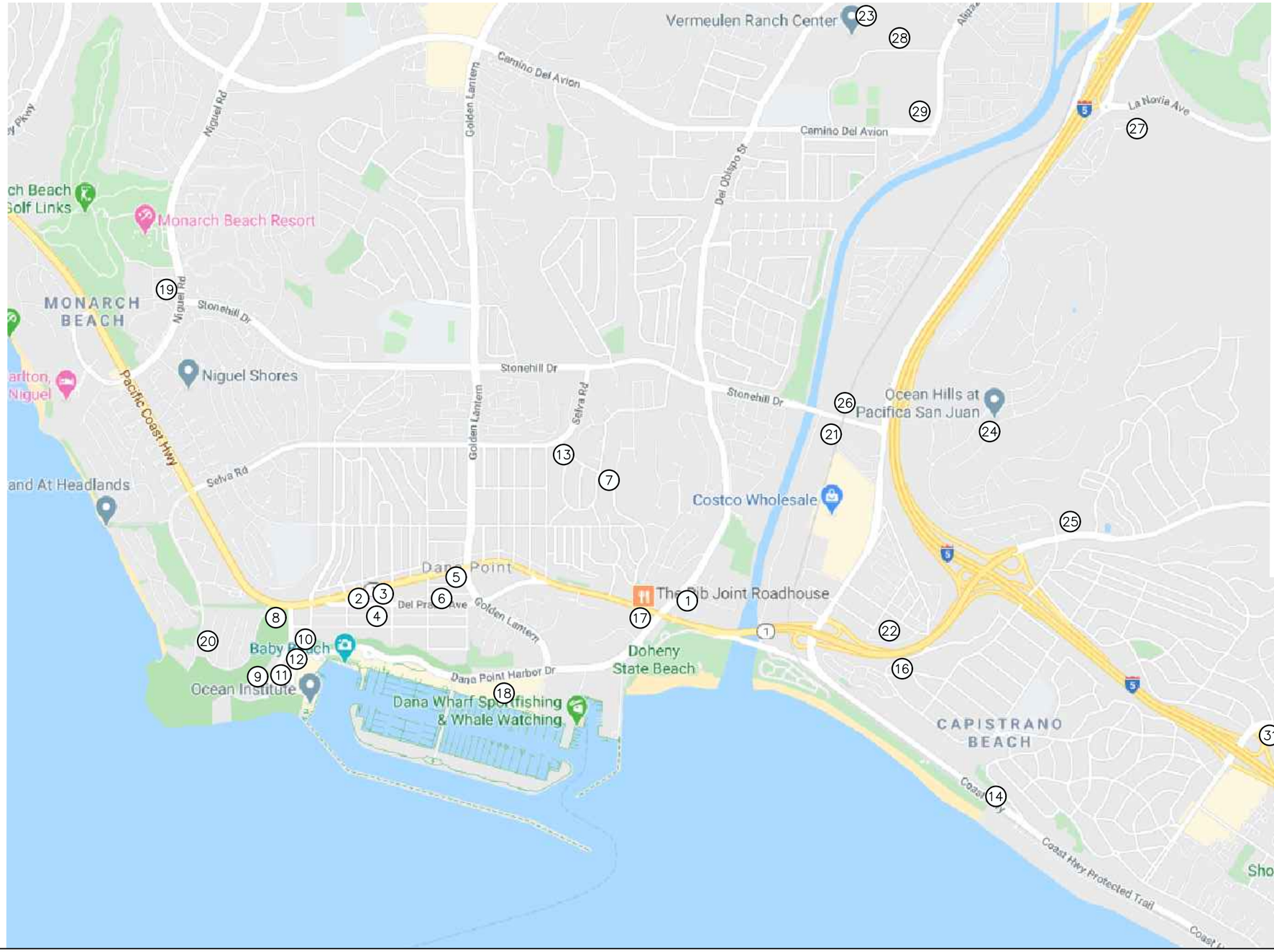
N
NO SCALE

KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6−3

EXISTING PLUS PROJECT SATURDAY MIDDAY PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT



KEY

1. SOUTH COVE
2. FORMER DANA MARINA INN SITE
3. PRADO WEST
4. THE GREER
5. VISTA DEL MAR
6. 24641 DEL PRADO
7. ST. EDWARDS CHURCH EXPANSION
8. THE WAVE RESORT AT THE STRAND
9. HEADLANDS LUXURY HOTEL
10. RESORT HOTEL AT CANNON'S
11. LANTERN POINT HOTEL
12. GREEN LANTERN BOUTIQUE HOTEL
13. CALLE LA PRIMAVERA
14. CAPISTRANO SEASIDE INN
15. IN-FILL RESIDENTIAL
16. CAPISTRANO HILLSIDE PROJECT
17. DANA POINT HARBOR INN
18. DANA POINT HARBOR REVITALIZATION
19. GRAND MONARCH RESIDENTIAL
20. HEADLANDS RESIDENTIAL
21. DOHENY OCEAN DESALINATION PLANT AND SOUTH COAST WATER DISTRICT (SCWD) ADMINISTRATIVE OFFICES
22. VICTORIA BOULEVARD APARTMENTS
23. MOUNTAIN VIEW CHURCH
24. PACIFICA SAN JUAN
25. CUSD PROPERTY
26. GANAHL LUMBER
27. DISTRITO LA NOVIA-SAN JUAN MEADOWS
28. FARMS AT DEL OBISPO
29. THE ECOLOGY CENTER/COMMUNITY FARM
30. SAN CLEMENTE ENVIRONMENTAL
31. PLAZA BY THE SEA
32. OCEAN VIEW PLAZA PATIO
33. SHORECLIFFS SENIOR HOUSING

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = CUMULATIVE PROJECT LOCATION

FIGURE 6-4

LOCATION OF CUMULATIVE PROJECTS

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[23]

No.	Description	Location/Address	Size
City of Dana Point			
1.	South Cove	34202 Del Obispo Street	168 DU condominiums and 2,471 SF commercial
2.	Former Dana Marina Inn Site	3111 Pacific Coast Highway	Demolition of existing 29 room hotel to be replaced with 30 DU single-family detached housing and 11,800 SF commercial
3.	Prado West	SWC Pacific Coast Highway and Amber Lantern	Demolition of existing 22,500 SF commercial to be replaced with 109 DU residential units (3-levels) and 32,419 SF commercial
4.	The Greer	SWC Del Prado and Amber Lantern	Demolition of existing 30 DU multifamily residential, 4,782 SF health club, 1,544 SF hair salon, and 3,480 SF quality restaurant to be replaced with 56 DU multifamily housing, 12 DU senior attached housing, 3,480 SF restaurant, and 6,502 SF commercial
5.	Vista Del Mar	SWC Pacific Coast Highway and Golden Lantern	Demolition of 9,376 SF commercial to be replaced with 39 DU multifamily housing and 8,730 SF commercial
6.	24641 Del Prado	SWC Pacific Coast Highway and Golden Lantern	3 DU multifamily housing and 2,661 SF commercial
7.	St. Edwards Church Expansion	33926 Calle La Primavera	Demolition of existing 13,930 SF structure to be replaced with a 25,393 SF parish hall and offices
8.	The Wave Resort at the Strand	SWC Pacific Coast Highway and Green Lantern	84 room hotel and 4,000 SF restaurant
9.	Headlands Luxury Hotel	SWC Scenic Drive and Cove Road	90 room hotel
10.	Resort Hotel at Cannon's	34344 Green Lantern Street	Demolition of existing 11,065 SF restaurant to be replaced with 107 room hotel and 2,996 SF restaurant
11.	Lantern Point Hotel	34382 Green Lantern Street	53 room hotel
12.	Green Lantern Boutique Hotel	34422 Green Lantern Street	19 room hotel
13.	Calle La Primavera	SEC Selva Road and Calle La Primavera	6 DU multifamily housing
14.	Capistrano Seaside Inn	NWC Pacific Coast Highway and Palisades Drive	28 room hotel

[23] Source: City of Dana Point Planning Department.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[24]

No.	Description	Location/Address	Size
City of Dana Point (Cont.)			
15.	In-fill Residential	35200 Del Rey	10 DU single-family detached housing
16.	Capistrano Hillside Project	Camino Capistrano and Via Canon	11 DU single-family detached housing
17.	Dana Point Harbor Inn	SWC Pacific Cost Highway and Dana Point Harbor Drive	Demolition of existing hotel to be replaced with two hotels with 139 and 136 rooms
18.	Dana Point Harbor Revitalization	Harbor Drive and Golden Lantern	Harbor wide improvements including the replacement/relocation of existing retail and restaurant uses, construction of a new lighthouse facility and 25,000 square feet of retail and restaurant uses, a festival plaza, and a 610-space parking deck
19.	Grand Monarch Residential	NWC of Niguel Road and Stonehill Drive	45 DU multifamily housing
20.	Headlands Residential	SWC Pacific Coast Highway and Shoreline Drive	39 DU single-family detached housing[25]
21.	Doheny Ocean Desalination Plant and South Coast Water District (SCWD) Administrative Offices	Stonehill Drive between San Juan Creek and railroad	Construction of a desalination plant and potential development of SCWD administrative offices
22.	Victoria Boulevard Apartments	26126 Victoria Boulevard	420 DU multifamily housing to replace existing bus storage yard
City of San Juan Capistrano			
23.	Mountain View Church	32382 Del Obispo Street	17,000 SF church
24.	Pacifica San Juan	East of I-5 extending from McCracken Hill south to Camino Las Ramblas	334 DU single-family detached housing and 82 DU multifamily housing
25.	CUSD Property	NEC Camino Las Ramblas and Avenida California	40 DU single-family detached housing and 2-acre public park
26.	Ganahl Lumber	NEC Stonehill Drive and San Juan Creek Road	Removal and relocation of existing 11,500 SF Ganahl Lumber to be replaced with 6,000 SF fast-food restaurant with drive-thru, 16,311 SF Ganahl Lumber store, and 399 vehicle storage
27.	Distrito La Novia-San Juan Meadows	North and south sides of La Novia Avenue east of Valle Road	Construction of a mixed-use development consisting of 75,100 square feet of commercial 16,000 square feet of office, 233 dwelling units, and equestrian space for up to 500 horses.
28.	Farms at Del Obispo	32382 Del Obispo Street	169 DU single-family detached housing

[24] Source: City of Dana Point Planning Department.

[25] Headlands Specific Plan total residential development is 118 DU. Approximately 33% of this total is currently available for development with 67% having been already built.

TABLE 6-1 (CONTINUED)

LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[26]

No.	Description	Location/Address	Size
City of San Clemente			
29.	The Ecology Center/Community Farm	NWC Camino Del Avion and Alipaz Street	28-acre nursery and 10,000 SF commercial
30.	San Clemente Environmental	910 Calle Negocio	16,000 SF office
31.	Plaza by the Sea	610 Camino De Los Mares	4,400 SF commercial drive-thru
32.	Ocean View Plaza Patio	SEC Camino de los Mares and Calle Agua	12,930 SF commercial
33.	Shorecliffs Senior Housing	501 Avenida Vaquero	150 DU senior attached housing

[26] Source: City of Dana Point Planning Department.

TABLE 6-2

CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[27]

No.	Cumulative Project Description	Daily	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
1.	South Cove[28]	1,083	15	63	78	64	34	99	1,482	65	64	129
2.	Former Dana Marina Inn Site	600	9	13	22	20	13	33	624	18	17	35
3.	Prado West	1,085	18	41	59	13	-2	11	1,306	41	42	83
4.	The Greer[29]	389	21	24	45	13	11	23	309	10	12	22
5.	Vista Del Mar	238	4	13	17	2	-6	-4	278	7	7	14
6.	24641 Del Prado	119	2	2	4	4	5	9	144	5	6	11
7.	St. Edwards Church Expansion[30]	80	2	1	3	2	4	6	69	19	13	32
8.	The Wave Resort at the Strand[31]	968	29	19	48	36	28	64	1,048	59	44	103
9.	Headlands Luxury Hotel	752	25	17	42	28	26	54	737	36	29	65
10.	Resort Hotel at Cannon's[32]	130	30	20	50	-7	11	4	150	-9	-2	-11
11.	Lantern Point Hotel	443	15	10	25	16	16	32	434	21	17	38
12.	Green Lantern Boutique Hotel	159	5	4	9	6	5	11	156	8	6	14
13.	Calle La Primavera	44	1	2	3	2	1	3	49	2	2	4
14.	Capistrano Seaside Inn	234	8	5	13	9	8	17	229	11	9	20
15.	In-fill Residential	94	2	5	7	6	4	10	95	5	4	9
16.	Capistrano Hillside Project	104	2	6	8	7	4	11	105	6	4	10
17.	Dana Point Harbor Inn[33]	1,923	64	44	108	70	68	138	1,883	93	73	166

[27] Unless otherwise noted, Source: *Trip Generation, 10th Editions*, Institute of Transportation Engineers (ITE) [Washington, D.C. (2017)].

[28] Source: *Traffic Impact Analysis 34202 Del Obispo Street*, prepared by LSA Associates, Inc., July 2014.

[29] Source: *Dana Point Del Prado Mixed-Use Project Traffic Review/Assessment Letter*, prepared by RK Engineering Group, Inc., January 2019.

[30] Source: *St. Edwards Pastoral Center Traffic Impact Analysis*, prepared by LLG Engineers, November 2018.

[31] Source: *The Wave Resort at The Strand Trip Generation Memorandum*, prepared by LLG Engineers, June 2017.

[32] Source: *Green Lantern Hotel Projects Preliminary Traffic Assessment*, prepared by LLG Engineers, February 2017.

[33] Source: *Doheny Hotel Traffic Impact Analysis (Revised)*, prepared by Kunzman Associates, Inc. August 2012, and revised data from City staff regarding number of rooms for development.

TABLE 6-2 (CONTINUED)

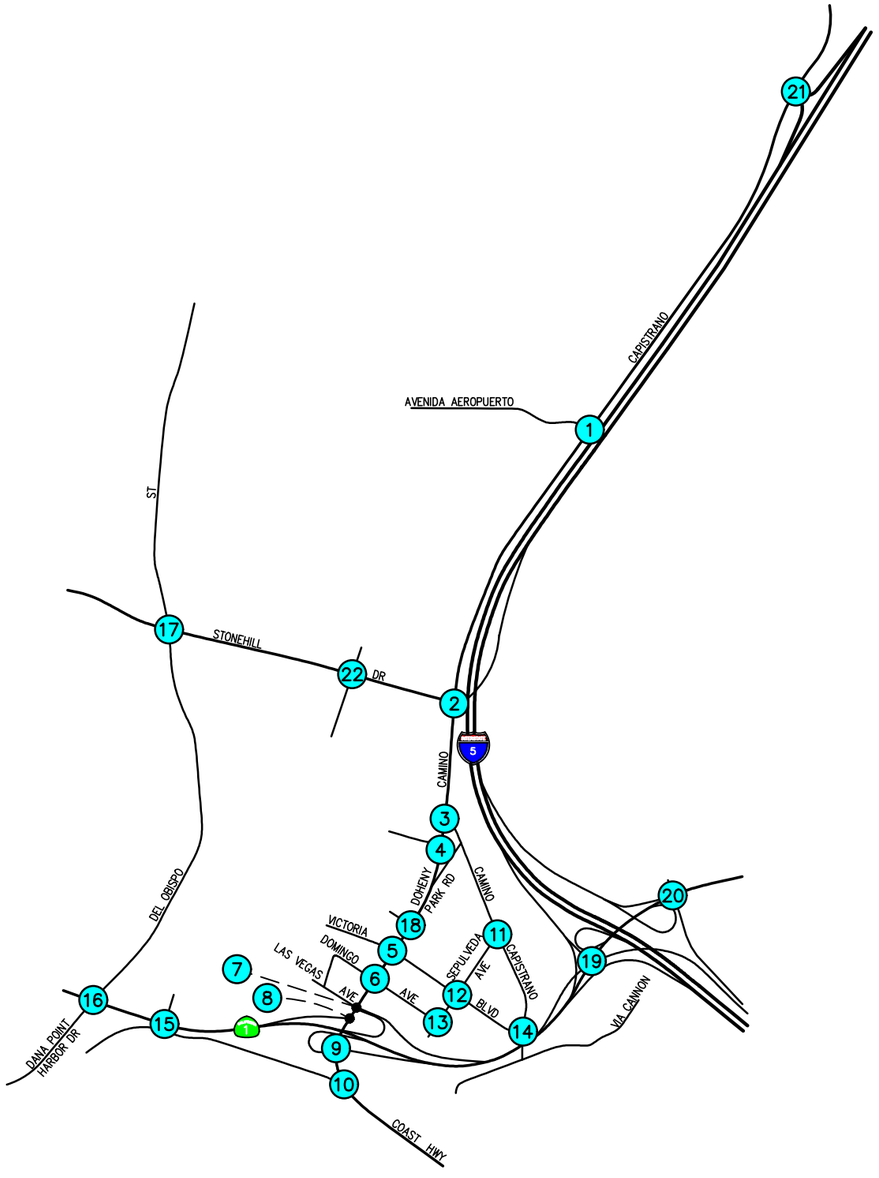
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[34]

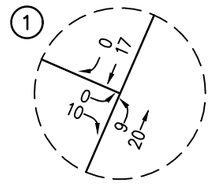
No.	Cumulative Project Description	Daily	AM Peak Hour			PM Peak Hour			Sat. Daily	Sat. Midday Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
18.	Dana Point Harbor Revitalization[35]	7,003	276	226	502	317	260	577	8,401	395	297	692
19.	Grand Monarch Residential	329	5	16	21	16	9	25	366	16	16	32
20.	Headlands Residential	368	7	22	29	24	15	39	372	20	16	36
21.	Doheny Ocean Desalination Plant and South Coast Water District (SCWD) Administrative Offices	36	10	2	12	2	10	12	9	1	2	3
22.	Victoria Boulevard Apartments	2,920	36	144	180	148	87	235	3,419	159	135	294
23.	Mountain View Church	118	3	3	6	4	4	8	102	28	19	47
24.	Pacifica San Juan	3,753	71	214	285	237	140	377	3,853	197	171	368
25.	CUSD Property	380	7	23	30	25	15	40	386	20	18	38
26.	Ganahl Lumber[36]	3,486	168	144	312	103	116	219	5,920	277	251	528
27.	Distrito La Novia-San Juan Meadows	4,673	88	127	215	143	118	261	5,438	231	211	442
28.	Farms at Del Obispo	1,595	31	94	125	105	62	167	1,612	85	72	157
29.	The Ecology Center/Community Farm	924	9	7	16	24	27	51	1,299	31	30	61
30.	San Clemente Environmental	156	16	3	19	3	15	18	35	5	3	8
31.	Plaza by the Sea	2,072	90	87	177	75	69	144	2,711	123	118	241
32.	Ocean View Plaza Patio	488	8	4	12	24	25	49	596	30	28	58
33.	Shorecliffs Senior Housing	555	11	19	30	21	18	39	485	31	19	50
Total Cumulative Projects Trip Generation Forecast		**37,301**	**1,088**	**1,424**	**2,512**	**1,562**	**1,220**	**2,782**	**44,102**	**2,046**	**1,753**	**3,799**

[34] Unless otherwise noted, Source: *Trip Generation, 10th Editions*, Institute of Transportation Engineers (ITE) [Washington, D.C. (2017)].

[35] Source: *Dana Point Harbor Revitalization Traffic & Parking Analysis*, prepared by RBF Consulting, September 2005.

[36] Source: *Ganahl Lumber Development Project TIA*, prepared by LSA Associates, Inc, September 2019.





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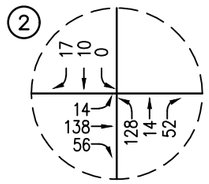
AVENIDA AEROPUERTO



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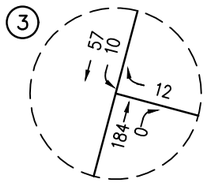

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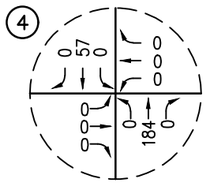
CAMINO CAPISTRANO



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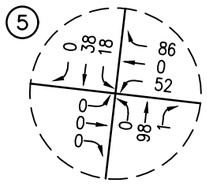

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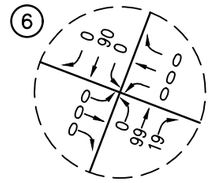

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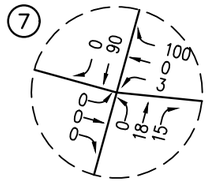

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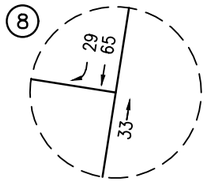

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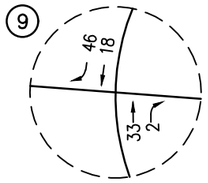

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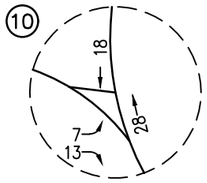

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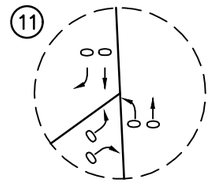

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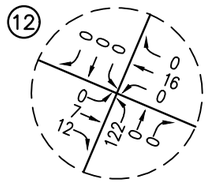

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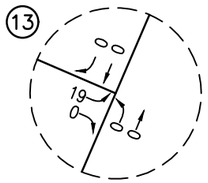

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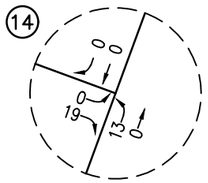
DOMINGO AVE



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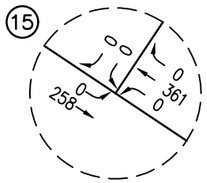

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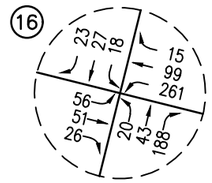

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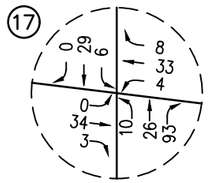

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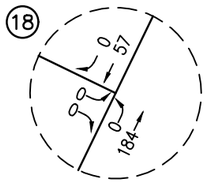
STONEHILL DR



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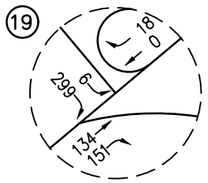

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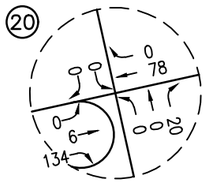

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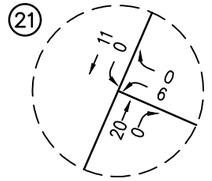
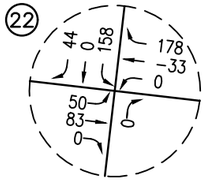


CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

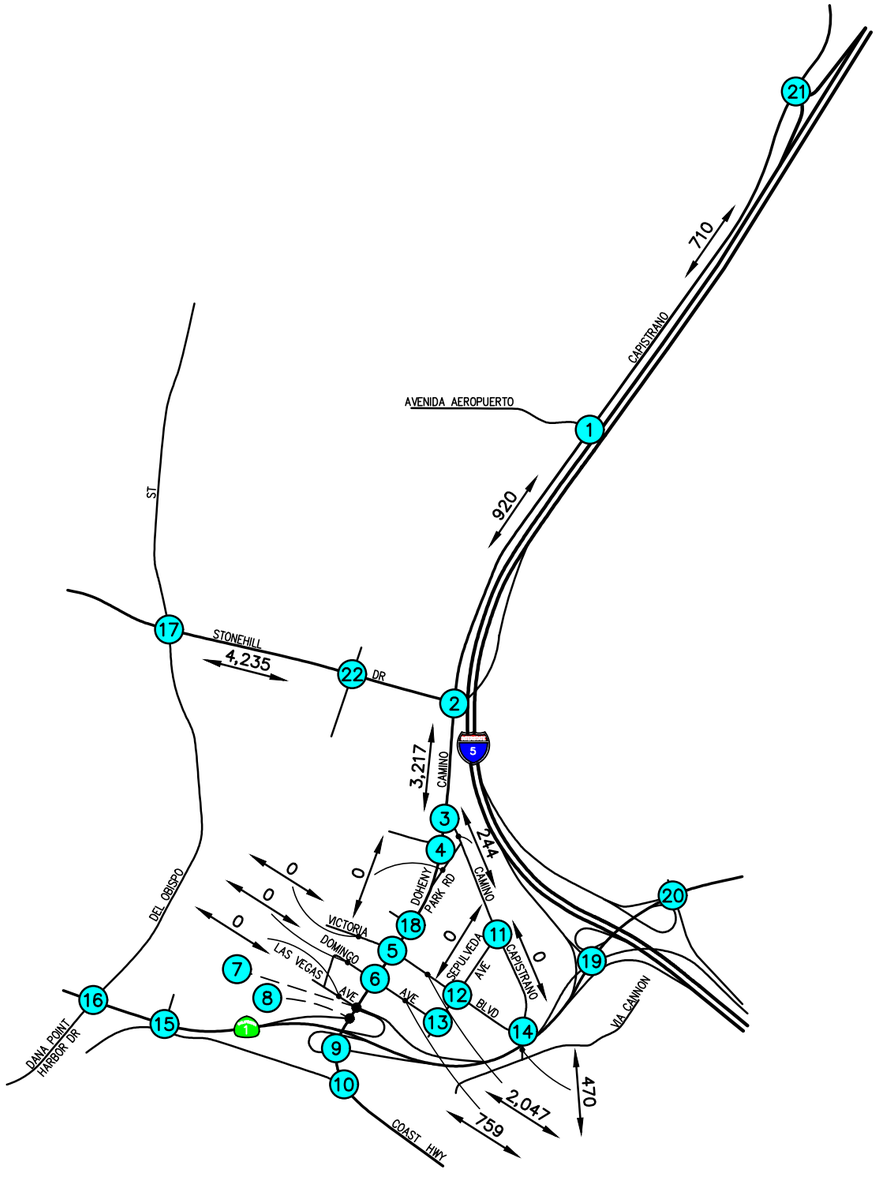
N
NO SCALE

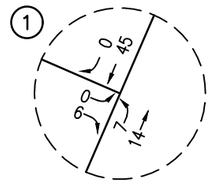
KEY
(#) = STUDY INTERSECTION

FIGURE 6-5

AM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT





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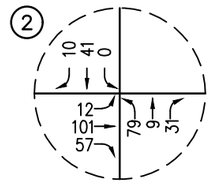
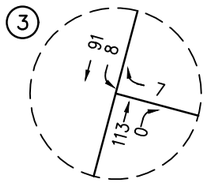
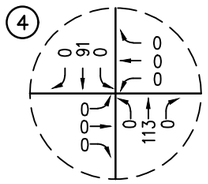


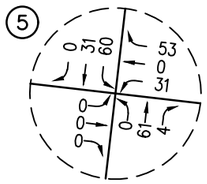
CAMINO CAPISTRANO @ STONEHILL DR



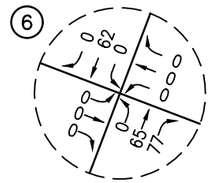
CAMINO CAPISTRANO @ CAMINO CAPISTRANO



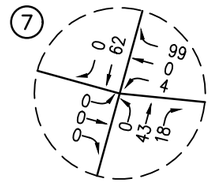
DOHENY PARK RD @ COSTCO DWY



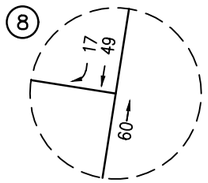
DOHENY PARK RD @ VICTORIA BLVD



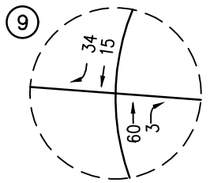
DOHENY PARK RD @ DOMINGO AVE



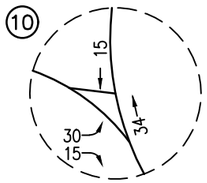
DOHENY PARK RD @ LAS VEGAS/PCH RAMPS



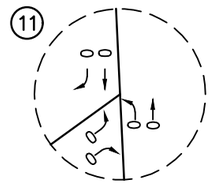
DOHENY PARK RD @ PCH WB ON RAMPS



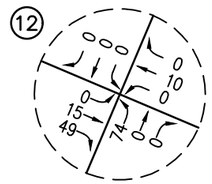
DOHENY PARK RD @ PCH EB ON RAMPS



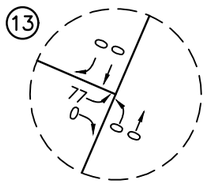
DOHENY PARK RD @ PCH SIDE PATH



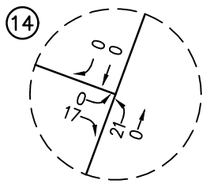
CAMINO CAPISTRANO @ SEPULVEDA AVE



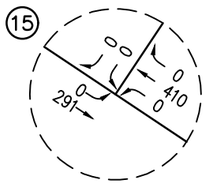
SEPULVEDA AVE @ VICTORIA BLVD



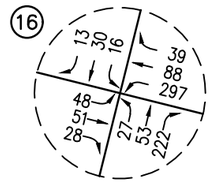
SEPULVEDA AVE @ DOMINGO AVE



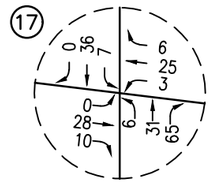
CAMINO CAPISTRANO @ VICTORIA BLVD



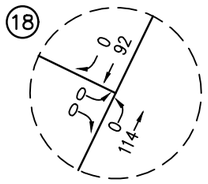
DOHENY PARK PLAZA @ PACIFIC COAST HIGHWAY



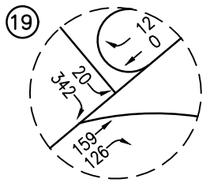
DEL OBISPO ST @ PACIFIC COAST HIGHWAY



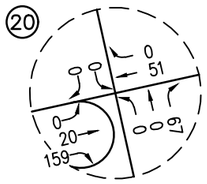
DEL OBISPO ST @ STONEHILL DR



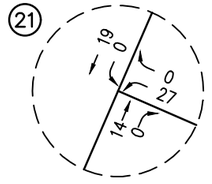
DOHENY PARK RD @ SMART & FINAL DWY



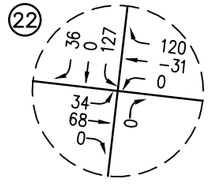
I-5 SB RAMPS @ PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @ PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @ I-5 SB RAMPS



PROPOSED GANAHL LUMBER DWY @ STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

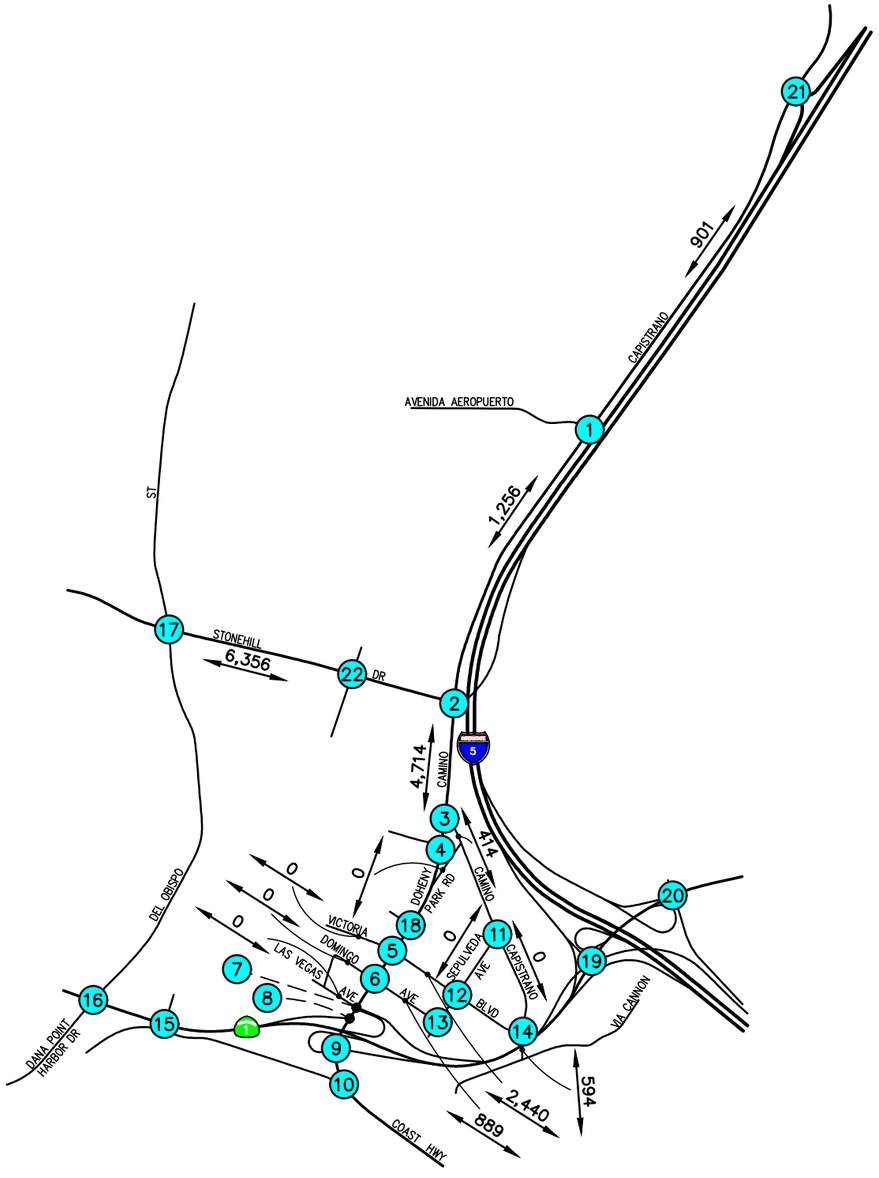
(#) = STUDY INTERSECTION

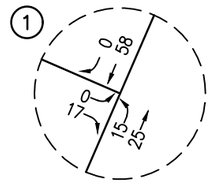
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-6

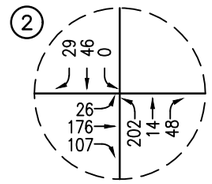
PM PEAK HOUR AND DAILY CUMULATIVE PROJECTS TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

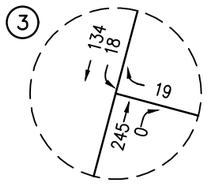




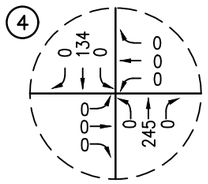
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



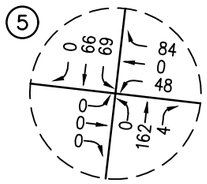
CAMINO CAPISTRANO @
STONEHILL DR



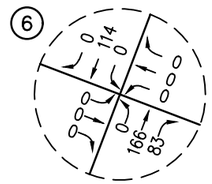
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



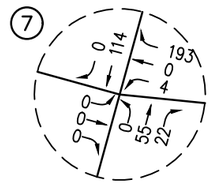
DOHENY PARK RD @
COSTCO DWY



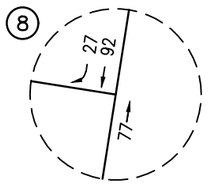
DOHENY PARK RD @
VICTORIA BLVD



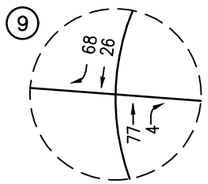
DOHENY PARK RD @
DOMINGO AVE



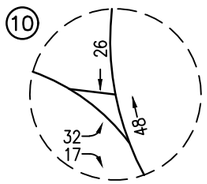
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



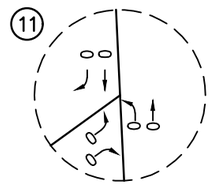
DOHENY PARK RD @
PCH WB ON RAMPS



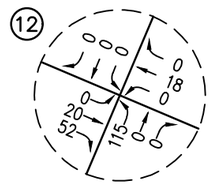
DOHENY PARK RD @
PCH EB ON RAMPS



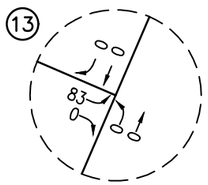
DOHENY PARK RD @
PCH SIDE PATH



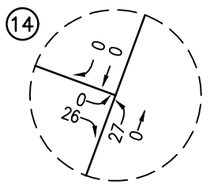
CAMINO CAPISTRANO @
SEPULVEDA AVE



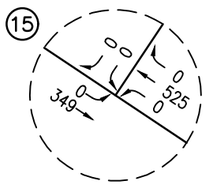
SEPULVEDA AVE @
VICTORIA BLVD



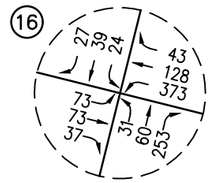
SEPULVEDA AVE @
DOMINGO AVE



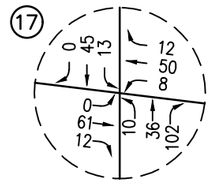
CAMINO CAPISTRANO @
VICTORIA BLVD



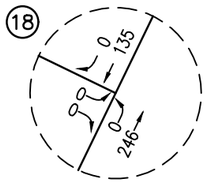
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



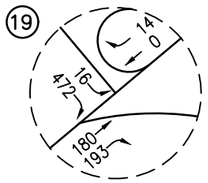
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



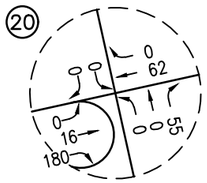
DEL OBISPO ST @
STONEHILL DR



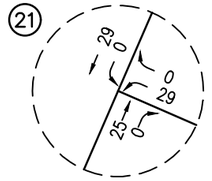
DOHENY PARK RD @
SMART & FINAL DWY



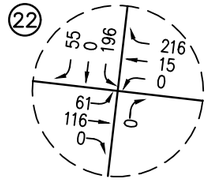
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

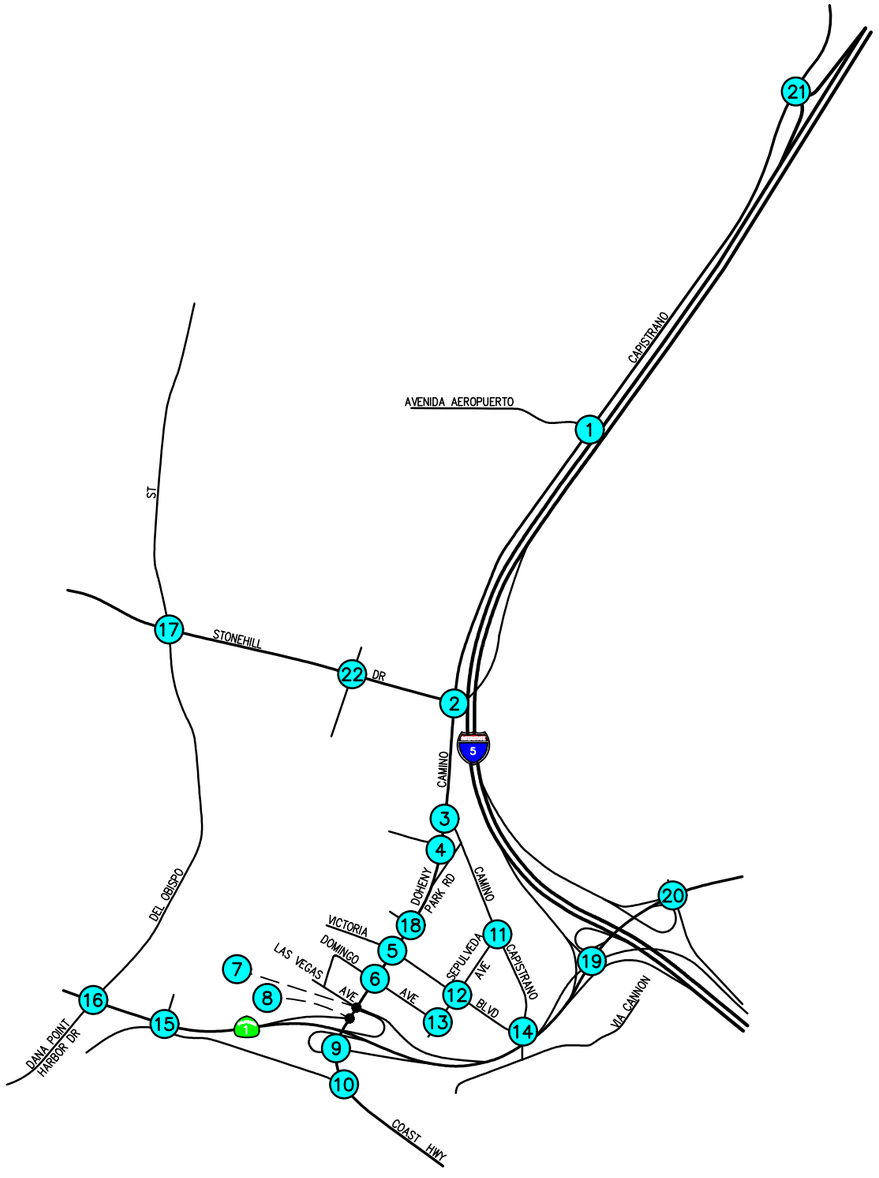
N
NO SCALE

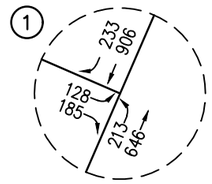
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-7

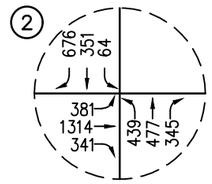
SATURDAY MIDDAY PEAK HOUR AND DAILY CUMULATIVE PROJECTS TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

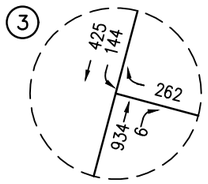




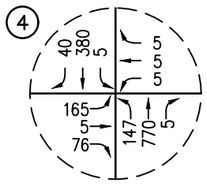
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



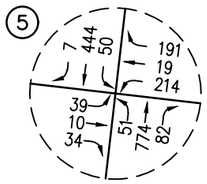
CAMINO CAPISTRANO @
STONEHILL DR



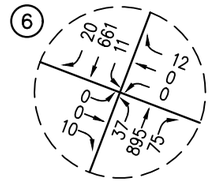
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



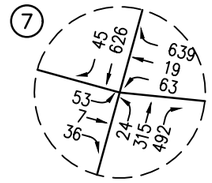
DOHENY PARK RD @
COSTCO DWY



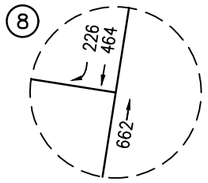
DOHENY PARK RD @
VICTORIA BLVD



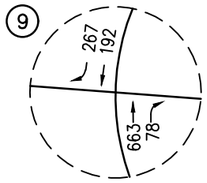
DOHENY PARK RD @
DOMINGO AVE



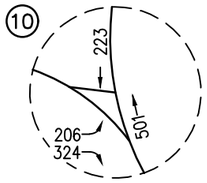
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



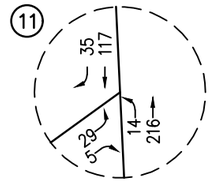
DOHENY PARK RD @
PCH WB ON RAMPS



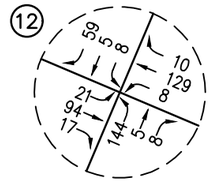
DOHENY PARK RD @
PCH EB ON RAMPS



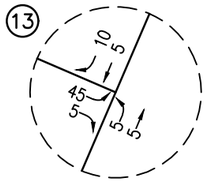
DOHENY PARK RD @
PCH SIDE PATH



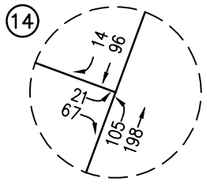
CAMINO CAPISTRANO @
SEPULVEDA AVE



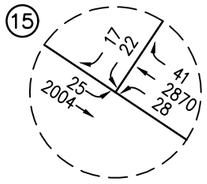
SEPULVEDA AVE @
VICTORIA BLVD



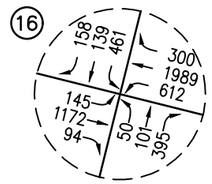
SEPULVEDA AVE @
DOMINGO AVE



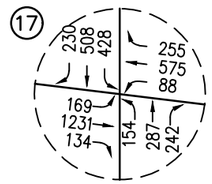
CAMINO CAPISTRANO @
VICTORIA BLVD



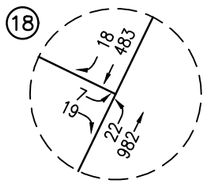
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



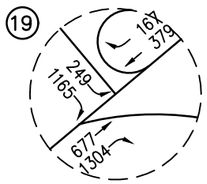
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



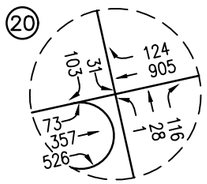
DEL OBISPO ST @
STONEHILL DR



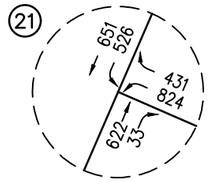
DOHENY PARK RD @
SMART & FINAL DWY



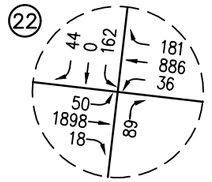
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

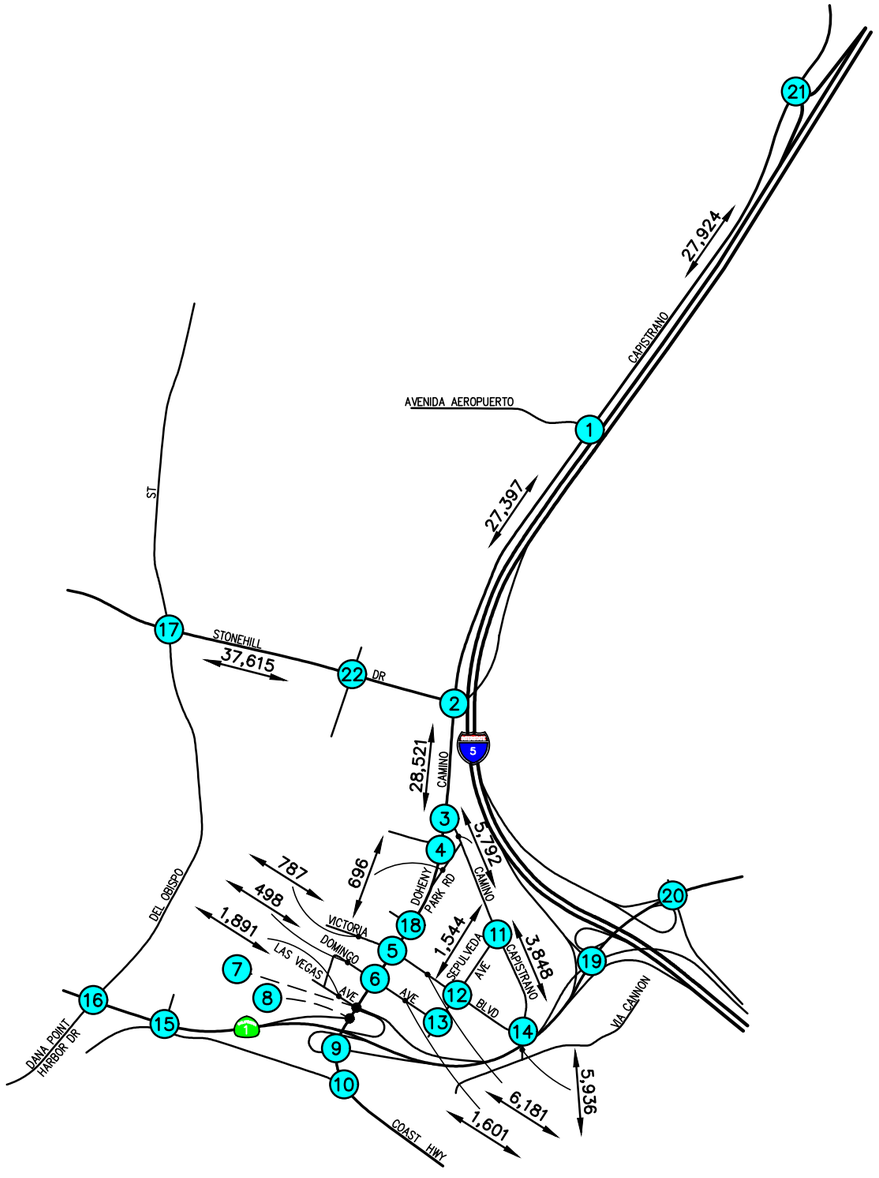
N
NO SCALE

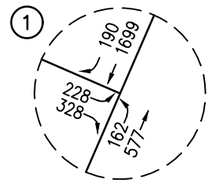
KEY
(#) = STUDY INTERSECTION

FIGURE 6-8

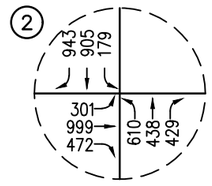
YEAR 2045 BUILDOUT AM PEAK HOUR TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

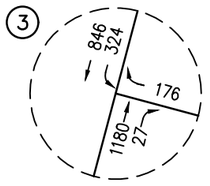




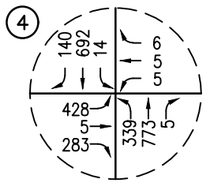
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



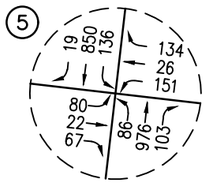
CAMINO CAPISTRANO @
STONEHILL DR



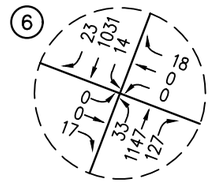
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



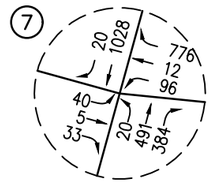
DOHENY PARK RD @
COSTCO DWY



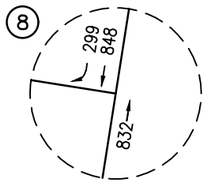
DOHENY PARK RD @
VICTORIA BLVD



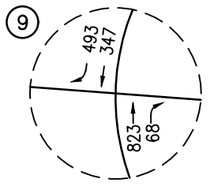
DOHENY PARK RD @
DOMINGO AVE



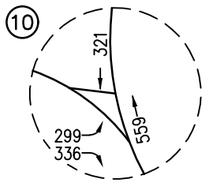
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



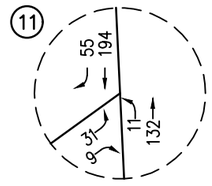
DOHENY PARK RD @
PCH WB ON RAMPS



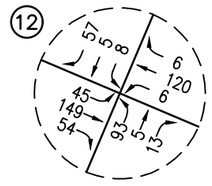
DOHENY PARK RD @
PCH EB ON RAMPS



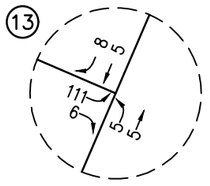
DOHENY PARK RD @
PCH SIDE PATH



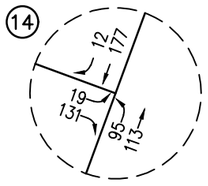
CAMINO CAPISTRANO @
SEPULVEDA AVE



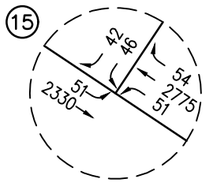
SEPULVEDA AVE @
VICTORIA BLVD



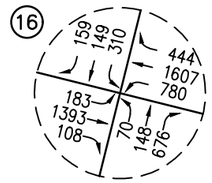
SEPULVEDA AVE @
DOMINGO AVE



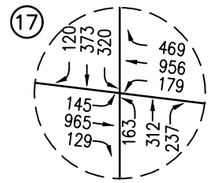
CAMINO CAPISTRANO @
VICTORIA BLVD



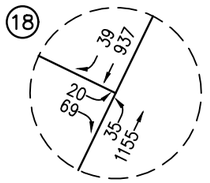
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



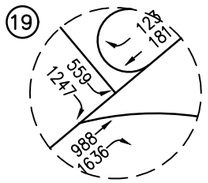
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



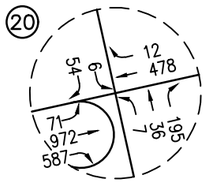
DEL OBISPO ST @
STONEHILL DR



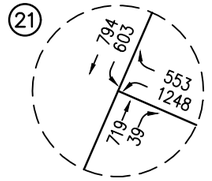
DOHENY PARK RD @
SMART & FINAL DWY



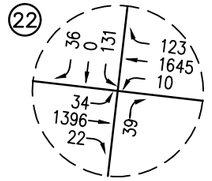
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

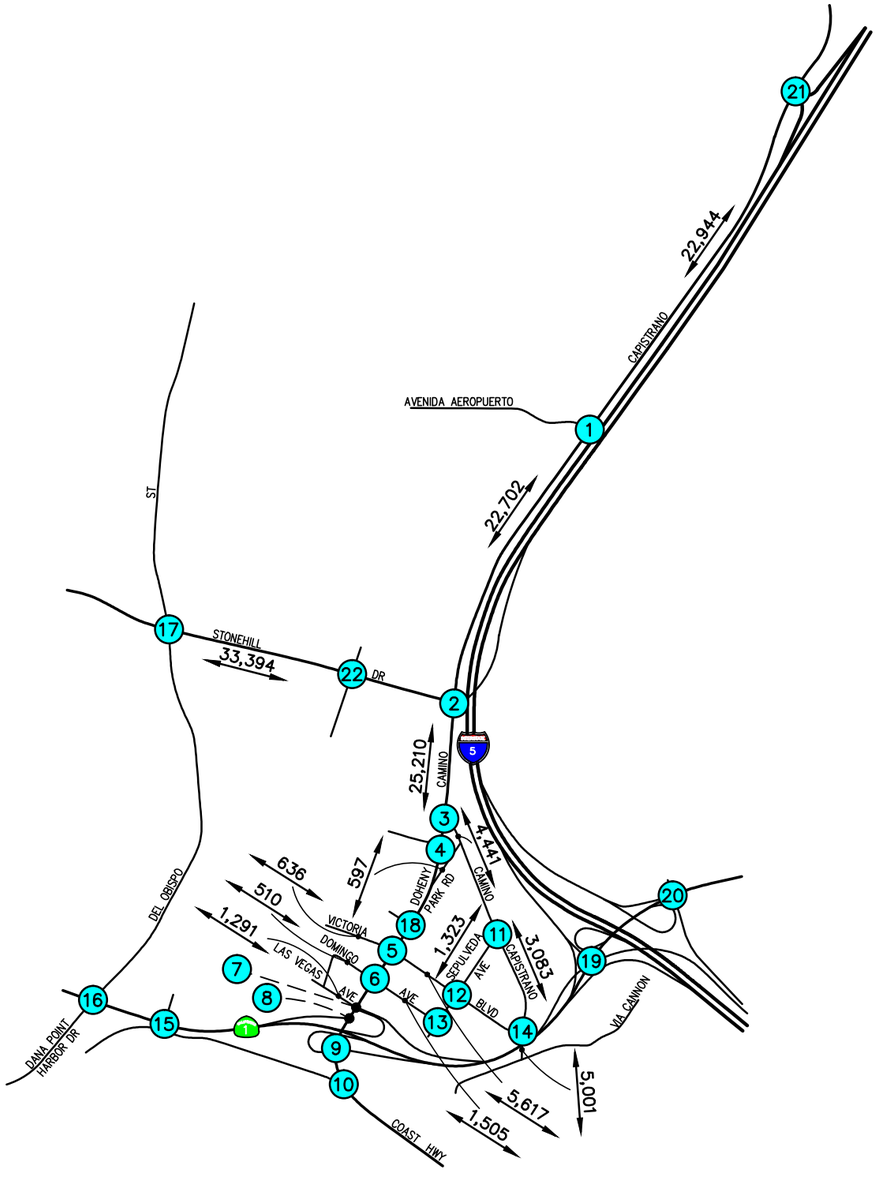
N
NO SCALE

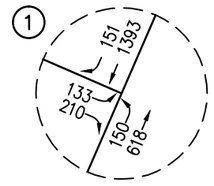
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-9

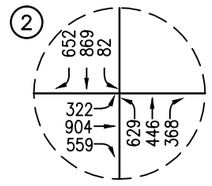
YEAR 2045 BUILDOUT PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

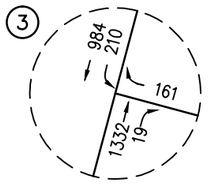




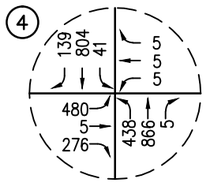
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



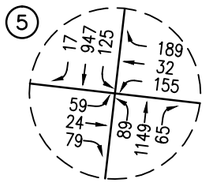
CAMINO CAPISTRANO @
STONEHILL DR



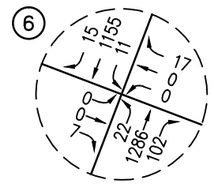
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



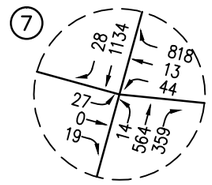
DOHENY PARK RD @
COSTCO DWY



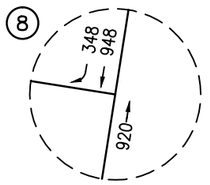
DOHENY PARK RD @
VICTORIA BLVD



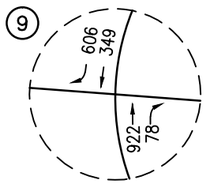
DOHENY PARK RD @
DOMINGO AVE



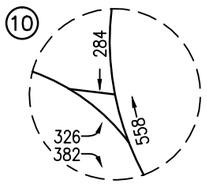
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



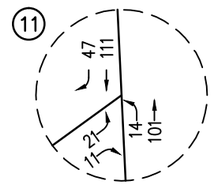
DOHENY PARK RD @
PCH WB ON RAMPS



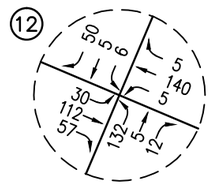
DOHENY PARK RD @
PCH EB ON RAMPS



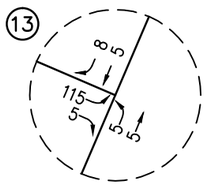
DOHENY PARK RD @
PCH SIDE PATH



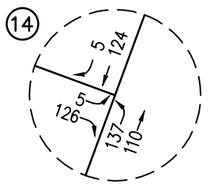
CAMINO CAPISTRANO @
SEPULVEDA AVE



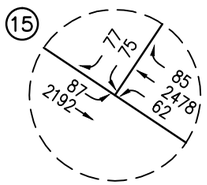
SEPULVEDA AVE @
VICTORIA BLVD



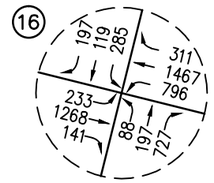
SEPULVEDA AVE @
DOMINGO AVE



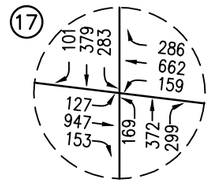
CAMINO CAPISTRANO @
VICTORIA BLVD



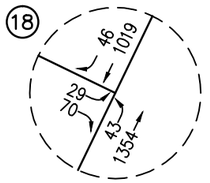
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



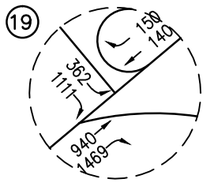
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



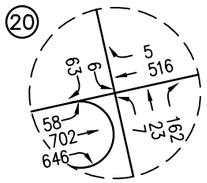
DEL OBISPO ST @
STONEHILL DR



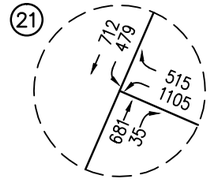
DOHENY PARK RD @
SMART & FINAL DWY



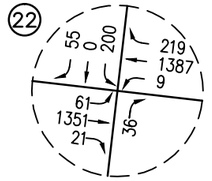
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

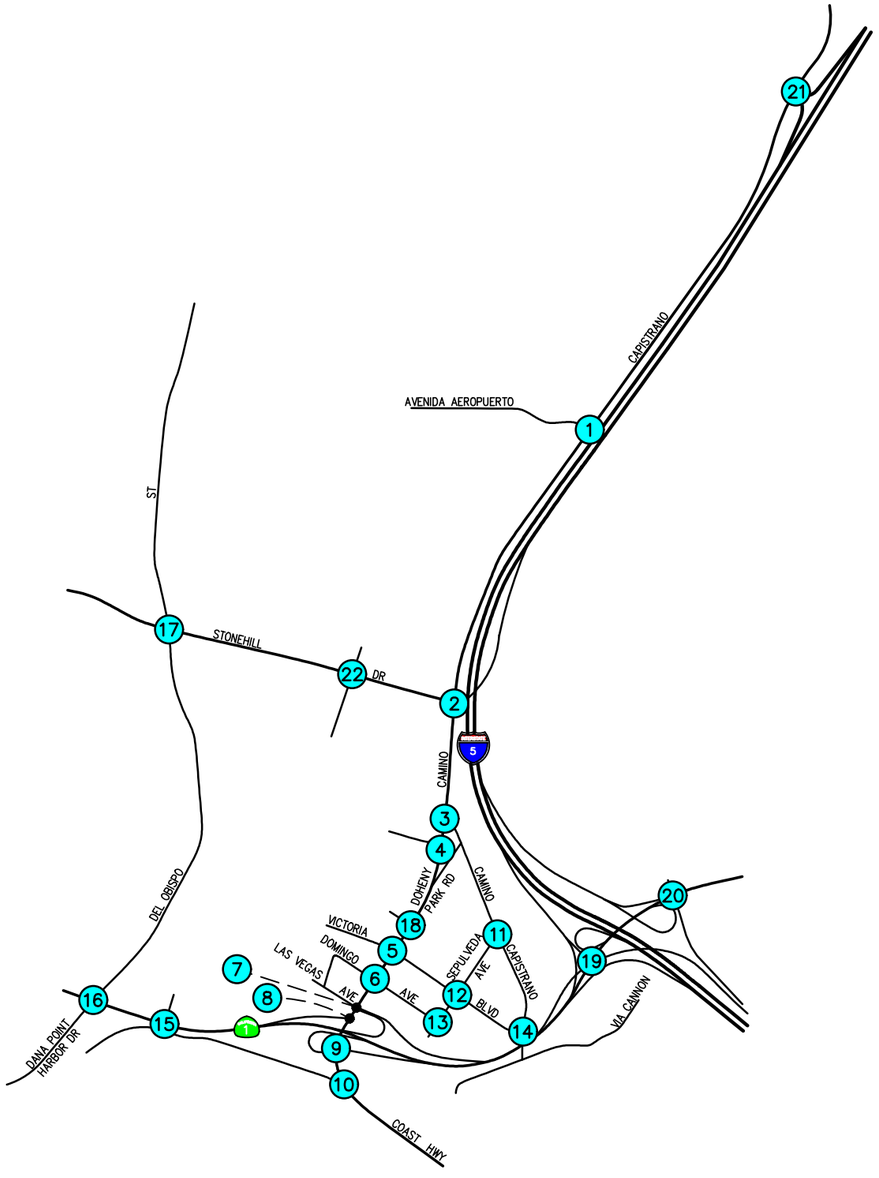
N
NO SCALE

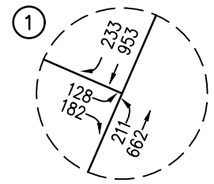
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-10

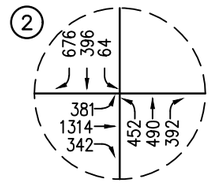
YEAR 2045 BUILDOUT SATURDAY MIDDAY PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

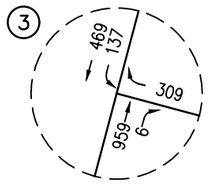




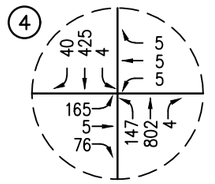
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



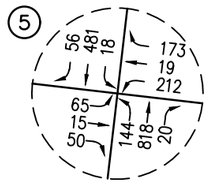
CAMINO CAPISTRANO @
STONEHILL DR



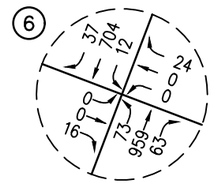
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



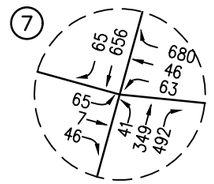
DOHENY PARK RD @
COSTCO DWY



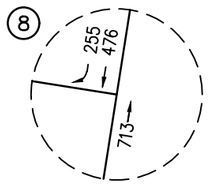
DOHENY PARK RD @
VICTORIA BLVD



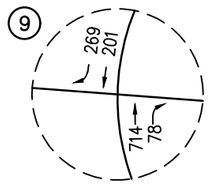
DOHENY PARK RD @
DOMINGO AVE



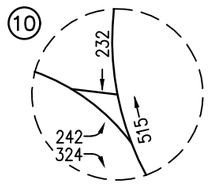
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



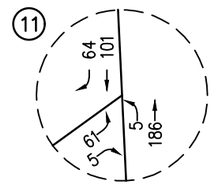
DOHENY PARK RD @
PCH WB ON RAMPS



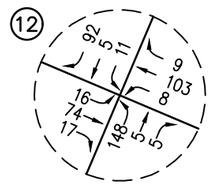
DOHENY PARK RD @
PCH EB ON RAMPS



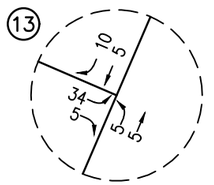
DOHENY PARK RD @
PCH SIDE PATH



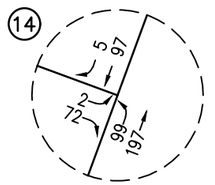
CAMINO CAPISTRANO @
SEPULVEDA AVE



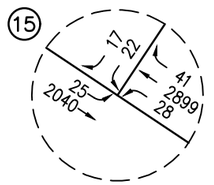
SEPULVEDA AVE @
VICTORIA BLVD



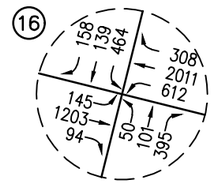
SEPULVEDA AVE @
DOMINGO AVE



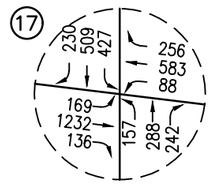
CAMINO CAPISTRANO @
VICTORIA BLVD



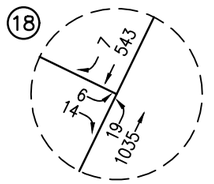
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



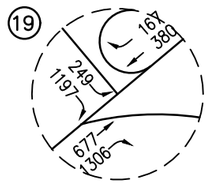
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



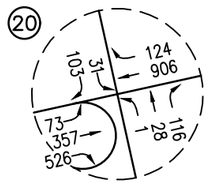
DEL OBISPO ST @
STONEHILL DR



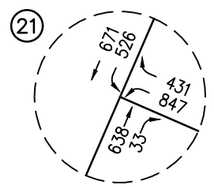
DOHENY PARK RD @
SMART & FINAL DWY



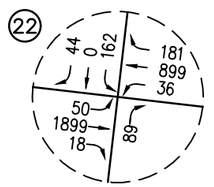
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

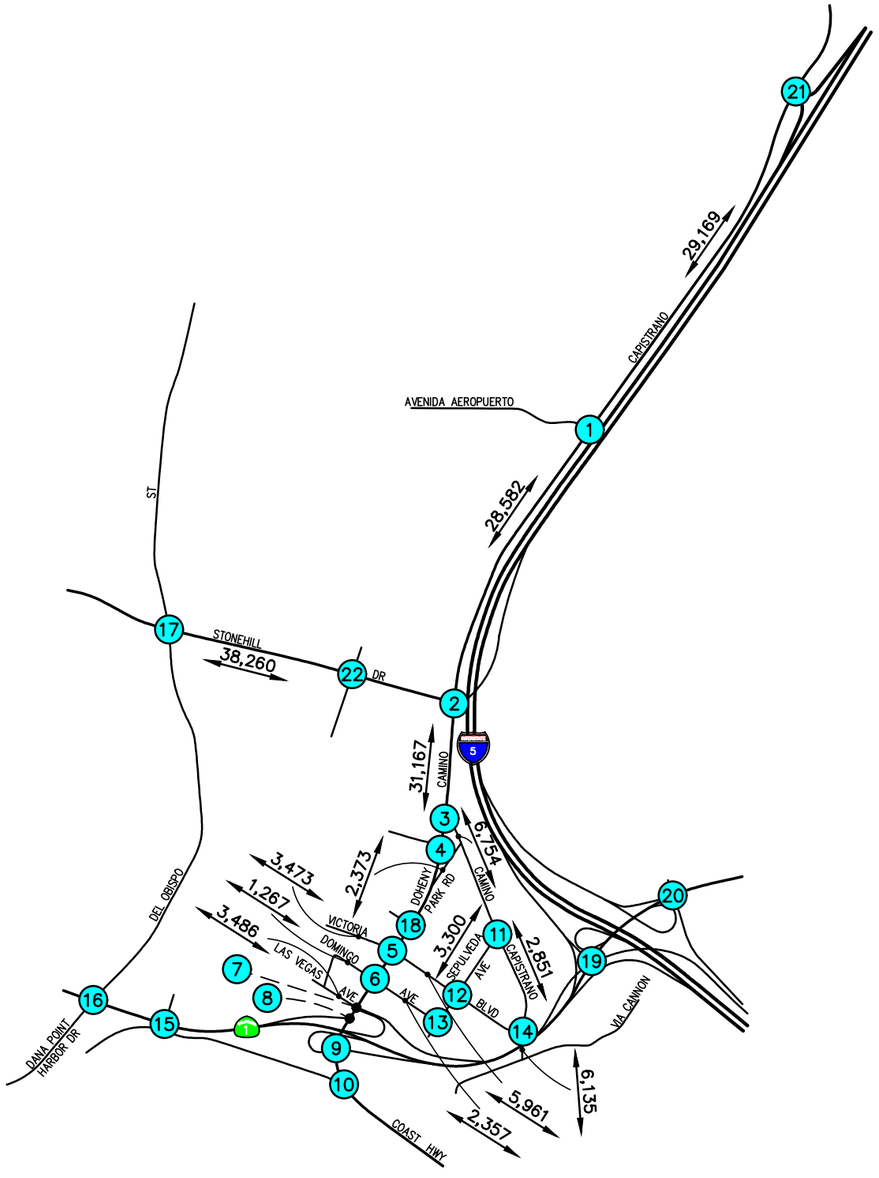
N
NO SCALE

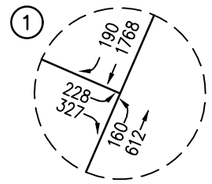
KEY
(#) = STUDY INTERSECTION

FIGURE 6-11

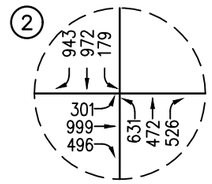
YEAR 2045 BUILDOUT PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

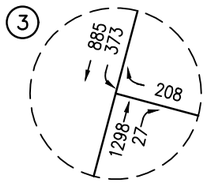




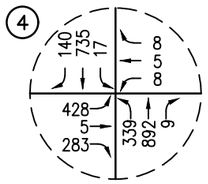
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



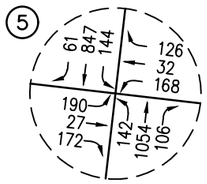
CAMINO CAPISTRANO @
STONEHILL DR



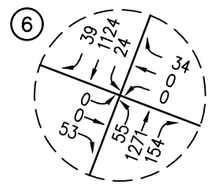
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



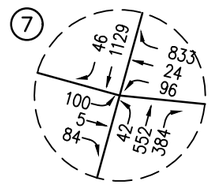
DOHENY PARK RD @
COSTCO DWY



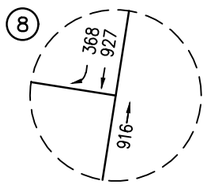
DOHENY PARK RD @
VICTORIA BLVD



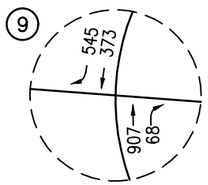
DOHENY PARK RD @
DOMINGO AVE



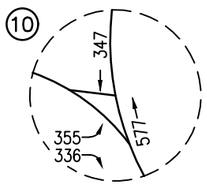
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



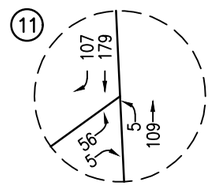
DOHENY PARK RD @
PCH WB ON RAMPS



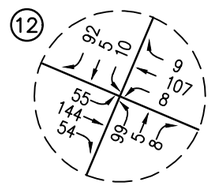
DOHENY PARK RD @
PCH EB ON RAMPS



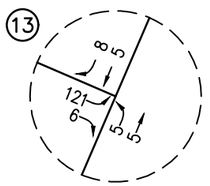
DOHENY PARK RD @
PCH SIDE PATH



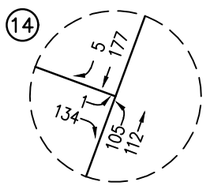
CAMINO CAPISTRANO @
SEPULVEDA AVE



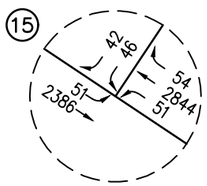
SEPULVEDA AVE @
VICTORIA BLVD



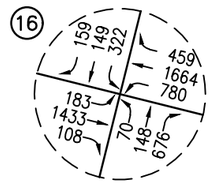
SEPULVEDA AVE @
DOMINGO AVE



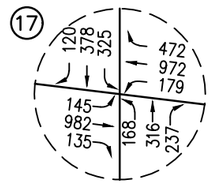
CAMINO CAPISTRANO @
VICTORIA BLVD



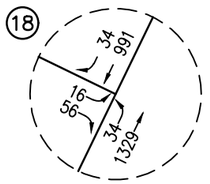
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



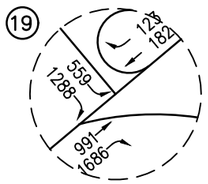
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



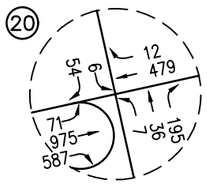
DEL OBISPO ST @
STONEHILL DR



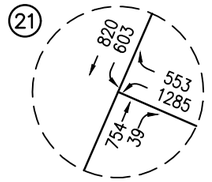
DOHENY PARK RD @
SMART & FINAL DWY



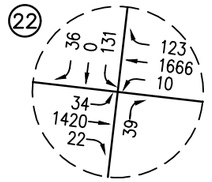
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

n:\4200\2204244 - doheny village zoning district overlay, dana point\dwg\existing conditions memo\4244 f6-12.dwg LDP 13:47:14 04-22-2021 aguilar

LINSCOTT LAW & GREENSPAN
engineers

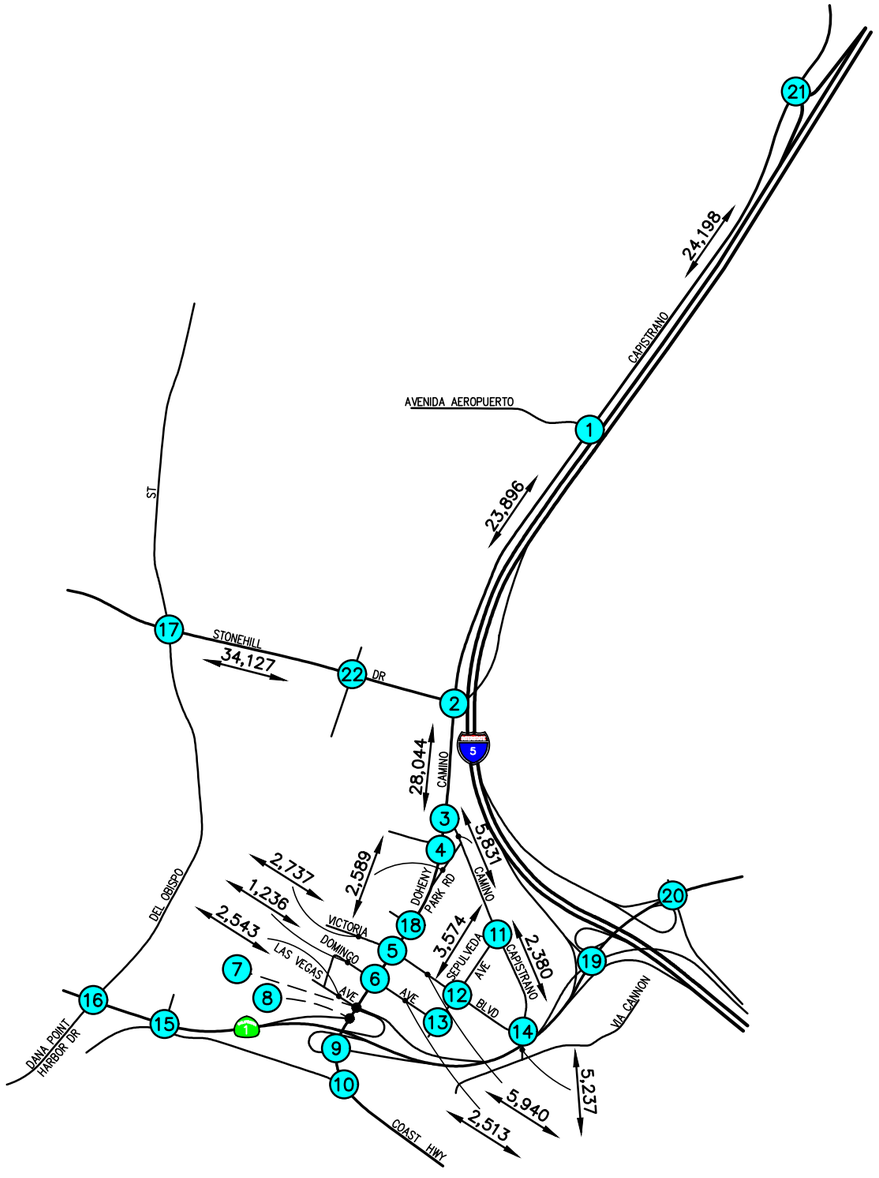
N
NO SCALE

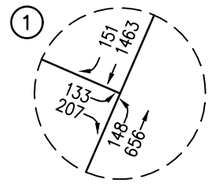
KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-12

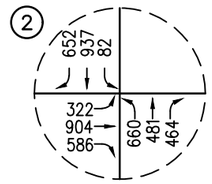
YEAR 2045 BUILDOUT PLUS PROJECT PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

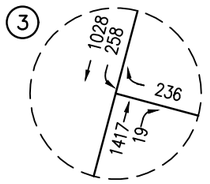




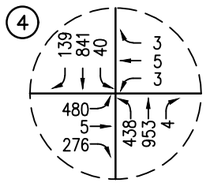
CAMINO CAPISTRANO @
AVENIDA AEROPUERTO



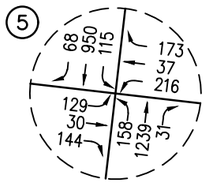
CAMINO CAPISTRANO @
STONEHILL DR



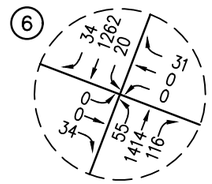
CAMINO CAPISTRANO @
CAMINO CAPISTRANO



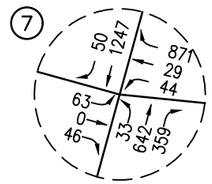
DOHENY PARK RD @
COSTCO DWY



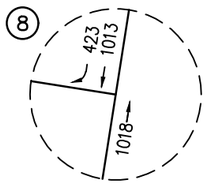
DOHENY PARK RD @
VICTORIA BLVD



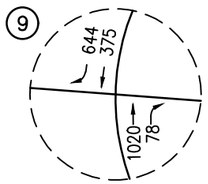
DOHENY PARK RD @
DOMINGO AVE



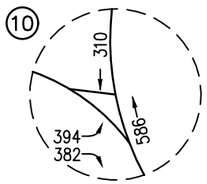
DOHENY PARK RD @
LAS VEGAS/PCH RAMPS



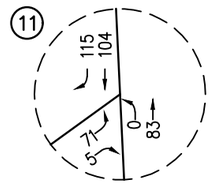
DOHENY PARK RD @
PCH WB ON RAMPS



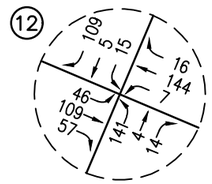
DOHENY PARK RD @
PCH EB ON RAMPS



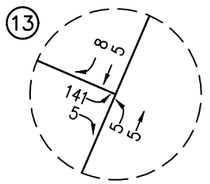
DOHENY PARK RD @
PCH SIDE PATH



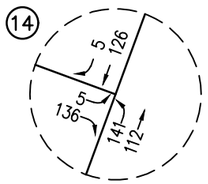
CAMINO CAPISTRANO @
SEPULVEDA AVE



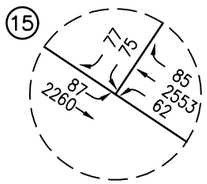
SEPULVEDA AVE @
VICTORIA BLVD



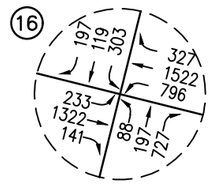
SEPULVEDA AVE @
DOMINGO AVE



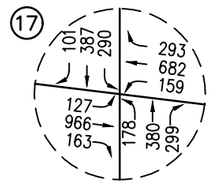
CAMINO CAPISTRANO @
VICTORIA BLVD



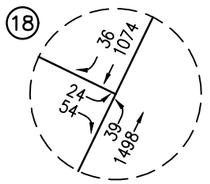
DOHENY PARK PLAZA @
PACIFIC COAST HIGHWAY



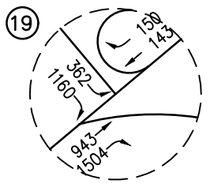
DEL OBISPO ST @
PACIFIC COAST HIGHWAY



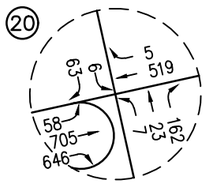
DEL OBISPO ST @
STONEHILL DR



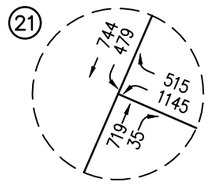
DOHENY PARK RD @
SMART & FINAL DWY



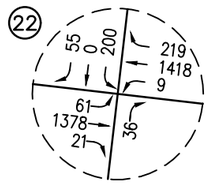
I-5 SB RAMPS @
PCH/CAMINO LAS RAMBLAS



I-5 NB RAMPS @
PCH/CAMINO LAS RAMBLAS



CAMINO CAPISTRANO @
I-5 SB RAMPS



PROPOSED GANAHL
LUMBER DWY @
STONEHILL DRIVE

LINSCOTT LAW & GREENSPAN
engineers

N
NO SCALE

KEY
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES

FIGURE 6-13

YEAR 2045 BUILDOUT PLUS PROJECT SATURDAY MIDDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

7.0 EXISTING CONDITIONS TRAFFIC ANALYSIS

The need for potential Project-related improvements during the weekday AM, PM and Saturday Midday peak hour traffic conditions were evaluated based on analysis of operating conditions at the twenty-two (22) key intersections and fourteen (14) roadway segments, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future delay/volume-to-capacity relationships and service level characteristics at each study intersection based on the ICU methodology and/or HCM methodology. The Project was then evaluated at each key intersection using the level of service thresholds defined in Section 3.7 of this report. The existing conditions analysis establishes the basis for the future forecasts for the Project. The existing conditions analysis reflects existing traffic counts as well as existing lane configurations for all analyzed intersections.

7.1 City of Dana Point Intersections

Table 7-1 summarizes the peak hour Level of Service results at the seventeen (17) key study intersections located within the City of Dana Point jurisdiction for existing traffic conditions, with and without the Project. The first column (1) of *Table 7-1* presents a summary of Existing weekday AM, PM and Saturday Midday peak hour traffic conditions. The second column (2) presents forecast Existing Plus Project traffic conditions. The third column (3) shows the increase in ICU/HCM value due to the added peak hour Project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve intersection performance. The fourth column (4) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

7.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-1* indicates that all seventeen (17) key study intersections located within the City of Dana Point currently operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours.

7.1.2 *Existing Plus Project Traffic Conditions*

Review of column (2) of *Table 7-1* indicates that all seventeen (17) key study intersections located in the City of Dana Point will continue to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours with the addition of project generated traffic.

Appendix D contains the ICU/LOS calculation worksheets for Existing and Existing Plus Project Traffic Conditions. ***Appendix E*** presents the HCM/LOS calculations for Existing and Existing Plus Project Traffic Conditions.

7.2 City of San Juan Capistrano Intersections

Table 7-2 summarizes the peak hour Level of Service results at the seven (7) key study intersections located within the City of San Juan Capistrano jurisdiction for existing traffic conditions, with and without the Project. The first column (1) of *Table 7-2* presents a summary of Existing weekday AM, PM and Saturday Midday peak hour traffic conditions. The second column (2) presents forecast Existing Plus Project traffic conditions. The third column (3) shows the increase in ICU and HCM values due to the added peak hour Project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve intersection performance. The fourth column (4) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

7.2.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-2* indicates that one (1) of the seven study intersections located within the City of San Juan Capistrano currently operates adversely. The remaining study intersections currently operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours. The intersection operating adversely includes the following:

	AM Peak Hour		PM Peak Hour		Sat. Mid. Peak Hour	
Key Intersection	**HCM**	**LOS**	**HCM**	**LOS**	**HCM**	**LOS**
22. Proposed Ganahl Lumber Dwy at Stonehill Dr	--	--	37.9 s/v	E	--	--

7.2.2 *Existing Plus Project Traffic Conditions*

Review of column (2) of *Table 7-2* indicates that one (1) of the seven study intersections located within the City of San Juan Capistrano is forecast to operate adversely under Existing traffic conditions with the addition of project generated traffic. The remaining study intersections are forecast to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours. The intersection operating adversely includes the following:

	AM Peak Hour		PM Peak Hour		Sat. Mid. Peak Hour	
Key Intersection	**HCM**	**LOS**	**HCM**	**LOS**	**HCM**	**LOS**
22. Proposed Ganahl Lumber Dwy at Stonehill Dr	--	--	39.1 s/v	E	--	--

Review of column (3) of *Table 7-2* indicates that one (1) key study intersection exceeds the level of service thresholds, which is the Proposed Ganahl Lumber Driveway/Stonehill Drive (Intersection #22). However, although the intersection exceeds the level of service thresholds, there are planned improvements at this location which has been included as part of Year 2045 buildout traffic conditions. Therefore, additional improvements at this intersection is not necessary. Review of column (4) shows that the implementation of the planned improvements will offset the project's increment and help achieve acceptable level of service at the study intersection. *Appendix D* contains the ICU/LOS calculation worksheets for Existing and Existing Plus Project Traffic Conditions.

Appendix E presents the HCM/LOS calculations for Existing and Existing Plus Project Traffic Conditions.

7.3 City of Dana Point Roadway Segments

Table 7-3 summarizes the daily Level of Service results at the twelve (12) roadway segments located within the City of Dana Point jurisdiction for existing traffic conditions, with and without the Project. The first column (1) of *Table 7-3* presents a summary of Existing traffic conditions. The second column (2) presents forecast Existing Plus Project traffic conditions. The third column (3) shows the increase in V/C value due to the added peak hour Project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve performance based on the criteria defined in this report. The fourth column (4) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

7.3.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-3* indicates that one (1) of the twelve (12) roadway segments located within the City of Dana Point currently operates adversely. The remaining roadway segments currently operate at acceptable level of service during both the weekday and Saturday. The roadway segment operating adversely includes the following:

	Weekday		Saturday	
Roadway Segment	**V/C**	**LOS**	**V/C**	**LOS**
N. Stonehill Dr, between Camino Capistrano and Del Obispo St	0.881	D	--	--

7.3.2 *Existing Plus Project Traffic Conditions*

Review of column (2) of *Table 7-3* indicates that one (1) of the twelve roadway segments located within the City of Dana Point is forecast to operate adversely under existing traffic conditions with the addition of project generated traffic. The remaining roadway segments are forecast to operate at acceptable level of service during both the weekday and Saturday. The roadway segment operating adversely includes the following:

	Weekday		Saturday	
Roadway Segment	**V/C**	**LOS**	**V/C**	**LOS**
N. Stonehill Dr, between Camino Capistrano and Del Obispo St	0.900	D	--	--

Review of column (3) of *Table 7-3* indicates that one (1) roadway segment (Roadway Segment N) exceeds the level of service thresholds. However, there are planned improvements at this location which has been included as part of Year 2045 buildout traffic conditions. Therefore, additional improvements are not necessary. Review of column (4) shows that the implementation of the planned improvements will offset the Project's increment and help achieve acceptable level of service on the roadway segment.

A peak hour link assessment was also completed for the one (1) roadway segment operating adversely (Roadway Segment N). As shown in *Table 7-3*, Roadway Segment N currently operates at LOS A during the existing weekday AM, PM and Saturday Midday peak hours. Roadway Segment N is also forecast to operate at LOS A during the weekday AM, PM and Saturday Midday peak hours under Existing Plus Project traffic conditions. Therefore, it can be concluded that the proposed project will not exceed the level of service thresholds at any of the study roadway segments during the critical peak hours.

7.4 City of San Juan Capistrano Roadway Segments

Table 7-4 summarizes the daily Level of Service results at the four (4) roadway segments located within the City of San Juan Capistrano jurisdiction for existing traffic conditions, with and without the Project. The first column (1) of *Table 7-4* presents a summary of Existing traffic conditions. The second column (2) presents forecast Existing Plus Project traffic conditions. The third column (3) shows the increase in V/C value due to the added peak hour Project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve performance based on the criteria defined in this report. The fourth column (4) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

7.4.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-4* indicates that all four (4) roadway segments located within the City of San Juan Capistrano currently operates at acceptable level of service during both the weekday and Saturday.

7.4.2 *Existing Plus Project Traffic Conditions*

Review of column (2) of *Table 7-4* indicates that all four (4) roadway segments located within the City of San Juan Capistrano are forecast to operate at acceptable level of service during both the weekday and Saturday with the addition of project generated traffic.

TABLE 7-1

EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Camino Capistrano / Avenida Aeropuerto	*D*	*3∅ Traffic Signal*	*AM*	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--
2. Camino Capistrano at Stonehill Drive/ I-5 NB On-Ramp	*D*	*3∅ Traffic Signal*	*AM*	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--
3. Camino Capistrano at Camino Capistrano	C	One-Way Stop	AM	12.8 s/v	B	14.3 s/v	B	1.5 s/v	No	--	--
			PM	14.7 s/v	B	17.4 s/v	C	2.7 s/v	No	--	--
			Sat. MD	14.5 s/v	B	18.8 s/v	C	4.3 s/v	No	--	--
4. Camino Capistrano at Costco Driveway	C	6∅ Traffic Signal	AM	0.220	A	0.234	A	0.014	No	--	--
			PM	0.434	A	0.454	A	0.020	No	--	--
			Sat. MD	0.471	A	0.485	A	0.014	No	--	--
5. Doheny Park Road at Victoria Boulevard	C	5∅ Traffic Signal	AM	0.347	A	0.383	A	0.036	No	--	--
			PM	0.438	A	0.552	A	0.114	No	--	--
			Sat. MD	0.458	A	0.565	A	0.107	No	--	--

Notes:

- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 7-2*.

TABLE 7-1 (CONTINUED)
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
6. Doheny Park Road at Domingo Avenue	C	Two-Way Stop	AM	10.8 s/v	B	11.1 s/v	B	0.3 s/v	No	--	--
			PM	12.0 s/v	B	13.4 s/v	B	1.4 s/v	No	--	--
			Sat. MD	12.5 s/v	B	13.8 s/v	B	1.3 s/v	No	--	--
7. Doheny Park Road at Las Vegas Avenue/ PCH Ramps	D	3∅ Traffic Signal	AM	0.464	A	0.524	A	0.060	No	--	--
			PM	0.667	B	0.795	C	0.128	No	--	--
			Sat. MD	0.661	B	0.775	C	0.114	No	--	--
8. Doheny Park Road at PCH WB On-Ramp[37]	D	Uncontrolled	AM	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--
9. Doheny Park Road at PCH EB On-Ramp[37]	D	Uncontrolled	AM	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--
10. Doheny Park Road at PCH Side Path	D	2∅ Traffic Signal	AM	0.211	A	0.226	A	0.015	No	--	--
			PM	0.280	A	0.315	A	0.035	No	--	--
			Sat. MD	0.261	A	0.299	A	0.038	No	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 7-2*.

[37] Intersection is uncontrolled and therefore it is not anticipated to experience any delay.

TABLE 7-1 (CONTINUED)
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
11. Camino Capistrano at Sepulveda Avenue	C	One-Way Stop	AM	10.8 s/v	B	10.7 s/v	B	-0.1 s/v [38]	No	--	--
			PM	11.1 s/v	B	11.4 s/v	B	0.3 s/v	No	--	--
			Sat. MD	9.8 s/v	A	10.4 s/v	B	0.6 s/v	No	--	--
12. Sepulveda Avenue at Victoria Boulevard	C	All-Way Stop	AM	7.9 s/v	A	7.9 s/v	A	0.0 s/v	No	--	--
			PM	8.1 s/v	A	8.3 s/v	A	0.2 s/v	No	--	--
			Sat. MD	8.0 s/v	A	8.8 s/v	A	0.8 s/v	No	--	--
13. Sepulveda Avenue at Domingo Avenue	C	One-Way Stop	AM	8.7 s/v	A	8.7 s/v	A	0.0 s/v	No	--	--
			PM	8.7 s/v	A	8.9 s/v	A	0.2 s/v	No	--	--
			Sat. MD	8.7 s/v	A	9.0 s/v	A	0.3 s/v	No	--	--
14. Camino Capistrano at Victoria Boulevard	C	One-Way Stop	AM	10.5 s/v	B	9.5 s/v	A	-1.0 s/v[38]	No	--	--
			PM	10.3 s/v	B	10.0 s/v	A	-0.3 s/v[38]	No	--	--
			Sat. MD	9.4 s/v	A	9.7 s/v	A	0.3 s/v[38]	No	--	--
15. Doheny Park Plaza at PCH	C	5∅ Traffic Signal	AM	0.497	A	0.504	A	0.007	No	--	--
			PM	0.521	A	0.535	A	0.014	No	--	--
			Sat. MD	0.589	A	0.606	B	0.017	No	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 7-2*.

[38] A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes for certain movements at the intersection.

TABLE 7-1 (CONTINUED)
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
16. Del Obispo Street at PCH	C	8∅ Traffic Signal	AM	0.576	A	0.584	A	0.008	No	--	--
			PM	0.587	A	0.606	B	0.019	No	--	--
			Sat. MD	0.557	A	0.579	A	0.022	No	--	--
17. Del Obispo Street at Stonehill Drive	C	8∅ Traffic Signal	AM	0.753	C	0.753	C	0.000	No	--	--
			PM	0.682	B	0.693	B	0.011	No	--	--
			Sat. MD	0.652	B	0.666	B	0.014	No	--	--
18. Doheny Park Road at Smart & Final Driveway	C	One-Way Stop	AM	10.2 s/v	B	10.5 s/v	B	0.3 s/v	No	--	--
			PM	13.3 s/v	B	13.6 s/v	B	0.3 s/v	No	--	--
			Sat. MD	15.5 s/v	C	15.8 s/v	C	0.3 s/v	No	--	--
19. I-5 SB Ramps at PCH/Camino Las Ramblas	D	2∅ Traffic Signal	AM	0.253	A	0.253	A	0.000	No	--	--
			PM	0.297	A	0.298	A	0.001	No	--	--
			Sat. MD	0.250	A	0.251	A	0.001	No	--	--
20. I-5 NB Ramps at PCH/Camino Las Ramblas	*D*	*2∅ Traffic Signal*	*AM*	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 7-2*.

TABLE 7-1 (CONTINUED)

EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
21. Camino Capistrano at I-5 SB Ramps	*E*	*3∅ Traffic Signal*	*AM*	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--
22. Proposed Ganahl Lumber Driveway at Stonehill Drive	*D*	*Two-Way Stop*	*AM*	--	--	--	--	--	--	--	--
			PM	--	--	--	--	--	--	--	--
			Sat. MD	--	--	--	--	--	--	--	--

Notes:

- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 7-2*.

TABLE 7-2
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF SAN JUAN CAPISTRANO

Key Intersection		Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions				(2) Existing Plus Project Traffic Conditions				(3) Exceed LOS Thresholds (2) – (1)				(4) Existing Plus Project Traffic Conditions with Improvements			
					ICU	LOS	HCM	LOS	ICU	LOS	HCM	LOS	ICU Increase	Yes/No	HCM Increase	Yes/No	ICU	LOS	HCM	LOS
1.	Camino Capistrano Avenida Aeropuerto	D	3∅ Traffic Signal	AM	0.459	A	17.6 s/v	B	0.470	A	17.1 s/v	B	0.011	No	-0.5 s/v [39]	No	--	--	--	--
				PM	0.706	C	22.9 s/v	C	0.728	C	23.7 s/v	C	0.022	No	0.8 s/v	No	--	--	--	--
				Sat. MD	0.500	A	15.4 s/v	B	0.521	A	14.9 s/v	B	0.021	No	-0.5 s/v[39]	No	--	--	--	--
2.	Camino Capistrano at Stonehill Drive/ I-5 NB On-Ramp	D	3∅ Traffic Signal	AM	0.607	B	36.7 s/v	D	0.642	B	38.6 s/v	D	0.035	No	1.9 s/v	No	--	--	--	--
				PM	0.686	B	36.1 s/v	D	0.769	C	42.0 s/v	D	0.083	No	5.9 s/v	No	--	--	--	--
				Sat. MD	0.655	B	31.0 s/v	C	0.740	C	34.1 s/v	C	0.085	No	3.1 s/v	No	--	--	--	--
3.	Camino Capistrano at Camino Capistrano	D	One-Way Stop	AM	--	--	12.8 s/v	B	--	--	14.3 s/v	B	--	--	1.5 s/v	No	--	--	--	--
				PM	--	--	14.7 s/v	B	--	--	17.4 s/v	C	--	--	2.7 s/v	No	--	--	--	--
				Sat. MD	--	--	14.5 s/v	B	--	--	18.8 s/v	C	--	--	4.3 s/v	No	--	--	--	--
4.	Camino Capistrano at Costco Driveway	D	6∅ Traffic Signal	AM	0.220	A	18.0 s/v	B	0.234	A	16.9 s/v	B	0.014	No	-1.1 s/v[39]	No	--	--	--	--
				PM	0.434	A	24.1 s/v	C	0.454	A	23.6 s/v	C	0.020	No	-0.5 s/v[39]	No	--	--	--	--
				Sat. MD	0.471	A	27.0 s/v	C	0.485	A	26.1 s/v	C	0.014	No	-0.9 s/v[39]	No	--	--	--	--
20.	I-5 NB Ramps at PCH/Camino Las Ramblas	D	2∅ Traffic Signal	AM	0.247	A	12.2 s/v	B	0.247	A	12.2 s/v	B	0.000	No	0.0 s/v	No	--	--	--	--
				PM	0.258	A	13.4 s/v	B	0.259	A	13.4 s/v	B	0.001	No	0.0 s/v	No	--	--	--	--
				Sat. MD	0.212	A	14.1 s/v	B	0.213	A	14.1 s/v	B	0.001	No	0.0 s/v	No	--	--	--	--
21.	Camino Capistrano at I-5 SB Ramps	E	3∅ Traffic Signal	AM	0.485	A	24.8 s/v	C	0.498	A	25.1 s/v	C	0.013	No	0.3 s/v	No	--	--	--	--
				PM	0.626	B	28.4 s/v	C	0.650	B	29.1 s/v	C	0.024	No	0.7 s/v	No	--	--	--	--
				Sat. MD	0.586	A	27.1 s/v	C	0.612	B	28.1 s/v	C	0.026	No	1.0 s/v	No	--	--	--	--
22.	Proposed Ganahl Lumber Driveway at Stonehill Drive	D	Two-Way Stop	AM	--	--	33.5 s/v	D	--	--	33.8 s/v	D	--	--	0.3 s/v	No	0.443	A[40]	6.0 s/v	A[40]
				PM	--	--	**37.9 s/v**	**E**	--	--	**39.1 s/v**	**E**	--	--	**1.2 s/v**	**Yes**	0.500	A[40]	3.7 s/v	A[40]
				Sat. MD	--	--	33.1 s/v	D	--	--	34.7 s/v	D	--	--	1.6 s/v	No	0.473	A[40]	3.5 s/v	A[40]

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels

[39] A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes for certain movements at the intersection.

[40] Although the intersection exceeds the LOS thresholds, the proposed Ganahl Lumber Project plans to install a five-phase traffic signal at this location, which has been included as part of Year 2045 buildout traffic conditions. Additionally, the Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive, which would carry through to this study intersection. Therefore, additional improvements at this intersection are not necessary. Level of service with the installation of the traffic signal has been included for Existing Plus Project traffic conditions for informational purposes.

TABLE 7-3

EXISTING DAILY ROADWAY SEGMENTS LEVEL OF SERVICE ANALYSIS – CITY OF DANA POINT

	Key Roadway Segment	Time Period	No. of Lanes	Min. Acceptable LOS	LOS "E" Capacity (VPD)[41]	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements		
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Yes/No	Daily Volume	V/C Ratio	LOS
A.	Camino Capistrano, west of Doheny Park Road	Weekday	2U	C	12,500	5,044	0.404	A	6,006	0.480	A	0.076	No	--	--	--
		Sat.				3,661	0.293	A	5,051	0.404	A	0.111	No	--	--	--
B.	Doheny Park Road, south of Camino Capistrano	Weekday	1U	C	6,250	633	0.101	A	2,310	0.370	A	0.269	No	--	--	--
		Sat.				543	0.087	A	2535	0.406	A	0.319	No	--	--	--
C.	Victoria Boulevard, west of Doheny Park Road	Weekday	2U	C	12,500	715	0.057	A	3,401	0.272	A	0.215	No	--	--	--
		Sat.				578	0.046	A	2679	0.214	A	0.168	No	--	--	--
D.	Domingo Avenue, west of Doheny Park Road	Weekday	2U	C	12,500	453	0.036	A	1,222	0.098	A	0.062	No	--	--	--
		Sat.				464	0.037	A	1190	0.095	A	0.058	No	--	--	--
E.	Las Vegas Avenue, west of Doheny Park Road	Weekday	2U	C	12,500	1,719	0.138	A	3,314	0.265	A	0.127	No	--	--	--
		Sat.				1,174	0.094	A	2,426	0.194	A	0.100	No	--	--	--
F.	Victoria Boulevard, east of Doheny Park Road	Weekday	2U	C	12,500	3,758	0.301	A	3,980	0.318	A	0.017	No	--	--	--
		Sat.				2,888	0.231	A	3,813	0.305	A	0.074	No	--	--	--
G.	Domingo Avenue, east of Doheny Park Road	Weekday	2U	C	12,500	765	0.061	A	1,701	0.136	A	0.075	No	--	--	--
		Sat.				560	0.045	A	1812	0.145	A	0.100	No	--	--	--
H.	Camino Capistrano, south of Victoria Boulevard	Weekday	2U	C	12,500	4,969	0.398	A	5,237	0.419	A	0.021	No	--	--	--
		Sat.				4,006	0.320	A	4,336	0.347	A	0.027	No	--	--	--
I.	Camino Capistrano, south of Sepulveda Avenue	Weekday	2U	C	12,500	3,498	0.280	A	2,501	0.200	A	-0.080[42]	No	--	--	--
		Sat.				2,803	0.224	A	2,100	0.168	A	-0.056[42]	No	--	--	--
J.	Sepulveda Avenue, between Camino Capistrano and Victoria Boulevard	Weekday	2U	C	12,500	1,404	0.112	A	3,160	0.253	A	0.141	No	--	--	--
		Sat.				1,203	0.096	A	3,454	0.276	A	0.180	No	--	--	--
K.	*Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto*	*Weekday*	*4D*	*E*	*37,500*	--	--	--	--	--	--	--	--	--	--	--
		Sat.				--	--	--	--	--	--	--	--	--	--	--
L.	*Camino Capistrano, between Avenida Aeropuerto and Stonehill Drive*	*Weekday*	*4D*	*D*	*37,500*	--	--	--	--	--	--	--	--	--	--	--
		Sat.				--	--	--	--	--	--	--	--	--	--	--
M.	Camino Capistrano, between Stonehill Drive and Costco Driveway	Weekday	4D	C	37,500	24,895	0.664	B	27,862	0.743	C	0.079	No	--	--	--
		Sat.				20,165	0.538	A	23,436	0.625	B	0.087	No	--	--	--

Notes:

- D = Divided; U = Undivided; VPD = Vehicles per day; V/C = Volume over capacity
- **Bold LOS values** indicate adverse service levels
- *Italicized* roadway segments are located in City of San Juan Capistrano and results can be found in *Table 7-4*.

41 Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated November 1995 and Amended April 1998.*

42 A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes along the roadway segment.

TABLE 7-3 (CONTINUED)

EXISTING DAILY ROADWAY SEGMENTS LEVEL OF SERVICE ANALYSIS – CITY OF DANA POINT

Key Roadway Segment	Time Period	No. of Lanes	Min. Acceptable LOS	LOS "E" Capacity (VPD)[43]	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements		
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Yes/No	Daily Volume	V/C Ratio	LOS
N. Stonehill Drive, between Camino Capistrano and Del Obispo Street	Weekday	4D	C	37,500	**33,047**	**0.881**	**D**	**33,761**	**0.900**	**D**	**0.019**	**Yes**	33,761	0.720	C[44]
	Sat.				26,768	0.714	C	27,595	0.736	C	0.022	No	27,595	0.588	A[44]
➢ Peak Hour Analysis	AM	2	EB	3,200	1,610	0.503	A	1,610	0.503	A	0.000	No	1,610	0.335	A[44]
		2	WB	3,200	816	0.255	A	829	0.259	A	0.004	No	829	0.259	A[44]
	PM	2	EB	3,200	1,300	0.406	A	1,326	0.414	A	0.008	No	1,326	0.276	A[44]
		2	WB	3,200	1,414	0.442	A	1,436	0.449	A	0.007	No	1,436	0.449	A[44]
	Sat. Midday	2	EB	3,200	1,240	0.388	A	1,270	0.397	A	0.009	No	1,270	0.265	A[44]
		2	WB	3,200	932	0.291	A	963	0.301	A	0.010	No	963	0.301	A[44]

Notes:

- D = Divided; U = Undivided; VPD = Vehicles per day; V/C = Volume over capacity
- **Bold LOS values** indicate adverse service levels
- *Italicized* roadway segments are located in City of San Juan Capistrano and results can be found in *Table 7-4*.

[43] Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated November 1995 and Amended April 1998.*

[44] Although the segment exceeds the LOS thresholds, the Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive, which have been included as part of the Year 2045 background traffic conditions. Level of service with the planned improvements has been included for Existing Plus Project traffic conditions for informational purposes.

TABLE 7-4

EXISTING DAILY ROADWAY SEGMENTS LEVEL OF SERVICE ANALYSIS – CITY OF SAN JUAN CAPISTRANO

Key Roadway Segment	Time Period	No. of Lanes	Min. Acceptable LOS	LOS "E" Capacity (VPD)[45]	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements		
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Yes/No	Daily Volume	V/C Ratio	LOS
K. Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto	Weekday	4D	E	37,500	24,230	0.646	B	25,606	0.683	B	0.037	No	--	--	--
	Sat.				19,626	0.523	A	21,059	0.562	A	0.039	No	--	--	--
L. Camino Capistrano, between Avenida Aeropuerto and Stonehill Drive	Weekday	4D	D	37,500	24,648	0.657	B	25,964	0.692	B	0.035	No	--	--	--
	Sat.				19,965	0.532	A	21,338	0.569	A	0.037	No	--	--	--
M. Camino Capistrano, between Stonehill Drive and Costco Driveway	Weekday	4D	D	37,500	24,895	0.664	B	27,862	0.743	C	0.079	No	--	--	--
	Sat.				20,165	0.538	A	23,436	0.625	B	0.087	No	--	--	--
N. Stonehill Drive, between Camino Capistrano and Del Obispo Street	Weekday	4D	D	37,500	33,047	0.881	D	33,761	0.900	D	0.019	No	33,761	0.720	C[46]
	Sat.				26,768	0.714	C	27,595	0.736	C	0.022	No	27,595	0.588	A[46]

Notes:

- D = Divided; U = Undivided; VPD = Vehicles per day; V/C = Volume over capacity
- **Bold LOS values** indicate adverse service levels

[45] Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated November 1995 and Amended April 1998.*

[46] The Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive, which have been included as part of the Year 2045 background traffic conditions. Level of service with the planned improvements has been included for Existing Plus Project traffic conditions for informational purposes.

8.0 YEAR 2045 BUILDOUT CONDITIONS TRAFFIC ANALYSIS

The need for potential Project-related improvements during the weekday AM, PM and Saturday Midday peak hour traffic conditions were evaluated based on analysis of future Year 2045 operating conditions at the (22) key intersections and fourteen (14) roadway segments, with and without the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future delay/volume-to-capacity relationships and service level characteristics at each study intersection based on the ICU methodology and/or HCM methodology. The Project was then evaluated at each key intersection using the level of service thresholds defined in Section 3.7 of this report.

8.1 City of Dana Point Intersections

Table 8-1 summarizes the peak hour Level of Service results at the seventeen (17) key study intersections located within the City of Dana Point jurisdiction for Year 2045 Buildout traffic conditions, with and without the Project. The first column (1) of *Table 8-1* presents a summary of Year 2045 Buildout weekday AM, PM and Saturday Midday peak hour traffic conditions. The second column (2) presents forecast Year 2045 Buildout Plus Project traffic conditions. The third column (3) shows the increase in ICU/HCM value due to the added peak hour Project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve intersection performance. The fourth column (4) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

8.1.1 *Year 2045 Buildout Traffic Conditions*

Review of column (1) of *Table 8-1* indicates that all seventeen (17) key study intersections located within the City of Dana Point are forecast to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours under Year 2045 buildout traffic conditions.

8.1.2 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of column (2) of *Table 8-1* indicates that two (2) of the seventeen key study intersections located in the City of Dana Point are forecast to operate adversely under Year 2045 Buildout traffic conditions with the addition of project generated traffic. The remaining study intersections are forecast to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours. The intersections operating adversely include the following:

	AM Peak Hour		PM Peak Hour		Sat. Mid. Peak Hour	
Key Intersection	**ICU/HCM**	**LOS**	**ICU/HCM**	**LOS**	**ICU/HCM**	**LOS**
3. Camino Capistrano at Camino Capistrano	--	--	--	--	30.1 s/v	D
7. Doheny Park Rd at Las Vegas Ave/PCH Ramps	--	--	0.969	E	1.000	E

Review of column (3) of *Table 8-2* indicates that two (2) key study intersections exceed the level of service thresholds, which include Camino Capistrano/Camino Capistrano (Intersection #3) and Doheny Park Road/Las Vegas Avenue/PCH Ramps (Intersection #7).

The intersection of Camino Capistrano/Camino Capistrano (Intersection #3) exceeds the level of service thresholds and the location also satisfies the criteria for the peak hour traffic signal warrant during the Saturday Midday peak hour. However, physical improvements at this location are not feasible. The installation of a traffic signal at this location is not recommended due to the intersection being in close proximity to the signalized intersection of Camino Capistrano/Costco Driveway, which could potentially cause queueing issues along the major roadway. Additionally, it is not uncommon for minor streets at unsignalized intersections to experience longer delay due to the heavy volumes on the major street. Therefore, this location will remain unchanged.

Review of column (4) of *Table 8-2* shows that the implementation of the planned improvements at the intersection of Doheny Park Road/Las Vegas Avenue/PCH Ramps (Intersection #7) will offset the Project's increment and help achieve acceptable level of service at the study intersection. Recommended improvements are discussed in Section 10.0. *Appendix D* contains the ICU/LOS calculation worksheets for Year 2045 Buildout and Year 2045 Buildout Plus Project Traffic Conditions. *Appendix E* presents the HCM/LOS calculations for Year 2045 Buildout and Year 2045 Buildout Plus Project Traffic Conditions.

8.2 City of San Juan Capistrano Intersections

Table 8-2 summarizes the peak hour Level of Service results at the seven (7) key study intersections located within the City of San Juan Capistrano jurisdiction for Year 2045 Buildout Plus Project traffic conditions. The first column (1) of *Table 8-2* presents a summary of Existing weekday AM, PM and Saturday Midday peak hour traffic conditions (which were previously summarized in *Table 7-2)*. The second column (2) presents forecast Existing Plus Project traffic conditions (which were previously summarized in *Table 7-2)*. The third column (3) presents forecast Year 2045 Buildout Plus Project traffic conditions. The fourth column (4) shows the increase in ICU and HCM values due to the added peak hour Project trips, which are based on Existing and Existing Plus Project traffic conditions per the San Juan Capistrano guidelines, and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve intersection performance. The fifth column (5) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

8.2.1 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of column (3) of *Table 8-2* indicates that one (1) of the seven study intersections located within the City of San Juan Capistrano is forecast to operate adversely under Year 2045 Buildout traffic conditions with the addition of project generated traffic. The remaining study intersections are forecast to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours. The intersections operating adversely include the following:

Key Intersection	AM Peak Hour		PM Peak Hour		Sat. Mid. Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS
	--	--	0.954	E	1.006	F
2. Camino Capistrano at Stonehill Dr/I-5 NB On-Ramp	HCM	LOS	HCM	LOS	HCM	LOS
	60.2 s/v	E	60.3 s/v	E	--	--

Review of column (4) of *Table 8-2* indicates that one (1) key study intersection exceeds the level of service thresholds, which is Camino Capistrano/Stonehill Drive/I-5 NB On-Ramp (Intersection #2). Review of column (5) shows that the implementation of recommended improvements will offset the project's increment and help achieve acceptable level of service at the study intersection. Recommended improvements are discussed in Section 10.0. *Appendix D* contains the ICU/LOS calculation worksheets for Year 2045 Buildout Plus Project Traffic Conditions. *Appendix E* presents the HCM/LOS calculations Year 2045 Buildout Plus Project Traffic Conditions.

8.3 City of Dana Point Roadway Segments

Table 8-3 summarizes the daily Level of Service results at the twelve (12) roadway segments located within the City of Dana Point jurisdiction for Year 2045 Buildout traffic conditions, with and without the Project. The first column (1) of *Table 8-3* presents a summary of Year 2045 Buildout traffic conditions. The second column (2) presents forecast Year 2045 Buildout Plus Project traffic conditions. The third column (3) shows the increase in V/C value due to the added peak hour Project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve performance based on the criteria defined in this report. The fourth column (4) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

8.3.1 *Year 2045 Buildout Traffic Conditions*

Review of column (1) of *Table 8-3* indicates that one (1) of the twelve roadway segments located within the City of Dana Point is forecast to operate adversely under Year 2045 buildout traffic conditions. The remaining roadway segments are forecast to operate at acceptable level of service during both the weekday and Saturday under Year 2045 Buildout traffic conditions. The roadway segment operating adversely includes the following:

Roadway Segment	Weekday		Saturday	
	V/C	LOS	V/C	LOS
N. Stonehill Dr, between Camino Capistrano and Del Obispo St	0.802	D	--	--

8.3.2 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of column (2) of *Table 8-3* indicates that two (2) of the twelve roadway segments located within the City of Dana Point are forecast to operate adversely under Year 2045 Buildout traffic conditions with the addition of project generated traffic. The remaining roadway segments are

forecast to operate at acceptable level of service during both the weekday and Saturday. The roadway segments operating adversely include the following:

	Weekday		Saturday	
Roadway Segment	**V/C**	**LOS**	**V/C**	**LOS**
M. Camino Capistrano, between Stonehill Dr and Costco Dwy	0.831	D	--	--
N. Stonehill Dr, between Camino Capistrano and Del Obispo St	0.816	D	--	--

Review of column (3) of *Table 8-3* indicates that two (2) roadway segments (Roadway Segments M and N) exceeds the level of service thresholds. A peak hour link assessment was also completed for the two (2) roadway segments operating adversely (Roadway Segments M and N). As shown in *Table 8-3*, Roadway Segments M and N are forecast to operate at LOS A during the weekday AM, PM and Saturday Midday peak hours under Year 2045 Buildout traffic conditions. Roadway Segments M and N are also forecast to operate at LOS A during the weekday AM, PM and Saturday Midday peak hours under Year 2045 Buildout Plus Project traffic conditions. Therefore, it can be concluded that the proposed project will not exceed the level of service thresholds at any of the study roadway segments during the critical peak hours. As such, improvements at these locations are not recommended.

8.4 City of San Juan Capistrano Roadway Segments

Table 8-4 summarizes the daily Level of Service results at the four (4) roadway segments located within the City of San Juan Capistrano jurisdiction for Year 2045 Buildout Plus Project traffic conditions. The first column (1) of *Table 8-4* presents a summary of Existing traffic conditions (which were previously summarized in *Table 7-4)*. The second column (2) presents forecast Existing Plus Project traffic conditions (which were previously summarized in *Table 7-4)*. The third column (3) presents forecast Year 2045 Buildout Plus Project traffic conditions. The fourth column (4) shows the increase in V/C value due to the added peak hour Project trips, which are based on Existing and Existing Plus Project traffic conditions per the San Juan Capistrano guidelines, and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve performance based on the criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of planned and/or recommended improvements, if necessary.

8.4.1 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of column (3) of *Table 8-4* indicates that all of the four roadway segments located within the City of San Juan Capistrano are forecast to operate at acceptable level of service during both the weekday and Saturday under Year 2045 Buildout Plus Project traffic conditions.

TABLE 8-1

YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
			ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. *Camino Capistrano / Avenida Aeropuerto*	*D*	*AM*	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--
2. *Camino Capistrano at Stonehill Drive/ I-5 NB On-Ramp*	*D*	*AM*	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--
3. Camino Capistrano at Camino Capistrano	C	AM	17.8 s/v	C	20.9 s/v	C	3.1 s/v	No	--	--
		PM	18.4 s/v	C	23.0 s/v	C	4.6 s/v	No	--	--
		Sat. MD	20.2 s/v	C	**30.1 s/v**	**D**	**9.9 s/v**	**Yes**[47]	--	--
4. Camino Capistrano at Costco Driveway	C	AM	0.340	A	0.348	A	0.008	No	--	--
		PM	0.529	A	0.545	A	0.016	No	--	--
		Sat. MD	0.586	A	0.595	A	0.009	No	--	--
5. Doheny Park Road at Victoria Boulevard	C	AM	0.478	A	0.461	A	-0.017[48]	No	--	--
		PM	0.589	A	0.681	B	0.092	No	--	--
		Sat. MD	0.645	B	0.703	C	0.058	No	--	--

Notes:

- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 8-2*.

47 Due to feasibility constraints this intersection will remain unchanged.

48 A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes for certain movements at the intersection.

TABLE 8-1 (CONTINUED)
YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
			ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
6. Doheny Park Road at Domingo Avenue	C	AM	12.0 s/v	B	12.4 s/v	B	0.4 s/v	No	--	--
		PM	14.0 s/v	B	15.6 s/v	C	1.6 s/v	No	--	--
		Sat. MD	14.8 s/v	B	16.4 s/v	C	1.6 s/v	No	--	--
7. Doheny Park Road at Las Vegas Avenue/ PCH Ramps	D	AM	0.746	C	0.778	C	0.032	No	0.610	B
		PM	0.850	D	**0.969**	**E**	**0.119**	**Yes**	0.759	C
		Sat. MD	0.897	D	**1.000**	**E**	**0.103**	**Yes**	0.766	C
8. Doheny Park Road at PCH WB On-Ramp[49]	D	AM	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--
9. Doheny Park Road at PCH EB On-Ramp[49]	D	AM	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--
10. Doheny Park Road at PCH Side Path	D	AM	0.258	A	0.273	A	0.015	No	--	--
		PM	0.327	A	0.359	A	0.032	No	--	--
		Sat. MD	0.313	A	0.348	A	0.035	No	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 8-2*.

[49] Intersection is uncontrolled and therefore it is not anticipated to experience any delay.

TABLE 8-1 (CONTINUED)
YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
			ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
11. Camino Capistrano at Sepulveda Avenue	C	AM	10.8 s/v	B	10.8 s/v	B	0.0 s/v	No	--	--
		PM	10.7 s/v	B	11.0 s/v	B	0.3 s/v	No	--	--
		Sat. MD	9.8 s/v	A	10.3 s/v	B	0.5 s/v	No	--	--
12. Sepulveda Avenue at Victoria Boulevard	C	AM	8.7 s/v	A	8.5 s/v	A	-0.2 s/v[50]	No	--	--
		PM	8.9 s/v	A	9.1 s/v	A	0.2 s/v	No	--	--
		Sat. MD	8.9 s/v	A	9.4 s/v	A	0.5 s/v	No	--	--
13. Sepulveda Avenue at Domingo Avenue	C	AM	8.8 s/v	A	8.8 s/v	A	0.0 s/v	No	--	--
		PM	9.1 s/v	A	9.2 s/v	A	0.1 s/v	No	--	--
		Sat. MD	9.1 s/v	A	9.3 s/v	A	0.2 s/v	No	--	--
14. Camino Capistrano at Victoria Boulevard	C	AM	10.2 s/v	B	9.2 s/v	A	-1.0 s/v [50]	No	--	--
		PM	10.6 s/v	B	10.0 s/v	A	-0.6 s/v[50]	No	--	--
		Sat. MD	9.7 s/v	A	9.8 s/v	A	0.1 s/v	No	--	--
15. Doheny Park Plaza at PCH	C	AM	0.658	B	0.664	B	0.006	No	--	--
		PM	0.686	B	0.700	C	0.014	No	--	--
		Sat. MD	0.693	B	0.708	C	0.015	No	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 8-2*.

[50] A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes for certain movements at the intersection.

TABLE 8-1 (CONTINUED)

YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
			ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
16. Del Obispo Street at PCH	C	AM	0.779	C	0.786	C	0.007	No	--	--
		PM	0.752	C	0.763	C	0.011	No	--	--
		Sat. MD	0.760	C	0.776	C	0.016	No	--	--
17. Del Obispo Street at Stonehill Drive[51]	C	AM	0.750	C	0.750	C	0.000	No	--	--
		PM	0.766	C	0.775	C	0.009	No	--	--
		Sat. MD	0.693	B	0.703	C	0.010	No	--	--
18. Doheny Park Road at Smart & Final Driveway	C	AM	11.1 s/v	B	11.4 s/v	B	0.3 s/v	No	--	--
		PM	15.5 s/v	C	15.6 s/v	C	0.1 s/v	No	--	--
		Sat. MD	18.2 s/v	C	18.3 s/v	C	0.1 s/v	No	--	--
19. I-5 SB Ramps at PCH/Camino Las Ramblas	D	AM	0.346	A	0.347	A	0.001	No	--	--
		PM	0.505	A	0.506	A	0.001	No	--	--
		Sat. MD	0.433	A	0.434	A	0.001	No	--	--
20. I-5 NB Ramps at PCH/Camino Las Ramblas	*D*	*AM*	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--

Notes:

- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 8-2*.

[51] Intersection includes planned improvements. The Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive, therefore planned improvements at this intersection include the construction of a third eastbound through lane.

TABLE 8-1 (CONTINUED)
YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF DANA POINT

Key Intersection	Min. Acceptable LOS	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
			ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
21. Camino Capistrano at I-5 SB Ramps	*E*	*AM*	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--
22. Proposed Ganahl Lumber Driveway at Stonehill Drive	*D*	*AM*	--	--	--	--	--	--	--	--
		PM	--	--	--	--	--	--	--	--
		Sat. MD	--	--	--	--	--	--	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels
- *Italicized* intersections are located in City of San Juan Capistrano and results can be found in *Table 8-2*.

TABLE 8-2
YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CITY OF SAN JUAN CAPISTRANO

Key Intersection		Min. Acceptable LOS	Time Period	(1) Existing Traffic Conditions				(2) Existing Plus Project Traffic Conditions				(3) Year 2045 Buildout Plus Project Traffic Conditions				(4) Exceed LOS Thresholds				(5) Year 2045 Buildout Plus Project Traffic Conditions with Improvements			
				ICU	LOS	HCM	LOS	ICU	LOS	HCM	LOS	ICU	LOS	HCM	LOS	ICU Increase[52]	Yes/No	HCM Increase[52]	Yes/No	ICU	LOS	HCM	LOS
1.	Camino Capistrano Avenida Aeropuerto	D	AM	0.459	A	17.6 s/v	B	0.470	A	17.1 s/v	B	0.561	A	15.8 s/v	B	0.011	No	-0.5 s/v[53]	No	--	--	--	--
			PM	0.706	C	22.9 s/v	C	0.728	C	23.7 s/v	C	0.856	D	27.0 s/v	C	0.022	No	0.8 s/v	No	--	--	--	--
			Sat. MD	0.500	A	15.4 s/v	B	0.521	A	14.9 s/v	B	0.689	B	16.0 s/v	B	0.021	No	-0.5 s/v[53]	No	--	--	--	--
2.	Camino Capistrano at Stonehill Drive/ I-5 NB On-Ramp	D	AM	0.607	B	36.7 s/v	D	0.642	B	38.6 s/v	D	0.841	D	**60.2 s/v**	**E**	0.035	No	**1.9 s/v**	**Yes**	0.762	C	33.0 s/v	C
			PM	0.686	B	36.1 s/v	D	0.769	C	42.0 s/v	D	**0.954**	**E**	**60.3 s/v**	**E**	**0.083**	**Yes**	**5.9 s/v**	**Yes**	0.815	D	34.7 s/v	C
			Sat. MD	0.655	B	31.0 s/v	C	0.740	C	34.1 s/v	C	**1.006**	**F**	54.4 s/v	D	**0.085**	**Yes**	3.1 s/v	No	0.864	D	30.9 s/v	C
3.	Camino Capistrano at Camino Capistrano	D	AM	--	--	12.8 s/v	B	--	--	14.3 s/v	B	--	--	20.1 s/v	C	--	--	1.5 s/v	No	--	--	--	--
			PM	--	--	14.7 s/v	B	--	--	17.4 s/v	C	--	--	23.0 s/v	C	--	--	2.7 s/v	No	--	--	--	--
			Sat. MD	--	--	14.5 s/v	B	--	--	18.8 s/v	C	--	--	30.1 s/v	D	--	--	4.3 s/v	No	--	--	--	--
4.	Camino Capistrano at Costco Driveway	D	AM	0.220	A	18.0 s/v	B	0.234	A	16.9 s/v	B	0.348	A	15.2 s/v	B	0.014	No	-1.1 s/v[53]	No	--	--	--	--
			PM	0.434	A	24.1 s/v	C	0.454	A	23.6 s/v	C	0.545	A	23.8 s/v	C	0.020	No	-0.5 s/v[53]	No	--	--	--	--
			Sat. MD	0.471	A	27.0 s/v	C	0.485	A	26.1 s/v	C	0.595	A	25.8 s/v	C	0.014	No	-0.9 s/v[53]	No	--	--	--	--
20.	I-5 NB Ramps at PCH/Camino Las Ramblas	D	AM	0.247	A	12.2 s/v	B	0.247	A	12.2 s/v	B	0.381	A	10.5 s/v	B	0.000	No	0.0 s/v	No	--	--	--	--
			PM	0.258	A	13.4 s/v	B	0.259	A	13.4 s/v	B	0.455	A	12.6 s/v	B	0.001	No	0.0 s/v	No	--	--	--	--
			Sat. MD	0.212	A	14.1 s/v	B	0.213	A	14.1 s/v	B	0.356	A	12.7 s/v	B	0.001	No	0.0 s/v	No	--	--	--	--
21.	Camino Capistrano at I-5 SB Ramps	E	AM	0.485	A	24.8 s/v	C	0.498	A	25.1 s/v	C	0.641	B	27.8 s/v	C	0.013	No	0.3 s/v	No	--	--	--	--
			PM	0.626	B	28.4 s/v	C	0.650	B	29.1 s/v	C	0.827	D	35.9 s/v	D	0.024	No	0.7 s/v	No	--	--	--	--
			Sat. MD	0.586	A	27.1 s/v	C	0.612	B	28.1 s/v	C	0.739	C	30.8 s/v	C	0.026	No	1.0 s/v	No	--	--	--	--
22.	Proposed Ganahl Lumber Driveway at Stonehill Drive	D	AM	--	--	33.5 s/v	D	--	--	33.8 s/v	D	0.591	A[54]	14.3 s/v	B[54]	--	--	0.3 s/v	No	--	--	--	--
			PM	--	--	**37.9 s/v**	**E**	--	--	**39.1 s/v**	**E**	0.660	B[54]	11.8 s/v	B[54]	--	--	1.2 s/v	No	--	--	--	--
			Sat. MD	--	--	33.1 s/v	D	--	--	34.7 s/v	D	0.642	B[54]	13.8 s/v	B[54]	--	--	1.6 s/v	No	--	--	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels

[52] Increase = Column (2) – Column (1)

[53] A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes for certain movements at the intersection.

[54] Intersection includes planned improvements. The proposed Ganahl Lumber Project plans to install a five-phase traffic signal at this location. Additionally, the Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive, which would carry through to this study intersection.

TABLE 8-3

YEAR 2045 BUILDOUT DAILY ROADWAY SEGMENTS LEVEL OF SERVICE ANALYSIS – CITY OF DANA POINT

Key Roadway Segment	Time Period	No. of Lanes	Min. Acceptable LOS	LOS "E" Capacity (VPD)[55]	(1) Year 2045 Buildout Traffic Conditions			(2) Year 2045 Buildout Plus Project Traffic Conditions			(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements		
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Yes/No	Daily Volume	V/C Ratio	LOS
A. Camino Capistrano, west of Doheny Park Road	Weekday	2U	C	12,500	5,792	0.463	A	6,754	0.540	A	0.077	No	--	--	--
	Sat.				4,441	0.355	A	5,831	0.466	A	0.111	No	--	--	--
B. Doheny Park Road, south of Camino Capistrano	Weekday	1U	C	6,250	696	0.111	A	2,373	0.380	A	0.269	No	--	--	--
	Sat.				597	0.096	A	2589	0.414	A	0.318	No	--	--	--
C. Victoria Boulevard, west of Doheny Park Road	Weekday	2U	C	12,500	787	0.063	A	3,473	0.278	A	0.215	No	--	--	--
	Sat.				636	0.051	A	2737	0.219	A	0.168	No	--	--	--
D. Domingo Avenue, west of Doheny Park Road	Weekday	2U	C	12,500	498	0.040	A	1,267	0.101	A	0.061	No	--	--	--
	Sat.				510	0.041	A	1236	0.099	A	0.058	No	--	--	--
E. Las Vegas Avenue, west of Doheny Park Road	Weekday	2U	C	12,500	1,891	0.151	A	3,486	0.279	A	0.128	No	--	--	--
	Sat.				1,291	0.103	A	2,543	0.203	A	0.100	No	--	--	--
F. Victoria Boulevard, east of Doheny Park Road	Weekday	2U	C	12,500	6,181	0.494	A	5,961	0.477	A	-0.017[56]	No	--	--	--
	Sat.				5,617	0.449	A	5,940	0.475	A	0.026	No	--	--	--
G. Domingo Avenue, east of Doheny Park Road	Weekday	2U	C	12,500	1,601	0.128	A	2,357	0.189	A	0.061	No	--	--	--
	Sat.				1505	0.120	A	2513	0.201	A	0.081	No	--	--	--
H. Camino Capistrano, south of Victoria Boulevard	Weekday	2U	C	12,500	5,936	0.475	A	6,135	0.491	A	0.016	No	--	--	--
	Sat.				5,001	0.400	A	5,237	0.419	A	0.019	No	--	--	--
I. Camino Capistrano, south of Sepulveda Avenue	Weekday	2U	C	12,500	3,848	0.308	A	2,851	0.228	A	-0.080[56]	No	--	--	--
	Sat.				3,083	0.247	A	2,380	0.190	A	-0.057[56]	No	--	--	--
J. Sepulveda Avenue, between Camino Capistrano and Victoria Boulevard	Weekday	2U	C	12,500	1,544	0.124	A	3,300	0.264	A	0.140	No	--	--	--
	Sat.				1,323	0.106	A	3,574	0.286	A	0.180	No	--	--	--
K. Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto	*Weekday*	*4D*	*E*	*37,500*	--	--	--	--	--	--	--	--	--	--	--
	Sat.				--	--	--	--	--	--	--	--	--	--	--
L. Camino Capistrano, between Avenida Aeropuerto and Stonehill Drive	*Weekday*	*4D*	*D*	*37,500*	--	--	--	--	--	--	--	--	--	--	--
	Sat.				--	--	--	--	--	--	--	--	--	--	--

Notes:

- D = Divided; U = Undivided; VPD = Vehicles per day; V/C = Volume over capacity
- **Bold LOS values** indicate adverse service levels
- *Italicized* roadway segments are located in City of San Juan Capistrano and results can be found in *Table 8-4*.

[55] Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated November 1995 and Amended April 1998.*

[56] A theoretical negative increase is due to the project's existing land use trips, which results in reduced traffic volumes along the roadway segment.

TABLE 8-3 (CONTINUED)

YEAR 2045 BUILDOUT DAILY ROADWAY SEGMENTS LEVEL OF SERVICE ANALYSIS – CITY OF DANA POINT

Key Roadway Segment	Time Period	No. of Lanes	Min. Acceptable LOS	LOS "E" Capacity (VPD)[57]	(1) Year 2045 Buildout Traffic Conditions			(2) Year 2045 Buildout Plus Project Traffic Conditions			(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements		
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Yes/No	Daily Volume	V/C Ratio	LOS
M. Camino Capistrano, between Stonehill Drive and Costco Driveway	Weekday	4D	C	37,500	28,521	0.761	C	**31,167**	**0.831**	**D**	**0.070**	**Yes**	--	--	--
	Sat.				25,210	0.672	B	28,044	0.748	C	0.076	No	--	--	--
➢ Peak Hour Analysis	AM	2	NB	3,200	1,261	0.394	A	1,334	0.417	A	0.023	No	--	--	--
		2	SB	3,200	692	0.216	A	738	0.231	A	0.015	No	--	--	--
	PM	2	NB	3,200	1,477	0.462	A	1,629	0.509	A	0.047	No	--	--	--
		2	SB	3,200	1,377	0.430	A	1,468	0.459	A	0.029	No	--	--	--
	Sat. Midday	2	NB	3,200	1,443	0.451	A	1,605	0.502	A	0.051	No	--	--	--
		2	SB	3,200	1,428	0.446	A	1,523	0.476	A	0.030	No	--	--	--
N. Stonehill Drive, between Camino Capistrano and Del Obispo Street[58]	Weekday	5D	C	46,900	**37,615**	**0.802**	**D**	**38,260**	**0.816**	**D**	**0.014**	**Yes**	--	--	--
	Sat.				33,394	0.712	C	34,127	0.728	C	0.016	No	--	--	--
➢ Peak Hour Analysis	AM	3	EB	4,800	1,901	0.396	A	1,901	0.396	A	0.000	No	--	--	--
		2	WB	3,200	918	0.287	A	927	0.290	A	0.003	No	--	--	--
	PM	3	EB	4,800	1,522	0.317	A	1,544	0.322	A	0.005	No	--	--	--
		2	WB	3,200	1,604	0.501	A	1,623	0.507	A	0.006	No	--	--	--
	Sat. Midday	3	EB	4,800	1,529	0.319	A	1,555	0.324	A	0.005	No	--	--	--
		2	WB	3,200	1,107	0.346	A	1,134	0.354	A	0.008	No	--	--	--

Notes:

- D = Divided; U = Undivided; VPD = Vehicles per day; V/C = Volume over capacity
- **Bold LOS values** indicate adverse service levels
- *Italicized* roadway segments are located in City of San Juan Capistrano and results can be found in *Table 8-4*.

[57] Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated November 1995 and Amended April 1998.*

[58] Roadway segment includes planned improvements. The Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive.

TABLE 8-4

YEAR 2045 BUILDOUT DAILY ROADWAY SEGMENTS LEVEL OF SERVICE ANALYSIS – CITY OF SAN JUAN CAPISTRANO

	Key Roadway Segment	Time Period	No. of Lanes	Min. Acceptable LOS	LOS "E" Capacity (VPD)[59]	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Year 2045 Buildout Plus Project Traffic Conditions			(4) Exceed LOS Thresholds (2) – (1)		(5) Year 2045 Buildout Plus Project Traffic Conditions with Improvements		
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase[60]	Yes/No	Daily Volume	V/C Ratio	LOS
K.	Camino Capistrano, between I-5 SB Ramps and Avenida Aeropuerto	Weekday	4D	E	37,500	24,230	0.646	B	25,606	0.683	B	29,169	0.778	C	0.037	No	--	--	--
		Sat.				19,626	0.523	A	21,059	0.562	A	24,198	0.645	B	0.039	No	--	--	--
L.	Camino Capistrano, between Avenida Aeropuerto and Stonehill Drive	Weekday	4D	D	37,500	24,648	0.657	B	25,964	0.692	B	28,582	0.762	C	0.035	No	--	--	--
		Sat.				19,965	0.532	A	21,338	0.569	A	23,896	0.637	B	0.037	No	--	--	--
M.	Camino Capistrano, between Stonehill Drive and Costco Driveway	Weekday	4D	D	37,500	24,895	0.664	B	27,862	0.743	C	31,167	0.831	D	0.079	No	--	--	--
		Sat.				20,165	0.538	A	23,436	0.625	B	28,044	0.748	C	0.087	No	--	--	--
N.	Stonehill Drive, between Camino Capistrano and Del Obispo Street[62]	Weekday	4D/5D[61]	D	37,500/ 46,900	33,047	0.881	D	33,761	0.900	D	38,260	0.816	D	0.019	No	--	--	--
		Sat.				26,768	0.714	C	27,595	0.736	C	34,127	0.728	C	0.022	No	--	--	--

Notes:

- D = Divided; U = Undivided; VPD = Vehicles per day; V/C = Volume over capacity
- **Bold LOS values** indicate adverse service levels

59 Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated November 1995 and Amended April 1998.*

60 Increase = Column (2) – Column (1)

61 The roadway contains 4 lanes under existing traffic conditions and 5 lanes under Year 2045 Buildout traffic conditions.

62 Roadway segment includes planned improvements for Year 2045 buildout traffic conditions. The Cities of Dana Point and San Juan Capistrano have plans to implement a third eastbound through lane along Stonehill Drive.

9.0 STATE OF CALIFORNIA (CALTRANS) ANALYSIS

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies, dated December 2002*, existing and projected peak hour operating conditions at the eight (8) state-controlled study intersections within the study area have been evaluated using the *Highway Capacity Manual* operations method of analysis. These state-controlled locations include the following study intersections:

2. Camino Capistrano at Stonehill Drive/I-5 NB On-Ramp (SJC/Caltrans)
7. Doheny Park Road at Las Vegas Avenue/PCH Ramps (DP/Caltrans)
8. Doheny Park Road at PCH WB On-Ramp (DP/Caltrans)
9. Doheny Park Road at PCH EB On-Ramp (DP/Caltrans)
10. Doheny Park Road at PCH Side Path (DP/Caltrans)
19. I-5 SB Ramps at PCH/Camino Las Ramblas (DP/Caltrans)
20. I-5 NB Ramps at PCH/Camino Las Ramblas (SJC/Caltrans)
21. Camino Capistrano at I-5 SB Ramps (SJC/Caltrans)

9.1 Existing Plus Project Traffic Conditions

Table 9-1 summarizes the peak hour Level of Service results at the eight (8) state-controlled study intersections for Existing Plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 9-1* presents a summary of existing weekday AM, PM, and Saturday Midday peak hour traffic. The second column (2) lists existing plus project traffic conditions with current intersection geometry/lane configurations. The third column (3) shows the increase in delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve intersection performance. The fourth column (4) indicates the anticipated level of service with improvements, if any.

9.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 9-1* indicates that all of the eight (8) state-controlled study intersections currently operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours.

9.1.2 *Existing Plus Project Traffic Conditions*

Review of column (2) of *Table 9-1* indicates that all of the eight (8) state-controlled study intersections will continue to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours with the addition of project generated traffic.

Appendix E presents the HCM/LOS calculations for the state-controlled study intersections.

9.2 Year 2045 Buildout Plus Project Traffic Conditions

Table 9-2 summarizes the peak hour Level of Service results at the eight (8) state-controlled study intersections for Year 2045 Buildout Plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 9-2* presents a summary of Year 2045 Buildout weekday AM, PM, and Saturday Midday peak hour traffic. The second column (2) lists Year 2045 Buildout plus project traffic conditions with current intersection geometry/lane configurations. The third column (3) shows the increase in delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project would result in LOS deficiencies and whether feasible roadway improvements would be necessary to improve intersection performance. The fourth column (4) indicates the anticipated level of service with improvements, if any.

9.2.1 *Year 2045 Buildout Traffic Conditions*

Review of column (1) of *Table 9-2* indicates that two (2) of the eight state-controlled study intersections are forecast to operate adversely under Year 2045 Buildout traffic conditions. The remaining study intersections are forecast to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours. The intersections operating adversely includes the following:

	AM Peak Hour		PM Peak Hour		Sat. Mid. Peak Hour	
Key Intersection	**HCM**	**LOS**	**HCM**	**LOS**	**HCM**	**LOS**
2. Camino Capistrano at Stonehill Dr/I-5 NB On-Ramp	58.3 s/v	E	--	--	--	--
7. Doheny Park Rd at Las Vegas Ave/PCH Ramps	--	--	--	--	58.9 s/v	E

9.2.2 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of column (2) of *Table 9-2* indicates that two (2) of the eight state-controlled study intersections are forecast to operate adversely under Year 2045 Buildout traffic conditions with the addition of project generated traffic. The remaining study intersections are forecast to operate at acceptable level of service during the weekday AM, PM and Saturday Midday peak hours. The intersections operating adversely include the following:

	AM Peak Hour		PM Peak Hour		Sat. Mid. Peak Hour	
Key Intersection	**HCM**	**LOS**	**HCM**	**LOS**	**HCM**	**LOS**
2. Camino Capistrano at Stonehill Dr/I-5 NB On-Ramp	60.2 s/v	E	60.3 s/v	E	--	--
7. Doheny Park Rd at Las Vegas Ave/PCH Ramps	--	--	60.3 s/v	E	77.5 s/v	E

Review of column (3) of *Table 9-2* indicates that two (2) of the state-controlled study intersections exceed the level of service thresholds, which include Camino Capistrano/Stonehill Drive/I-5 NB On-ramp (Intersection #2) and Doheny Park Road/Las Vega Avenue/PCH Ramps (Intersection #7). Review of column (4) shows that the implementation of recommended improvements will offset the project's increment and help achieve acceptable level of service at the study intersections.

Recommended improvements are discussed in Section 10.0. *Appendix E* presents the HCM/LOS calculations for the state-controlled study intersections.

TABLE 9-1

EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection		Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
					HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
2.	Camino Capistrano at Stonehill Drive/ I-5 NB On-Ramp	D	3∅ Traffic Signal	AM	36.7 s/v	D	38.6 s/v	D	1.9 s/v	No	--	--
				PM	36.1 s/v	D	42.0 s/v	D	5.9 s/v	No	--	--
				Sat. MD	31.0 s/v	C	34.1 s/v	C	3.1 s/v	No	--	--
7.	Doheny Park Road at Las Vegas Avenue/ PCH Ramps	D	3∅ Traffic Signal	AM	24.9 s/v	C	25.9 s/v	C	1.0 s/v	No	--	--
				PM	30.4 s/v	C	34.1 s/v	C	3.7 s/v	No	--	--
				Sat. MD	29.8 s/v	C	33.5 s/v	C	3.7 s/v	No	--	--
8.	Doheny Park Road at PCH WB On-Ramp[63]	D	Uncontrolled	AM	--	--	--	--	--	--	--	--
				PM	--	--	--	--	--	--	--	--
				Sat. MD	--	--	--	--	--	--	--	--
9.	Doheny Park Road at PCH EB On-Ramp[63]	D	Uncontrolled	AM	--	--	--	--	--	--	--	--
				PM	--	--	--	--	--	--	--	--
				Sat. MD	--	--	--	--	--	--	--	--
10.	Doheny Park Road at PCH Side Path	D	2∅ Traffic Signal	AM	9.8 s/v	A	11.2 s/v	B	1.4 s/v	No	--	--
				PM	11.9 s/v	B	13.3 s/v	B	1.4 s/v	No	--	--
				Sat. MD	13.0 s/v	B	14.6 s/v	B	1.6 s/v	No	--	--

Notes:

- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels

[63] Intersection is uncontrolled and therefore it is not anticipated to experience any delay.

TABLE 9-1 (CONTINUED)
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection		Min. Acceptable LOS	Control Type	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Existing Plus Project Traffic Conditions with Improvements	
					HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
19.	I-5 SB Ramps at PCH/amino Las Ramblas	D	2∅ Traffic Signal	AM	13.0 s/v	B	13.0 s/v	B	0.0 s/v	No	--	--
				PM	14.7 s/v	B	14.7 s/v	B	0.0 s/v	No	--	--
				Sat. MD	12.4 s/v	B	12.4 s/v	B	0.0 s/v	No	--	--
20.	I-5 NB Ramps at PCH/Camino Las Ramblas	D	2∅ Traffic Signal	AM	12.2 s/v	B	12.2 s/v	B	0.0 s/v	No	--	--
				PM	13.4 s/v	B	13.4 s/v	B	0.0 s/v	No	--	--
				Sat. MD	14.1 s/v	B	14.1 s/v	B	0.0 s/v	No	--	--
21.	Camino Capistrano at I-5 SB Ramps	E	3∅ Traffic Signal	AM	24.8 s/v	C	25.1 s/v	C	0.3 s/v	No	--	--
				PM	28.4 s/v	C	29.1 s/v	C	0.7 s/v	No	--	--
				Sat. MD	27.1 s/v	C	28.1 s/v	C	1.0 s/v	No	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels

TABLE 9-2

YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection		Min. Acceptable LOS	Control Type	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
					HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
2.	Camino Capistrano at Stonehill Drive/ I-5 NB On-Ramp	D	3∅ Traffic Signal	AM	**58.3 s/v**	**E**	**60.2 s/v**	**E**	**1.9 s/v**	**Yes**	33.0 s/v	C
				PM	51.1 s/v	D	**60.3 s/v**	**E**	**9.2 s/v**	**Yes**	34.7 s/v	C
				Sat. MD	48.7 s/v	D	54.4 s/v	D	5.7 s/v	No	30.9 s/v	C
7.	Doheny Park Road at Las Vegas Avenue/ PCH Ramps	D	3∅ Traffic Signal	AM	30.2 s/v	C	31.7 s/v	C	1.5 s/v	No	25.7 s/v	C
				PM	45.7 s/v	D	**60.3 s/v**	**E**	**14.6 s/v**	**Yes**	33.9 s/v	C
				Sat. MD	**58.9 s/v**	**E**	**77.5 s/v**	**E**	**18.6 s/v**	**Yes**	47.6 s/v	D
8.	Doheny Park Road at PCH WB On-Ramp[64]	D	Uncontrolled	AM	--	--	--	--	--	--	--	--
				PM	--	--	--	--	--	--	--	--
				Sat. MD	--	--	--	--	--	--	--	--
9.	Doheny Park Road at PCH EB On-Ramp[64]	D	Uncontrolled	AM	--	--	--	--	--	--	--	--
				PM	--	--	--	--	--	--	--	--
				Sat. MD	--	--	--	--	--	--	--	--
10.	Doheny Park Road at PCH Side Path	D	2∅ Traffic Signal	AM	11.2 s/v	B	12.2 s/v	B	1.0 s/v	No	--	--
				PM	12.7 s/v	B	13.7 s/v	B	1.0 s/v	No	--	--
				Sat. MD	13.7 s/v	B	14.8 s/v	B	1.1 s/v	No	--	--

Notes:

- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels

[64] Intersection is uncontrolled and therefore it is not anticipated to experience any delay.

TABLE 9-2 (CONTINUED)
YEAR 2045 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection	Min. Acceptable LOS	Control Type	Time Period	(1) Year 2045 Buildout Traffic Conditions		(2) Year 2045 Buildout Plus Project Traffic Conditions		(3) Exceed LOS Thresholds (2) – (1)		(4) Year 2045 Buildout Plus Project Traffic Conditions with Improvements	
				HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
19. I-5 SB Ramps at PCH/amino Las Ramblas	D	2∅ Traffic Signal	AM	12.0 s/v	B	12.0 s/v	B	0.0 s/v	No	--	--
			PM	17.0 s/v	B	17.0 s/v	B	0.0 s/v	No	--	--
			Sat. MD	14.0 s/v	B	14.0 s/v	B	0.0 s/v	No	--	--
20. I-5 NB Ramps at PCH/Camino Las Ramblas	D	2∅ Traffic Signal	AM	10.5 s/v	B	10.5 s/v	B	0.0 s/v	No	--	--
			PM	12.6 s/v	B	12.6 s/v	B	0.0 s/v	No	--	--
			Sat. MD	12.7 s/v	B	12.7 s/v	B	0.0 s/v	No	--	--
21. Camino Capistrano at I-5 SB Ramps	E	3∅ Traffic Signal	AM	27.4 s/v	C	27.8 s/v	C	0.4 s/v	No	--	--
			PM	33.4 s/v	C	35.9 s/v	D	2.5 s/v	No	--	--
			Sat. MD	28.4 s/v	C	30.8 s/v	C	2.4 s/v	No	--	--

Notes:
- s/v = seconds per vehicle
- **Bold LOS values** indicate adverse service levels

9.3 Freeway Off-Ramp Queueing Analysis

A queueing evaluation has been prepared for all of the freeway off-ramp study locations to determine the adequacy of the existing ramp storage lengths and to determine if the proposed Project will cause the off-ramp queues to affect the freeway mainline. This evaluation is based on HCM 95th percentile methodology using Synchro 10.0 software. The 95th percentile vehicle queue value corresponds to a condition that is generally taken as the maximum queue for the indicated movement and is presented with each turn movement at the key intersections.

9.3.1 *Existing Plus Project Traffic Conditions*

Table 9-3 presents the queueing analyses results for the four (4) freeway off-ramp study intersections for Existing Plus Project traffic conditions. Column (1) presents the queuing results for Existing traffic conditions and column (2) presents the results for Existing Plus Project traffic conditions.

Review of column (1) of *Table 9-3* indicates that the existing off-ramp queues at all four (4) study intersections are adequate during the weekday AM, PM and Saturday Midday peak hours. Review of column (2) of *Table 9-3* indicates that the queues will continue to remain adequate at all four (4) study intersections are adequate during the weekday AM, PM and Saturday Midday peak hours with the addition of the project traffic. As such, it can be concluded that the proposed Project will not cause the off-ramp queues to affect the freeway mainline under Existing Plus Project traffic conditions. *Appendix E* presents the HCM/LOS calculations worksheets which include the 95th percentile queues.

9.3.2 *Year 2045 Buildout Plus Project Traffic Conditions*

Table 9-4 presents the queueing analyses results for the four (4) freeway off-ramp study intersections for Year 2045 Buildout Plus Project traffic conditions. Column (1) presents the queuing results for Year 2045 Buildout traffic conditions and column (2) presents the results for Year 2045 Buildout Plus Project traffic conditions.

Review of column (1) of *Table 9-4* indicates that the off-ramp queues under Year 2045 Buildout traffic conditions are adequate at all four (4) study intersections during the weekday AM, PM and Saturday Midday peak hours. Review of column (2) of *Table 9-4* indicates that the queues will continue to remain adequate at all four (4) study intersections are adequate during the weekday AM, PM and Saturday Midday peak hours with the addition of the project traffic. As such, it can be concluded that the proposed Project will not cause the off-ramp queues to affect the freeway mainline under Year 2045 Buildout Plus Project traffic conditions. *Appendix E* presents the HCM/LOS calculations worksheets which include the 95th percentile queues.

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TABLE 9-3
EXISTING FREEWAY OFF-RAMP QUEUEING ANALYSIS

Key Intersection	Provided Storage	(1) Existing Traffic Conditions						(2) Existing Plus Project Traffic Conditions					
		AM Peak Hour		PM Peak Hour		Sat. Midday Peak Hour		AM Peak Hour		PM Peak Hour		Sat. Midday Peak Hour	
		Max. Queue/ Min. Storage Required[65]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[65]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[65]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[65]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[65]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[65]	Adequate Storage (Yes / No)
7. Doheny Park Road at Las Vegas Avenue/PCH Ramps													
Westbound Left/Thru	370’	72’	Yes	62’	Yes	37’	Yes	87’	Yes	72’	Yes	48’	Yes
Westbound Right-Turn	370’	77’	Yes	228’	Yes	230’	Yes	102’	Yes	351’	Yes	359’	Yes
19. I-5 SB Ramps at PCH/amino Las Ramblas													
Southbound Left-Turn[66]	810’	148’	Yes	196’	Yes	134’	Yes	148’	Yes	196’	Yes	134’	Yes
20. I-5 NB Ramps at PCH/Camino Las Ramblas													
Northbound Left/Thru	270’	25’	Yes	36’	Yes	27’	Yes	25’	Yes	36’	Yes	27’	Yes
Northbound Right-Turn	270’	33’	Yes	34’	Yes	30’	Yes	33’	Yes	34’	Yes	30’	Yes
21. Camino Capistrano at I-5 SB Ramps													
Westbound Left-Turn[66]	540’	464’	Yes	620’	Yes[67]	576’	Yes[67]	480’	Yes	660’	Yes[67]	616’	Yes[67]

65 Maximum queue in feet (ft) for signalized intersections is based on HCM 95th Percentile queue.

66 Movement includes dual left-turn lanes; the provided storage and queues are based on a total of both lanes.

67 Although the queues exceed the striped turn pocket, the off-ramp includes enough storage to accommodate the spillover queues without affecting the mainline.

TABLE 9-4
YEAR 2045 BUILDOUT FREEWAY OFF-RAMP QUEUEING ANALYSIS

Key Intersection	Provided Storage	(1) Year 2045 Buildout Traffic Conditions						(2) Year 2045 Buildout Plus Project Traffic Conditions					
		AM Peak Hour		PM Peak Hour		Sat. Midday Peak Hour		AM Peak Hour		PM Peak Hour		Sat. Midday Peak Hour	
		Max. Queue/ Min. Storage Required[68]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[68]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[68]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[68]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[68]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[68]	Adequate Storage (Yes / No)
7. Doheny Park Road at Las Vegas Avenue/PCH Ramps													
Westbound Left/Thru	370’	51’	Yes	68’	Yes	41’	Yes	63’	Yes	79’	Yes	49’	Yes
Westbound Right-Turn	370’	215’	Yes	552’	Yes[69]	644’	Yes[69]	274’	Yes	660’	Yes[69]	743’	Yes[69]
19. I-5 SB Ramps at PCH/amino Las Ramblas													
Southbound Left-Turn[70]	810’	178’	Yes	348’	Yes	248’	Yes	178’	Yes	348’	Yes	248’	Yes
20. I-5 NB Ramps at PCH/Camino Las Ramblas													
Northbound Left/Thru	270’	36’	Yes	43’	Yes	31’	Yes	36’	Yes	43’	Yes	31’	Yes
Northbound Right-Turn	270’	42’	Yes	82’	Yes	42’	Yes	42’	Yes	82’	Yes	42’	Yes
21. Camino Capistrano at I-5 SB Ramps													
Westbound Left-Turn[70]	540’	544’	Yes[69]	944’	Yes[69]	738’	Yes[69]	572’	Yes[69]	992’	Yes[69]	788’	Yes[69]

68 Maximum queue in feet (ft) for signalized intersections is based on HCM 95th Percentile queue.

69 Although the queues exceed the striped turn pocket, the off-ramp includes enough storage to accommodate the spillover queues without affecting the mainline.

70 Movement includes dual left-turn lanes; the provided storage and queues are based on a total of both lanes.

10.0 AREA-WIDE TRAFFIC IMPROVEMENTS

For those intersections where projected traffic volumes are expected to result in poor operating conditions, this report identifies potential roadway improvements that are expected to:

- Accommodate the LOS deficiencies that would result from added Project traffic, upon Buildout, and future non-project (ambient growth and cumulative project) traffic in combination with existing traffic; and/or
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

It is important to note that specific recommendations will be refined in coordination with additional stakeholders and based on site-specific traffic impact studies as development occurs in the area.

10.1 Planned Improvements

The Cities of Dana Point and San Juan Capistrano, as well as the proposed Ganahl Lumber Development Project located in San Juan Capistrano, intend to implement improvements along Stonehill Drive. These improvements have been included within the Year 2045 Buildout traffic conditions and include the following:

Intersections

- **Intersection 17 – Del Obispo Street at Stonehill Drive:** Widen to accommodate a third eastbound through lane. Modify existing traffic signal as needed. These improvements are consistent with the Cities of Dana Point and/or San Juan Capistrano planned improvements.

- **Intersection 22 – Proposed Ganahl Lumber Driveway at Stonehill Drive:** Install a five-phase (E/W protected) traffic signal at the intersection. Restripe the intersection to include a northbound left-turn, northbound shared through/right-turn, southbound shared left/through, southbound right-turn, eastbound left-turn, three (3) eastbound through lanes, eastbound right-turn, westbound left-turn, two (2) westbound through lanes, and westbound right-turn. These improvements are consistent with the improvements identified as part of the Ganahl Lumber Development Project and are also consistent with the Cities of Dana Point and/or San Juan Capistrano planned improvements.

Roadway Segments

- **Segment N – Stonehill Drive Between Obispo Street at Stonehill Drive:** Restripe Stonehill Drive to accommodate a third eastbound through lane. These improvements are consistent with the Cities of Dana Point and/or San Juan Capistrano planned improvements.

10.2 Recommended Improvements

10.2.1 *Existing Plus Project Traffic Conditions*

Intersections

The results of the intersection capacity analysis presented previously in *Tables 7-1, 7-2 and 9-1* show that one (1) of the twenty-two key study intersections exceeds the level of service thresholds under the "Existing Plus Project" traffic scenario, which includes Proposed Ganahl Lumber Driveway/Stonehill Drive (intersection #22). However, planned improvements at the intersection, as discussed in Section 10.1, will help improve level of service at the intersection. Therefore, no improvements are recommended under this traffic scenario.

Roadway Segments

The results of the roadway segment analysis presented previously in *Tables 7-3 and 7-4* show that one (1) of the fourteen study roadway segments exceeds the level of service thresholds under the "Existing Plus Project" traffic scenario, which includes Roadway Segment N (Stonehill Drive between Camino Capistrano and Del Obispo Street). However, planned improvements at the segment, as discussed in Section 10.1, will help improve level of service at the location. Therefore, no improvements are recommended under this traffic scenario.

10.2.2 *Year 2045 Buildout Plus Project Traffic Conditions*

Intersections

The results of the intersection capacity analysis presented previously in *Tables 8-1, 8-2 and 9-2* show that three (3) of the twenty-two key study intersections exceed the level of service thresholds under the "Year 2045 Buildout Plus Project" traffic scenario. This scenario is based on the current traffic model projections and site-specific analysis. Future development activity may alter or result in an update to the recommendations. The recommended improvements for consideration are as follows:

- **Intersection 2 – Camino Capistrano at Stonehill Drive/I-5 NB On-Ramp:** Restripe the south leg to include northbound dual left-turn lanes, a through lane, and a right-turn lane. Modify the traffic signal to include protected phasing for the northbound and southbound directions. These improvements are subject to the approval of the City of San Juan Capistrano and Caltrans.

- **Intersection 3 – Camino Capistrano at Camino Capistrano:** No physical mitigation measures are feasible or recommended; service level improvements would require the installation of a signal. However, the installation of a traffic signal at this location is not recommended due to the intersection being in close proximity to the signalized intersection of Camino Capistrano/Costco Driveway, which could potentially cause queueing issues along the major roadway. Additionally, it is not uncommon for minor streets at unsignalized intersections to experience longer delay due to the heavy volumes on the major street. Therefore, the intersection will remain unchanged, unless site-specific development and

associated traffic analysis, or other improvements, alter the configuration of the roadways in this area.

- **Intersection 7 – Doheny Park Road at Las Vegas Avenue/PCH Ramps:** Restripe the westbound shared left/through lane to a shared left/through/right lane. These improvements are subject to the approval of the City of Dana Point and Caltrans.

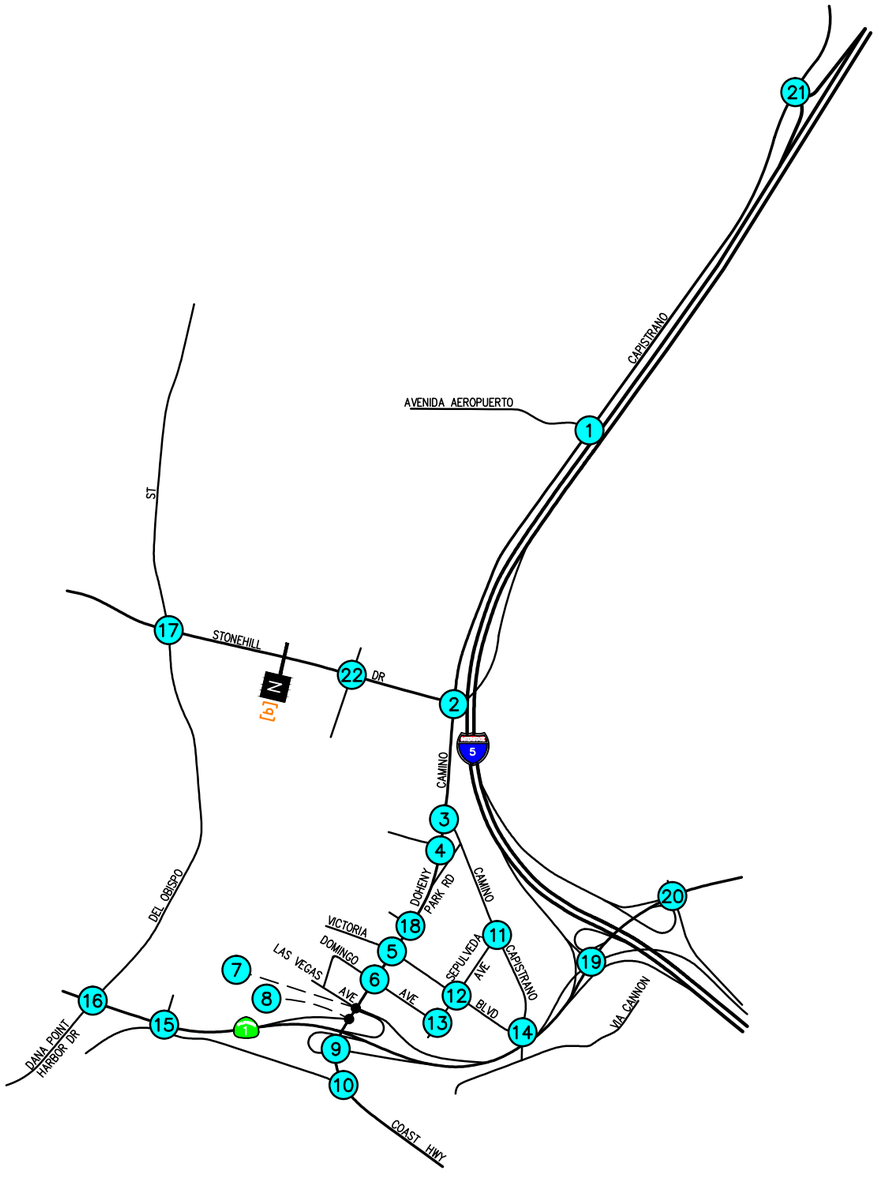
Roadway Segments

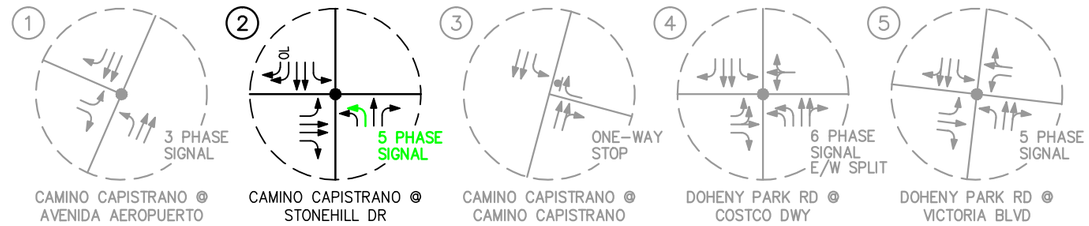
The results of the roadway segment analysis presented previously in *Tables 8-3 and 8-4* show that two (2) of the fourteen key roadway segments exceed the level of service thresholds under the "Year 2045 Buildout Plus Project" traffic scenario. However, a peak hour link assessment at the two (2) roadway segments indicate that the segments are forecast to operate at acceptable level of service during the critical peak hours. Therefore, no improvements are recommended under this traffic scenario.

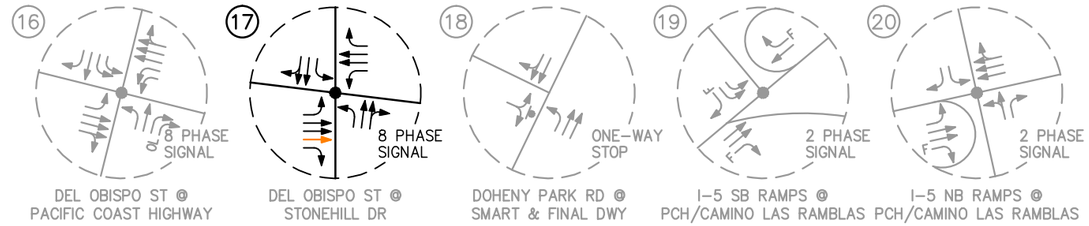
Figure 10-1 graphically illustrates the planned and recommended improvements.

10.3 Project-Related Fair-Share Contribution

The recommended roadway improvements associated with the Project were determined based on the Existing Plus Project and Year 2045 Buildout traffic analyses. Per the direction of the Public Works Director/City Engineer, implementation of these recommended improvements will be provided as development, or other improvements, occurs. Funding of those improvements may be required for proposed major development in the project area. Further, the cost of recommended improvements may be shared by the development community and the agencies where these improvements are planned.







NOTES:
[a] = LEFT-TURN RESTRICTIONS BETWEEN 7AM TO 6PM.
[b] = RESTRIPE FOR A THIRD EBT LANE ALONG STONEHILL DRIVE BETWEEN DEL OBISPO STREET AND CAMINO CAPISTRANO

KEY
= APPROACH LANE ASSIGNMENT
= PLANNED IMPROVEMENTS
= RECOMMENDED IMPROVEMENTS
= TRAFFIC SIGNAL, STOP SIGN

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 10-1

PLANNED AND RECOMMENDED IMPROVEMENTS

DOHENY VILLAGE ZONING DISTRICT OVERLAY, DANA POINT

n:\4200\2204244 - doheny village zoning district overlay, dana point\dwg\existing conditions memo\4244 f10-1.dwg LDP 10:45:05 08-26-2020 aguilar

11.0 CONGESTION MANAGEMENT PROGRAM (CMP) COMPLIANCE ASSESSMENT

This analysis is consistent with the requirements and procedures outlined in the current *Orange County Congestion Management Program (CMP).* The CMP requires that a traffic analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). As noted in Section 5.0 of this traffic study, the proposed Project is forecast to generate approximately 7,256 net weekday daily trip-ends and thus meets the criteria requiring a CMP TIA.

The CMPHS includes specific roadways, which include State Highways and Super Streets, which are now known as Smart Streets. Therefore, the CMP TIA analysis requirements apply only on the specified CMPHS, which in this case includes Pacific Coast Highway west of the Doheny Park Road. As described in the "Radius of Development Influence" section of the CMP TIA, the study area (i.e. CMP intersections) is recommended to be defined by the CMP links which have a project increase of three percent, or more, of their daily LOS "E" capacity.

While the study area does not include any CMP intersections, there are two (2) CMP intersections in close proximity to the site which include The Street of the Golden Lantern at Pacific Coast Highway and The Street of the Golden Lantern at Del Prado Avenue.

Table 11-1 summarizes the Project percentage CMP analysis for two (2) roadway segments in the vicinity of the proposed Project along Pacific Coast Highway. Column one (1) of *Table 11-1* shows the CMP LOS “E” Capacity for each roadway segment, column two (2) shows the Project ADT for each roadway segment, column three (3) shows the Project ADT LOS "E" capacity percentages for each roadway segment and column (4) shows whether or not added project traffic meets or exceeds the “three percent” limit.

Review of *Table 11-1* shows that the three percent limit is exceeded on Pacific Coast Highway, between Doheny Park Road and Del Obispo Street and therefore, would require a CMP assessment. Based on CMP requirements, a project requires Project-related roadway improvements if it causes the CMP facility to operate worse than a LOS E, or the project increases the ICU value by more than 10% if the CMP facility operates at LOS F without the project.

Review of *Tables 7-1* and *8-1* identifies that the closest study intersection to the CMP location is located at Del Obispo Street at PCH and has a Project increase no greater than 2.2%. Therefore, it can be concluded that the Projects contribution to the CMP intersection would be less than the 10% threshold requirement.

TABLE 11-1

PROJECT PERCENTAGE RADIUS OF INFLUENCE CMP ANALYSIS

Roadway Segment	(1) CMP LOS "E" Capacity	(2) Project ADT	(3) Percentage (3) = (2) ÷ (1)	(4) Radius of Influence (Yes/No)
1. Pacific Coast Highway, between Doheny Park Road and Del Obispo Street	37,500	1,792	**4.8%**	**Yes**
2. Pacific Coast Highway, west of Del Obispo Street	56,300	1,345	2.4%	No

12.0 CALTRANS FREEWAY ANALYSIS

Neither the Cities of Dana Point, San Juan Capistrano nor other neighboring cities have devised methods to measure congestion and the need for improvements on freeways. Therefore, methods utilized by Caltrans have been included in this assessment. Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of basic freeway segments and freeway ramps. Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the need for Project-related improvements at the study freeway segments. Based on Caltrans Criteria, Project-related improvements are required if the Project causes the LOS to change from an acceptable LOS (i.e., LOS D or better) to a deficient LOS (i.e. LOS E or F), or increase the density on a facility operating at an unacceptable level.

Based on Caltrans guidance and the results of the basic freeway segment analysis for existing traffic conditions, it has been determined that quantified analysis is required for freeway segments along I-5 at locations currently operating at unacceptable LOS E or F during the weekday AM, PM and Saturday midday peak hours under existing traffic conditions and where the project would generate more than 50 peak hour trips. This analysis includes four (4) Caltrans freeway segments where more than 50 peak hour project trips are expected plus two (2) additional adjacent freeway segments, for a total of six (6) freeway study segments.

12.1 Freeway Mainline Segment Analysis

Basic Freeway Segment Analysis for freeway segments was conducted at six (6) Caltrans freeway segments in the vicinity of the proposed Project. The following six (6) segments were included for analysis:

1. I-5 Northbound, north of Stonehill Drive
2. I-5 Northbound, between Stonehill Drive and PCH/Camino Las Ramblas
3. I-5 Northbound, south of PCH/Camino Las Ramblas
4. I-5 Southbound, north of Camino Capistrano
5. I-5 Southbound, between Camino Capistrano and PCH/Camino Las Ramblas
6. I-5 Southbound, south of PCH/Camino Las Ramblas

12.1.1 *Existing Basic Freeway Segment Capacity Analysis*

12.1.2 *Existing Traffic Conditions*

Table 12-1 summarizes the peak hour level of service results at the six (6) freeway segments for Existing traffic conditions. Review of *Table 12-1* indicates that three (3) of the six freeway segments currently operate at unacceptable LOS E during the weekday AM, PM and/or Saturday Midday peak hours. The remaining segments currently operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours.

12.1.3 *Existing Plus Project Traffic Conditions*

Table 12-2 summarizes the peak hour level of service results at the six (6) freeway segments for Existing plus Project traffic conditions. The first column (1) presents a summary of existing peak hour traffic conditions (which were previously presented in *Table 12-1*). The second column (2) presents Existing plus Project traffic conditions and the third column (3) indicates whether the traffic associated with the proposed project would result in LOS deficiencies based on the criteria defined in this report.

Review of *Table 12-2* indicates that with the addition of Project traffic, three (3) of the six freeway segments are forecast to operate at an unacceptable level of service during the weekday AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining freeway segments are forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at three (3) of the six freeway segments under this traffic scenario.

Appendix F contains the Basic Freeway Segment Analysis calculation worksheets for the freeway segments.

TABLE 12-1
EXISTING PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

	Basic Freeway Segment	Time Period	Lanes	Project Trips	(1) Existing Traffic Conditions		
					Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS
1.	I-5 Northbound, north of Stonehill Drive	AM	4	60	**8,079**	**38.6**	**E**
		PM		105	6,569	28.2	D
		Sat. Midday		110	7,274	32.4	D
2.	I-5 Northbound, between Stonehill Drive and PCH/Camino Las Ramblas	AM	4	0	6,717	29.0	D
		PM		0	5,254	22.0	C
		Sat. Midday		0	6,265	26.6	D
3.	I-5 Northbound, south of PCH/Camino Las Ramblas	AM	5	34	7,991	27.4	D
		PM		30	6,969	23.5	C
		Sat. Midday		31	8,746	30.8	D
4.	I-5 Southbound, north of Camino Capistrano	AM	4	57	6,261	26.2	D
		PM		92	**8,290**	**40.0**	**E**
		Sat. Midday		103	7,345	32.5	D
5.	I-5 Southbound, between Camino Capistrano and PCH/Camino Las Ramblas	AM	4	33	5,880	24.5	C
		PM		48	7,515	33.9	D
		Sat. Midday		56	6,625	28.2	D
6.	I-5 Southbound, south of PCH/Camino Las Ramblas	AM	4	6	6,067	25.5	C
		PM		52	**7,839**	**36.4**	**E**
		Sat. Midday		39	7,123	31.4	D

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 12-2

EXISTING PLUS PROJECT PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Exceed LOS Thresholds
		Peak Hour Vol. (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Vol. (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
I-5 Northbound, north of	AM	**8,079**	**38.6**	**E**	**8,139**	**39.1**	**E**	**Yes**
1. Stonehill Drive	PM	6,569	28.2	D	6,674	28.8	D	No
	Sat. Midday	7,274	32.4	D	7,384	33.2	D	No
I-5 Northbound, between	AM	6,717	29.0	D	6,717	29.0	D	No
2. Stonehill Drive and	PM	5,254	22.0	C	5,254	22.0	C	No
PCH/Camino Las Ramblas	Sat. Midday	6,265	26.6	D	6,265	26.6	D	No
I-5 Northbound, south of	AM	7,991	27.4	D	8,025	27.5	D	No
3. PCH/Camino Las Ramblas	PM	6,969	23.5	C	6,999	23.6	C	No
	Sat. Midday	8,746	30.8	D	8,956	31.9	D	No
I-5 Southbound, north of	AM	6,261	26.2	D	6,558	27.7	D	No
4. Camino Capistrano	PM	**8,290**	**40.0**	**E**	**8,382**	**40.9**	**E**	**Yes**
	Sat. Midday	7,345	32.5	D	7,448	33.2	D	No
I-5 Southbound, between	AM	5,880	24.5	C	5,913	24.6	C	No
5. Camino Capistrano and	PM	7,515	33.9	D	7,563	34.2	D	No
PCH/Camino Las Ramblas	Sat. Midday	6,625	28.2	D	6,681	28.6	D	No
I-5 Southbound, south of	AM	6,067	25.5	C	6,073	25.5	C	No
6. PCH/Camino Las Ramblas	PM	**7,839**	**36.4**	**E**	**7,891**	**36.9**	**E**	**Yes**
	Sat. Midday	7,123	31.4	D	7,162	31.6	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

12.1.4 *Year 2045 Buildout Basic Freeway Segment Capacity Analysis*

Table 12-3 summarizes the peak hour level of service results at the six (6) freeway segments for Year 2045 Buildout traffic conditions. The first column (1) presents a summary of Year 2045 Buildout traffic conditions. The second column (2) presents Year 2045 Buildout Plus Project traffic conditions and the third (3) column indicates whether the traffic associated with the proposed project would result in LOS deficiencies based on the criteria defined in this report.

12.1.5 *Year 2045 Buildout Traffic Conditions*

Review of column (1) of *Table 12-3* indicates that five (5) of the six freeway segments are forecast to operate at an unacceptable level of service during the weekday AM, PM and/or Saturday Midday peak hours. The remaining one (1) freeway segment is forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours.

12.1.6 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of columns (2) and (3) of *Table 12-3* indicates that with the addition of Project traffic, five (5) of the six freeway segments are forecast to operate at an unacceptable level of service during the weekday AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining one (1) freeway segment is forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at five (5) of the six freeway segments under this traffic scenario.

Appendix F contains the Basic Freeway Segment Analysis calculation worksheets for the freeway segments.

12.1.7 *Freeway Segment Traffic Improvements*

A review of the level of service calculations summarized in *Tables 12-2* and *12-3* indicates that the development of the Project is anticipated to exceed level of service thresholds at five (5) of the six mainline freeway segments assessed in the report. However, the I-5 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of Dana Point) can construct or guarantee the construction of any improvements to these freeway segments. Therefore, the level of service deficiencies on freeway study segments assessed in the report are considered unavoidable as there are no feasible improvements that will reduce the mainline level of service to below acceptable thresholds or achieve acceptable service level goals.

TABLE 12-3

YEAR 2045 BUILDOUT PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Basic Freeway Segment	Time Period	(1) Year 2045 Buildout Traffic Conditions			(2) Year 2045 Buildout Plus Project Traffic Conditions			(3) Exceed LOS Thresholds
		Peak Hour Vol. (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Vol. (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
1. I-5 Northbound, north of Stonehill Drive	AM	**8,639**	**44.1**	**E**	**8,686**	**44.6**	**E**	**Yes**
	PM	7,427	33.5	D	7,524	34.2	D	No
	Sat. Midday	**8,294**	**40.6**	**E**	**8,390**	**41.5**	**E**	**Yes**
2. I-5 Northbound, between Stonehill Drive and PCH/Camino Las Ramblas	AM	6,916	30.2	D	6,916	30.2	D	No
	PM	5,820	24.5	C	5,820	24.5	C	No
	Sat. Midday	6,940	30.3	D	6,940	30.3	D	No
3. I-5 Northbound, south of PCH/Camino Las Ramblas	AM	8,173	28.1	D	8,207	28.3	D	No
	PM	7,638	26.0	C	7,664	26.0	C	No
	Sat. Midday	**9,575**	**35.3**	**E**	**9,602**	**35.5**	**E**	**Yes**
4. I-5 Southbound, north of Camino Capistrano	AM	7,192	31.5	D	7,247	31.8	D	No
	PM	**9,349**	**-**	**F**	**9,427**	**-**	**F**	**Yes**
	Sat. Midday	**8,429**	**41.4**	**E**	**8,518**	**42.3**	**E**	**Yes**
5. I-5 Southbound, between Camino Capistrano and PCH/Camino Las Ramblas	AM	6,496	27.6	D	6,528	27.7	D	No
	PM	**8,190**	**39.3**	**E**	**8,231**	**39.7**	**E**	**Yes**
	Sat. Midday	7,323	32.5	D	7,372	32.9	D	No
6. I-5 Southbound, south of PCH/Camino Las Ramblas	AM	6,553	28.0	D	6,555	28.0	D	No
	PM	**8,143**	**39.1**	**E**	**8,193**	**39.5**	**E**	**Yes**
	Sat. Midday	7,469	33.7	D	7,504	33.9	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

12.2 Freeway Merge/Diverge Ramp Junction Analysis

This section of the report presents a Freeway Ramp (Merge/Diverge) Analysis for the I-5 ramp junctions located within the study area. The analysis is consistent with Caltrans requirements and has been prepared using the methods provided in the *Highway Capacity Manual (HCM)*. This ramp junction analysis includes the following eight (8) junctions:

1. I-5 Northbound On-Ramp from Stonehill Drive
2. I-5 Northbound On-Ramp from PCH/Camino Las Ramblas
3. I-5 Northbound Off-Ramp to PCH/Camino Las Ramblas
4. I-5 Southbound Off-Ramp to Camino Capistrano
5. I-5 Southbound On-Ramp from Camino Capistrano
6. I-5 Southbound Off-Ramp to PCH/Camino Las Ramblas
7. I-5 Southbound On-Ramp Loop to PCH/Camino Las Ramblas
8. I-5 Southbound On-Ramp to PCH/Camino Las Ramblas

12.2.1 *Existing Ramp Junction Analysis*

Table 12-4 summarizes the peak hour Level of Service results at the eight (8) freeway ramp junctions for Existing Plus Project traffic conditions. The first column (1) presents a summary of existing traffic conditions. The second column (2) presents Existing Plus Project traffic conditions and the third column (3) indicates whether the traffic associated with the Project would result in LOS deficiencies based on the criteria defined in this report.

12.2.2 *Existing Traffic Conditions*

Review of column (1) of *Table 12-4* indicates that one (1) of the eight freeway ramps currently operate at an unacceptable level of service during the weekday PM peak hour. The remaining seven (7) freeway ramps currently operate at an acceptable LOS during the weekday AM, PM and Saturday Midday peak hours.

12.2.3 *Existing Plus Project Traffic Conditions*

Review of column (2) of *Table 12-4* indicates that with the addition of Project traffic, one (1) of the eight freeway ramps are forecast to operate at an unacceptable level of service during the weekday PM peak hour when compared to the LOS standards defined in this report. The remaining freeway ramps are forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at one (1) of the eight ramp junctions under this traffic scenario.

Appendix G contains the Freeway Merge/Diverge Ramp Junction Analysis calculation worksheets.

TABLE 12-4

EXISTING PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Existing Traffic Conditions				(2) Existing Plus Project Traffic Conditions				(3) Exceed LOS Thresholds
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1. I-5 Northbound On-Ramp, from Stonehill Drive	Merge Analysis	AM	6,717	1,362	36.6	D	6.717	1.422	37.1	D	No
		PM	5,254	1,315	28.3	C	5,254	1,420	28.9	C	No
		Sat. Midday	6,265	1,009	31.7	C	6,265	1,119	32.3	C	No
2. I-5 Northbound On-Ramp, from PCH/Camino Las Ramblas	Merge Analysis	AM	5,927	790	29.1	D	5,927	790	29.1	D	No
		PM	4,676	578	22.2	C	4,676	578	22.2	C	No
		Sat. Midday	5,613	652	26.9	C	5,613	652	26.9	C	No
3. I-5 Northbound Off-Ramp, to PCH/Camino Las Ramblas	Diverge Analysis	AM	7,991	2,064	28.0	C	8,025	2,098	28.2	C	No
		PM	6,969	2,293	25.0	B	6,999	2,323	25.1	C	No
		Sat. Midday	8,746	3,133	32.7	D	8,956	3,343	33.9	D	No
4. I-5 Southbound Off-Ramp, to Camino Capistrano	Diverge Analysis	AM	6,261	768	25.9	B	6,558	1,032	27.3	B	No
		PM	8,290	1,300	35.3	C	8,382	1,344	35.8	C	No
		Sat. Midday	7,345	1,209	31.0	B	7,448	1,256	31.5	B	No
5. I-5 Southbound On-Ramp, from Camino Capistrano	Merge Analysis	AM	5,493	387	25.0	C	5.526	387	25.1	C	No
		PM	6,990	525	32.9	D	7,038	525	33.2	D	No
		Sat. Midday	6,136	489	28.5	C	6,192	489	28.8	C	No
6. I-5 Southbound Off-Ramp, to PCH/Camino Las Ramblas	Diverge Analysis	AM	5,880	981	25.0	D	5,913	1,014	25.2	D	No
		PM	**7,515**	**1,119**	**32.3**	**E**	**7.563**	**1.167**	**32.6**	**E**	**Yes**
		Sat. Midday	6,625	755	27.9	D	6,681	811	28.3	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 12-4 (CONTINUED)
EXISTING PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Existing Traffic Conditions				(2) Existing Plus Project Traffic Conditions				(3) Exceed LOS Thresholds
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
7. I-5 Southbound On-Ramp Loop, to PCH/Camino Las Ramblas	Merge Analysis	AM	4,899	134	21.1	B	4,899	134	21.1	B	No
		PM	6,396	88	27.7	C	6,396	88	27.7	C	No
		Sat. Midday	5,870	108	25.4	C	5,870	108	25.4	C	No
8. I-5 Southbound On-Ramp, to PCH/Camino Las Ramblas	Merge Analysis	AM	5,033	1,034	26.0	C	5,033	1,040	26.1	C	No
		PM	6,484	1,355	35.6	D	6,484	1,407	36.0	D	No
		Sat. Midday	5,978	1,145	31.4	D	5,978	1,184	31.6	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

12.2.4 *Year 2045 Buildout Ramp Junction Analysis*

Table 12-5 summarizes the peak hour Level of Service results for the eight (8) freeway ramps for Year 2045 Buildout traffic conditions. The first column (1) lists forecast Year 2045 Buildout traffic conditions. The second column (2) lists forecast Year 2045 Buildout Plus Project traffic conditions. The third column (3) indicates whether the traffic associated with the Project would result in LOS deficiencies based on the criteria defined in this report.

12.2.5 *Year 2045 Buildout Traffic Conditions*

Review of column (1) of *Table 12-5* indicates that three (3) of the eight freeway ramps are forecast to operate at an unacceptable level of service under Year 2045 Buildout traffic conditions during the weekday AM, PM and Saturday Midday peak hour. The remaining freeway ramps are forecast to operate at an acceptable LOS during the weekday AM, PM and Saturday Midday peak hours.

12.2.6 *Year 2045 Buildout Plus Project Traffic Conditions*

Review of column (2) of *Table 12-5* indicates that with the addition of Project traffic, three (3) of the eight freeway ramps are forecast to operate at an unacceptable level of service during the weekday AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining freeway ramps are forecast to operate at acceptable LOS during the weekday AM, PM and Saturday Midday peak hours. The Project's contribution to the freeway system can be considered deficient at three (3) of the eight ramp junctions under this traffic scenario.

Appendix G contains the Freeway Merge/Diverge Ramp Junction Analysis calculation worksheets.

12.2.7 *Freeway Ramp Junction Traffic Improvements*

A review of the level of service calculations summarized in *Tables 12-4* and *12-5* indicates that the development of the Project is anticipated to exceed level of service thresholds at three (3) of the eight freeway ramp junctions assessed in the report. However, the I-5 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of Dana Point) can construct or guarantee the construction of any improvements to these ramp junctions. Therefore, the level of service deficiencies on freeway ramp junctions assessed in the report are considered unavoidable as there are no feasible improvements that will reduce the level of service to below acceptable thresholds or achieve acceptable service level goals.

TABLE 12-5

YEAR 2045 BUILDOUT PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Year 2045 Buildout Traffic Conditions				(2) Year 2045 Buildout Plus Project Traffic Conditions				(3) Exceed LOS Thresholds
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1. I-5 Northbound On-Ramp, from Stonehill Drive	Merge Analysis	AM	6,916	1,723	41.5	D	6,916	1,770	42.1	D	No
		PM	5,820	1,607	33.2	D	5,820	1,704	34.0	D	No
		Sat. Midday	6,940	1,354	37.9	D	6,940	1,450	38.7	D	No
2. I-5 Northbound On-Ramp, from PCH/Camino Las Ramblas	Merge Analysis	AM	5,927	989	30.2	D	5,927	989	30.2	D	No
		PM	4,998	822	24.9	C	4,998	822	24.9	C	No
		Sat. Midday	5,998	942	30.4	D	5,998	942	30.4	D	No
3. I-5 Northbound Off-Ramp, to PCH/Camino Las Ramblas	Diverge Analysis	AM	8,173	2,246	28.9	C	8,207	2,280	29.1	C	No
		PM	7,638	2,640	27.9	C	7,664	2,666	28.0	C	No
		Sat. Midday	9,575	3,577	36.7	D	9,602	3,604	36.8	D	No
4. I-5 Southbound Off-Ramp, to Camino Capistrano	Diverge Analysis	AM	7,192	1,255	30.3	B	7,247	1,278	30.6	B	No
		PM	**9,349**	**1,801**	**-**	**F**	**9,427**	**1,838**	**-**	**F**	**Yes**
		Sat. Midday	8,429	1,620	36.3	C	8,518	1,660	36.8	C	No
5. I-5 Southbound On-Ramp, from Camino Capistrano	Merge Analysis	AM	5,937	559	27.9	C	5,969	559	28.0	C	No
		PM	7,548	642	36.7	D	7,589	642	36.9	D	No
		Sat. Midday	6,809	514	31.9	C	6,858	514	32.2	C	No
6. I-5 Southbound Off-Ramp, to PCH/Camino Las Ramblas	Diverge Analysis	AM	**6,496**	**1,414**	**28.3**	**E**	**6,528**	**1,446**	**28.5**	**E**	**Yes**
		PM	**8,190**	**1,806**	**36.4**	**E**	**8,231**	**1,847**	**36.7**	**E**	**Yes**
		Sat. Midday	**7,323**	**1,473**	**32.0**	**E**	**7,372**	**1,522**	**32.3**	**E**	**Yes**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 12-5 (CONTINUED)

YEAR 2045 BUILDOUT PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Year 2045 Buildout Traffic Conditions				(2) Year 2045 Buildout Plus Project Traffic Conditions				(3) Exceed LOS Thresholds
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
7. I-5 Southbound On-Ramp Loop, to PCH/Camino Las Ramblas	Merge Analysis	AM	5,082	167	22.0	B	5,082	167	22.0	B	No
		PM	6,384	123	27.8	C	6,384	123	27.8	C	No
		Sat. Midday	5,850	150	25.5	C	5,850	150	25.5	C	No
8. I-5 Southbound On-Ramp, to PCH/Camino Las Ramblas	Merge Analysis	AM	5,249	1,304	28.6	D	5,249	1,306	28.6	D	No
		PM	**6,507**	**1,636**	**38.2**	**E**	**6,507**	**1,686**	**38.7**	**E**	**Yes**
		Sat. Midday	6,000	1,469	33.7	D	6,000	1,504	33.9	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria