APPENDICES TO
DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE PAVILION AT OCEANSIDE
P-6-06, D-5-06, C-(19-23)-06
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Compiled For:

The City of Oceanside
300 North Coast Highway
Oceanside CA 92054

By:

Affinis
Shadow Valley Center
847 Jamacha Road
El Cajon, CA 92019
(619)441-0144

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H. Noise Report

ACOUSTICAL SITE ASSESSMENT
OCEANSIDE PAVILION COMMERCIAL CENTER
OCEANSIDE, CA

Submitted to:

Mr. Garrett Colburn
Thomas Enterprises, Inc.
2385 Shelter Island Drive, Suite 202
San Diego, CA 92106

Prepared by:

Investigative Science and Engineering, Inc.
Scientific, Environmental, and Forensic Consultants

16486 Bernardo Center Drive, Suite 278
San Diego, California 92128
(858) 451-3505
www.ise.us

ISE Project #07-028

February 29, 2008 (Revised)

INTRODUCTION AND DEFINITIONS

Existing Site Characterization

The project site, formerly the Valley Drive-In site, consists of approximately 92 acres located north of State Route 76 (SR 76) near the Mission Avenue overpass within in the City of Oceanside, California as can be seen in Figure 1 below. Regional access to the site can be obtained via Interstate 5 (I-5) and/or SR 76.

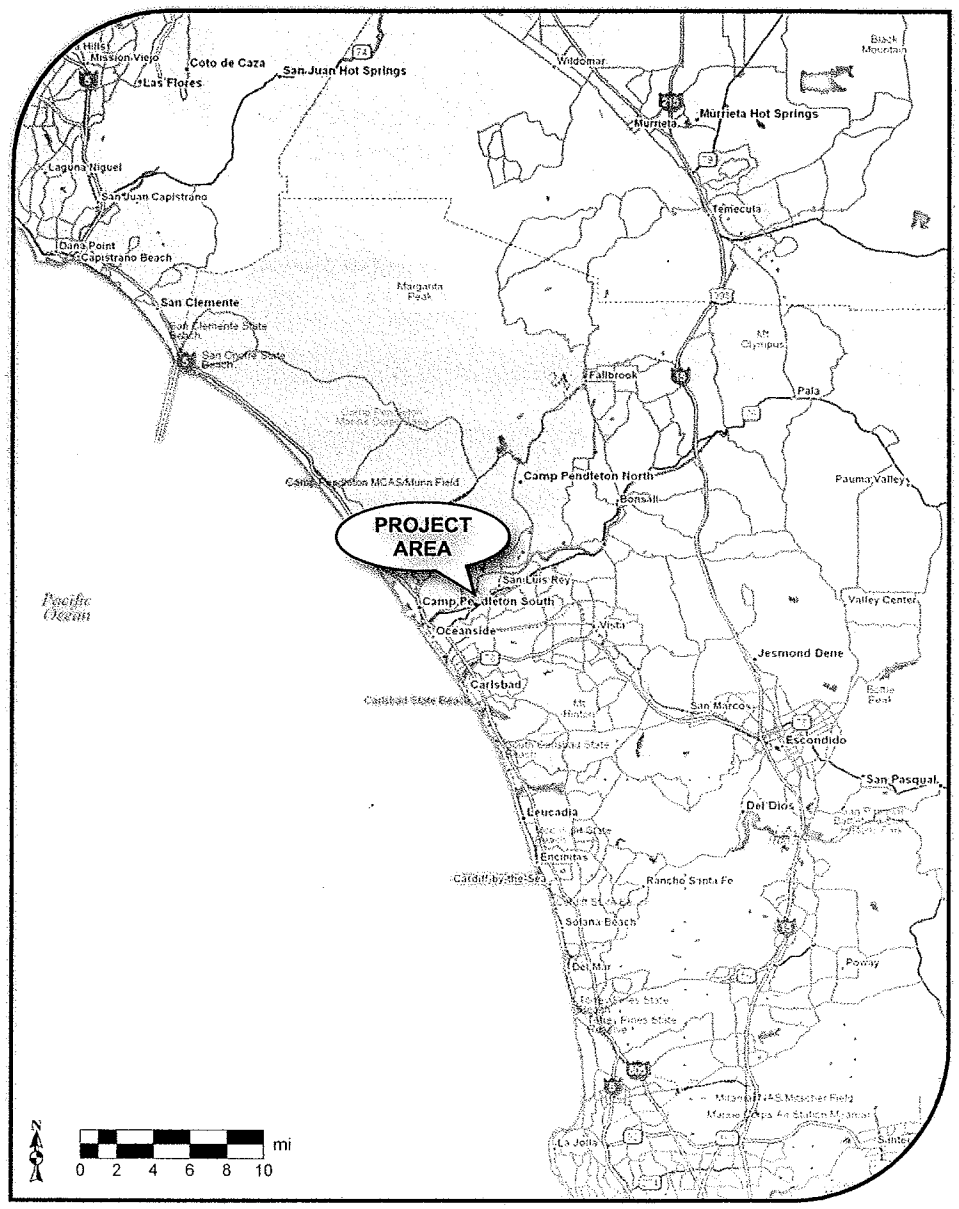

FIGURE 1: Project Vicinity Map (ISE 5/07)

The proposed development site (encompassing APN's 160-270-31, 77, 79, 82; 160-280-14, 48 thru 51 and 53 thru 55; 160-290-58, 60, and 63) is located within a relatively flat parcel that is bordered by SR 76 to the south, the San Luis Rey River to the north and North Foussat Road to the west. The eastern boundary of the site backs up to residential development along Fireside Street having an approximate 100-foot or greater setback. Elevations onsite range approximately 27- to 45-feet above mean sea level (MSL) as indicated in Figure 2 below.

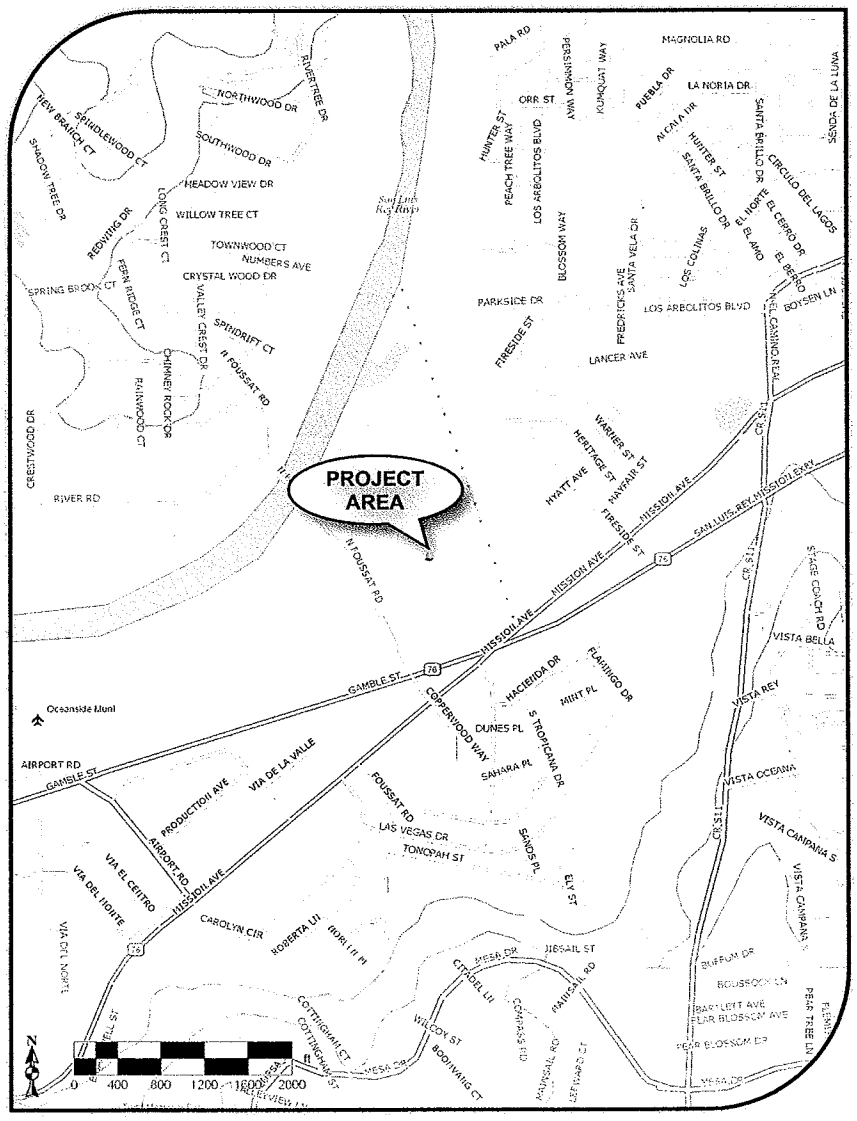

FIGURE 2: Project Site Location Map w/ Topography (ISE 5/07)

Project Description

The project proposes development of the aforementioned 92 acre parcel into a new commercial center complex containing nearly 950,000 square feet of retail space consisting of various shops, a movie theater and eating establishments that would serve the City of Oceanside. Currently there are two variants of the site plan (i.e., the proposed plan and the draft sub area alternative), which can be seen in Figures 3a and –b below. Development of the proposed project site would be completed sometime in 2009 pending approval of the project Tentative Parcel Map, Development Plan, and Conditional Use Permits.

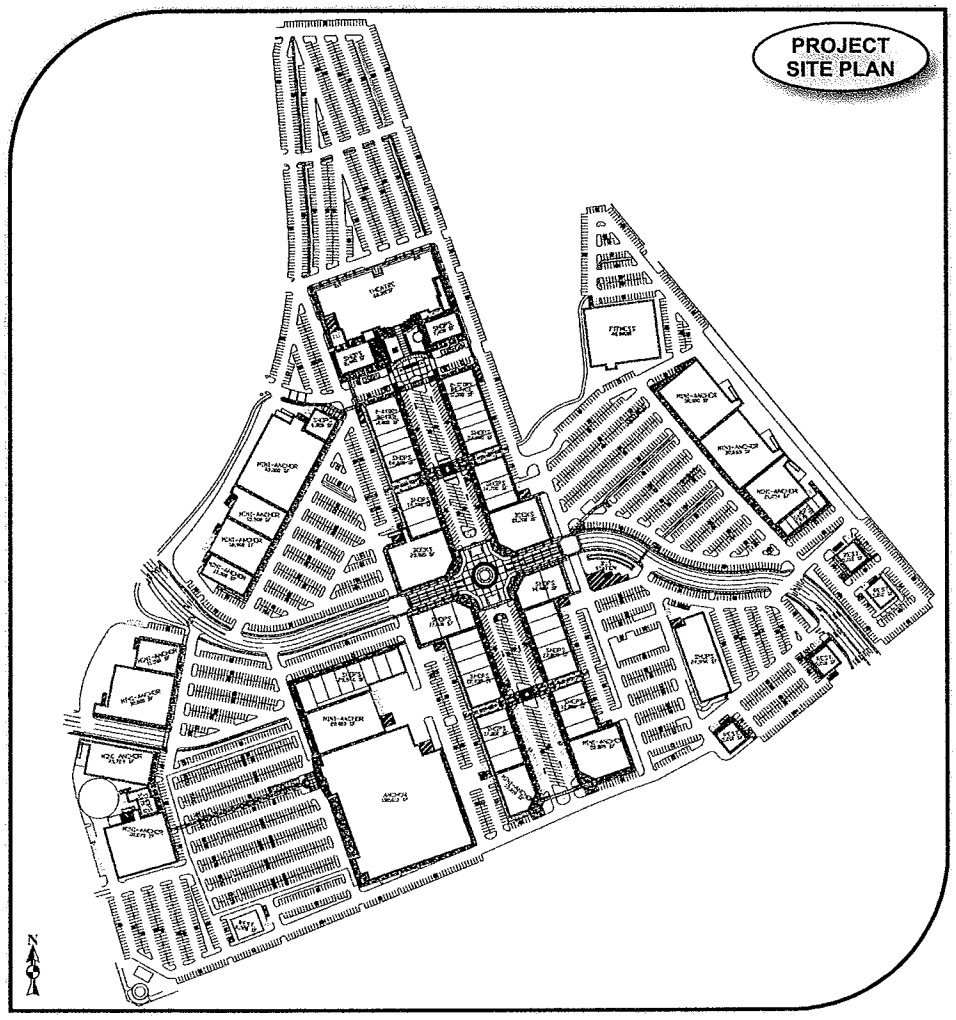

FIGURE 3a: Proposed Oceanside Commercial Center (Oday Consultants 4/07)

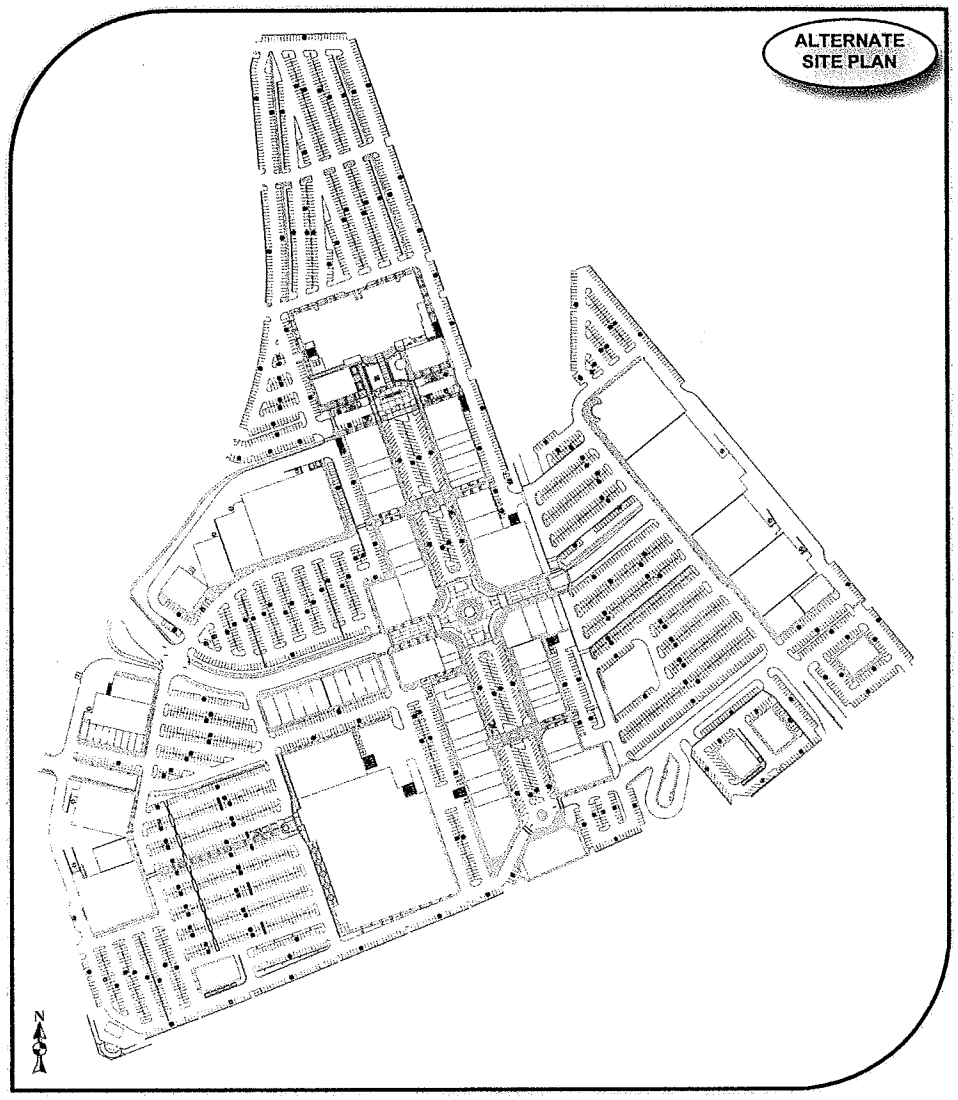

FIGURE 3b: Proposed Draft Sub Area Plan Alternative (Oday Consultants 12/07)

The property currently has a General Plan land use designation and corresponding zoning of Community Commercial (CC). Access to the proposed project site will be provided through eight separate entrances, three of which will be signalized. In addition, there will be a right-in right-out access on Foussat Road four other full access un-signalized driveways along Pala Road.

Acoustical Definitions

Sound waves are linear mechanical waves. They can be propagated in solids, liquids, and gases. The material transmitting such a wave oscillates in the direction of propagation of the wave itself. Sound waves originate from some sort of vibrating surface. Whether this surface is the vibrating string of a violin or a person's vocal cords, a vibrating column of air from an organ or clarinet, or a vibrating panel from a loudspeaker, drum, or aircraft, the sound waves generated are all similar. All of these vibrating elements alternatively compress the surrounding air on a forward movement and expand it on a backward movement.

There is a large range of frequencies within which linear waves can be generated, sound waves being confined to the frequency range that can stimulate the auditory organs to the sensation of hearing. For humans this range is from about 20 Hertz (Hz or cycles per second) to about 20,000 Hz. The air transmits these frequency disturbances outward from the source of the wave. Sound waves, if unimpeded, will spread out in all directions from a source. Upon entering the auditory organs, these waves produce the sensation of sound. Waveforms that are approximately periodic or consist of a small number of periodic components can give rise to a pleasant sensation (assuming the intensity is not too high), for example, as in a musical composition.

Noise, on the other hand, can be represented as a superposition of periodic waves with a large number of components and is generally defined as unwanted or annoying sound that is typically associated with human activity and which interferes with or disrupts normal activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise and its appropriateness in the setting, the time of day, and the sensitivity of the individual hearing the sound.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric levels. The loudest sounds that the human ear can hear comfortably are approximately one trillion (or $1x10^{12}$) times the acoustic energy that the ear can barely detect. Because of this vast range, any attempt to represent the acoustic intensity of a particular sound on a linear scale becomes unwieldy. As a result, a logarithmic ratio originally conceived for radio work known as the decibel (dB) is commonly employed[1].

A sound level of zero "0" dB is scaled such that it is defined as the threshold of human hearing and would be barely audible to a human of normal hearing under extremely quiet listening conditions. Such conditions can only be generated in anechoic or "dead rooms". Typically, the quietest environmental conditions (extreme rural areas with extensive shielding) yield sound levels of approximately 20 decibels. Normal speech

[1] A unit used to express the intensity of a sound wave. This level is defined as being equal to 20 times the common logarithm of the ratio of the pressure produced by a sound wave of interest to a 'reference' pressure wave (which is defined as 1 micro Pascal measured at a distance of 1 meter).

has a sound level of approximately 60 dB. Sound levels above 120 dB roughly correspond to the threshold of pain.

The minimum change in sound level that the human ear can detect is approximately 3.0 dBA[2]. A change in sound level of 10 dB is usually perceived by the average person as a doubling (or halving) of the sounds loudness[3]. A change in sound level of 10 dB actually represents an approximate 90 percent change in the sound intensity, but only about a 50 percent change in the perceived loudness. This is due to the nonlinear response of the human ear to sound.

As mentioned above, most of the sounds we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies differing in sound level. The intensities of each frequency add to generate the sound we hear. The method commonly used to quantify environmental sounds consists of determining all of the frequencies of a sound according to a weighting system that reflects the nonlinear response characteristics of the human ear. This is called "A" weighting, and the decibel level measured is called the A-weighted sound level (or dBA). In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

Although the A-weighted sound level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of sounds from distant sources that create a relatively steady background noise in which no particular source is identifiable. For this type of noise, a single descriptor called the Leq (or equivalent sound level) is used. Leq is the energy-mean A-weighted sound level during a measured time interval. It is the 'equivalent' constant sound level that would have to be produced by a given source to equal the average of the fluctuating level measured. For most acoustical studies, the monitoring interval is generally taken as one-hour and is abbreviated *Leq-h*.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. They are the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of a stated time. Sound levels associated with the L10 typically describe transient or short-term events, while levels associated with the L90 describe the steady state (or most prevalent) noise conditions. In addition, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum and minimum measured sound level (Lmax and Lmin) indicators. The Lmin value obtained for a particular monitoring location is often called the *acoustic floor* for that location.

Finally, a sound measure defined as the Day-Night Sound Level (DNL or Ldn). The Ldn is defined as the "A" weighted average sound level for a 24-hour day. It is calculated by adding a 10-decibel penalty to sound levels that occur during nighttime

[2] Every 3 dB equates to a 50% of drop (or increase) in wave strength, therefore a 6 dB drop/increase = a loss/increase of 75% of total signal strength and so on.

[3] This is a subjective reference based upon the nonlinear nature of the human ear.

hours (i.e., 10:00 p.m. to 7:00 a.m.). This penalty is applied to compensate for the increased sensitivity to noise during the quieter nighttime hours. A similar metric known as the Community Noise Equivalent Level (or CNEL) is calculated in a manner identical to the Ldn except that an additional penalty of 5 dBA is added to the evening hours between 7:00 p.m. and 10:00 p.m. CNEL and Ldn have a maximum variance of about one dBA.

APPLICABLE SIGNIFICANCE CRITERIA

City of Oceanside General Plan Noise Element

The City of Oceanside's Noise Element of the General Plan establishes noise standards for various land uses. The maximum acceptable noise level for sensitive land use is 65 dBA Ldn. This standard would be applicable to exterior usable space (i.e., yards, pool/recreational area) for all transportation noise affecting the project site (i.e., surface street traffic noise).

City of Oceanside Noise Ordinance

The City of Oceanside Noise Ordinance, Section 38.12, identifies exterior noise levels that are acceptable for various land uses. The applicable requirement is a function of the time-of-day and land use zone. Table 1 summarizes those requirements.

TABLE 1: City of Oceanside Noise Ordinance Section 38.12

			Applicable Compliance Times	
Base District Zone			**7:00 a.m. to 9:59 p.m.**	**10:00 p.m. to 6:59 a.m.**
1	Residential Districts:			
		RE (Residential Estate)	50	45
		RS (Single Family)	50	45
		RM (Medium Density)	50	45
		RH (High Density)	55	50
		RT (Residential Tourist)	55	50
2	C	(Commercial)	65	60
3	I	(Industrial)	70	65
4	D	(Downtown)	65	55
5	A	(Agricultural)	50	45
6	OS	(Open Space)	50	45

Source: City of Oceanside Noise Ordinance, Section 38.12

The proposed Oceanside Pavilion Commercial Center would be located within an existing commercial zone with a surrounding residential area to the northwest and east. The property line standard for cases where the zoning differs between land uses is to utilize the arithmetic mean of the two standards. Thus, for the purposes of this analysis,

the property line standard would be 57.5 dBA Leq-h between the hours of 7:00 a.m. – 10:00 p.m. and 52.5 dBA Leq-h between the hours of 10:00 p.m. – 7:00 a.m.

Wildlife Habitat Noise Regulations

Construction noise generated by this project is regulated by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) for its effect on federally endangered least Bell's vireo (*Vireo bellii pusillus*). Resource agencies have theorized that elevated noise levels can potentially mask songs of various bird species, which are used to attract mates and defend territories.

The San Diego Association of Governments (SANDAG) in a 1990 study entitled "*Comprehensive Species Management Plan for the least Bell's vireo,*" estimated (theoretically) that {traffic} noise levels above 60 dBA Leq in vireo breeding areas may sufficiently mask the vireo's song and potentially impact this species during their breeding season which occurs from March 1 to September 1. The SANDAG report conclusions were unclear as to the specific time interval of the measurement, but it is typically taken as being one hour (i.e., Leq-h).

Research is ongoing, but in the absence of species-specific data, these same study results are applied by the Service to other bird species such the California Gnatcatcher (*Polioptila californica californica*), California least Tern (*Sterna antillarum browni*), Yuma Clapper Rail (*Rallus longirostris yumanensis*), etc.

ANALYSIS METHODOLOGY

Existing Conditions Field Survey

A Quest Model 2900 ANSI Type 2 integrating sound level meter was used as the data collection device. The meter was placed at three locations (denoted as ML 1 through ML 3) within the project site to ascertain existing levels and any variation across the project area. The meter was mounted to a tripod approximately five feet above the ground and was placed at project frontages having a worst-case noise exposure due to existing offsite traffic activities. The monitoring locations are shown graphically in Figure 4a on the following page.

Further, an identical Quest Model 2900 ANSI Type 2 integrating sound level meter was used at two locations (denoted as ML 1 and ML 2) within the existing habitat area to ascertain any noise variation across the habitat area. The meter was mounted to a tripod as identified under the earlier testing and was placed at habitat frontages having a worst-case noise exposure due to existing biking and aircraft activities. These monitoring locations are shown graphically in Figure 4b on Page 10 of this report.

Onsite noise measurements were performed on February 6, 2007 between 3:00 and 5:00 p.m. during typical afternoon traffic conditions, while all biological

measurements were performed on Wednesday, February 13, 2008 between 3:00 p.m. and 5:00 p.m.

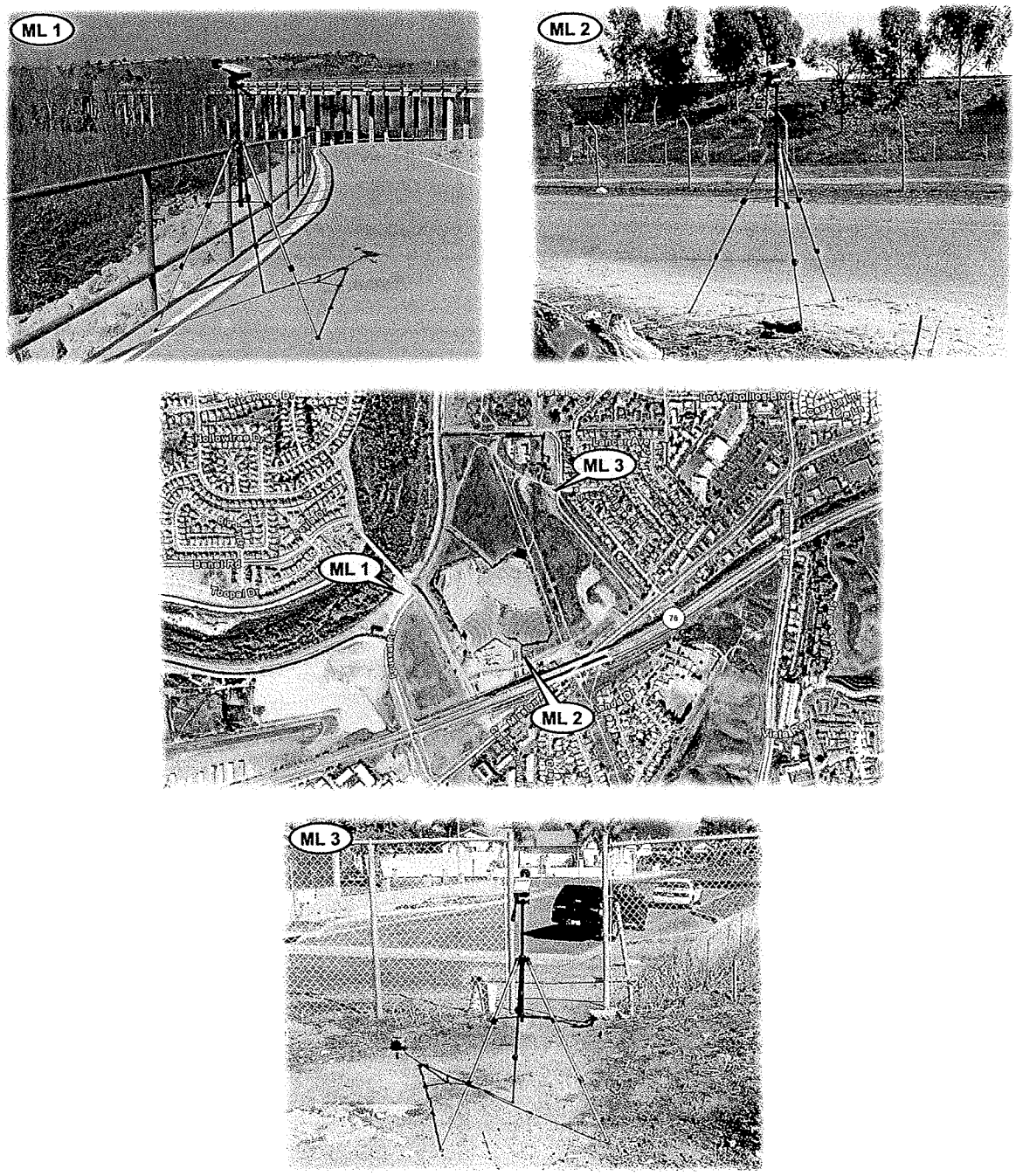

FIGURE 4a: Ambient Noise Monitoring Locations within Project Site (ISE 2/07)

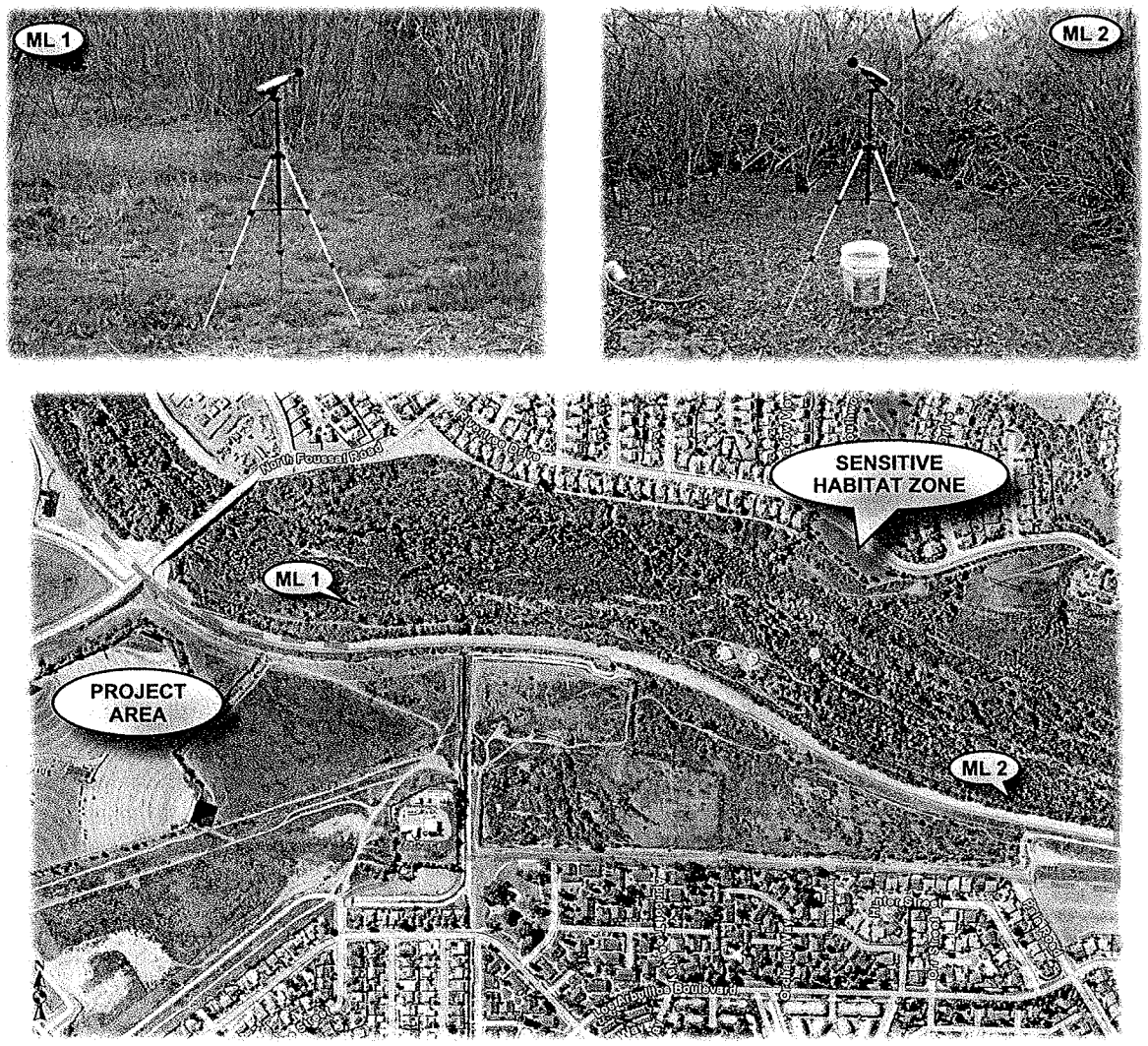

FIGURE 4b: Ambient Noise Monitoring Locations (ISE 2/08)

All equipment was calibrated before testing at ISE's acoustics and vibration laboratory to verify conformance with ANSI S1-4 1983 Type 2 and IEC 651 Type 2 standards.

Onsite Noise Assessment Approach (HVAC)

The proposed Oceanside Pavilion Commercial Center project is expected to utilize approximately 80 (10-ton) HVAC units while the draft sub area plan alternative is expected to utilize approximately 74 units (as shown in Figures 5a and -b on the following pages) for heating and cooling needs.

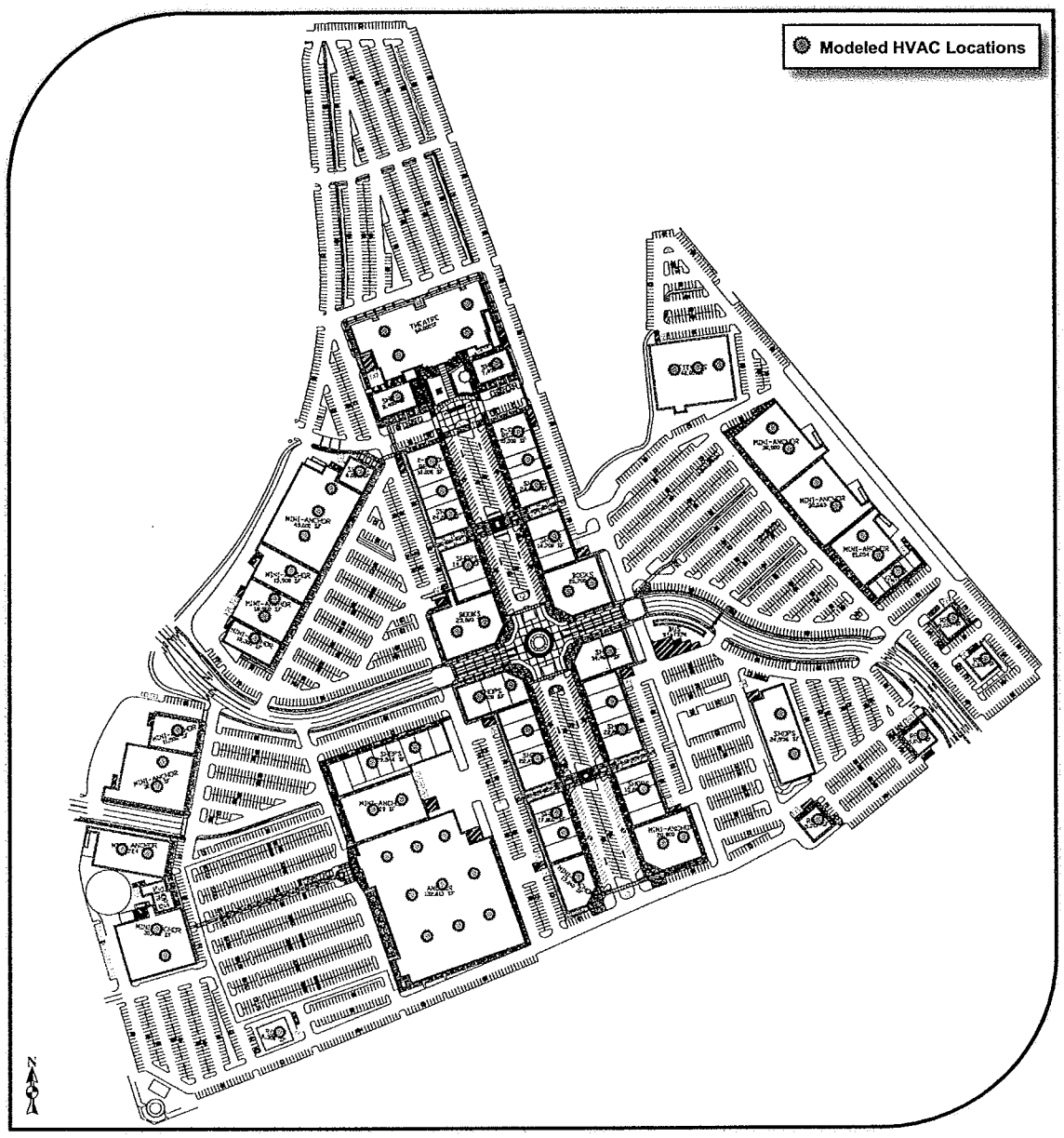

FIGURE 5a: Proposed HVAC Locations for Oceanside Pavilion Commercial Center (ISE 5/07)

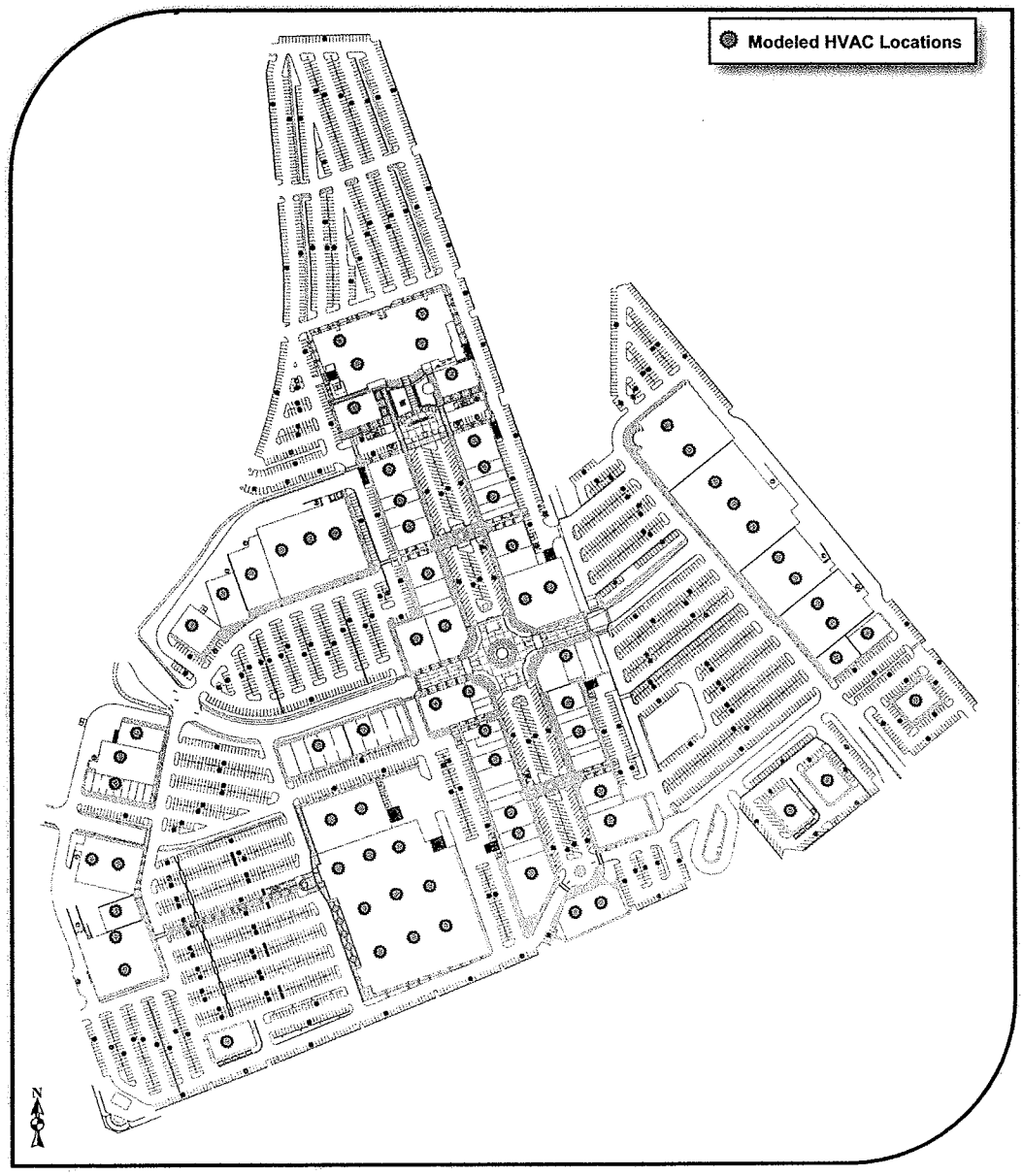

FIGURE 5b: Proposed HVAC Locations for Draft Sub Area Plan Alternative (ISE 1/08)

Each HVAC noise source were modeled as hemi-spherical noise radiators sitting atop a partially reflective surface (i.e., the rooftop).[4] The worst-case assumption of a completely reflective surface has the effect of mirroring the hemisphere (8 dB drop) for

[4] The propagation rule would follow the conventional 6 dB/DD drop plus an additional total attenuation factor corresponding to the difference between a spherical radiator (e.g., 0 dB drop) versus a hemispherical one (e.g., 8 dB drop).

an additional +3 dB gain; hence, an overall additional attenuation level of 5 dB was applied to the modeling.

Aggregate noise levels due to HVAC operation were calculated using the ISE *IS3* fixed source field noise model. Source data for the proposed packaged HVAC units indicate a source level of roughly 80 dBA at 3.0 feet[5] based upon ARI standard 240. Since this is a hemispherical source, the radiated sound levels for these sources would be reduced by 6.5-dBA (based upon the above considerations) to 73.5 dBA at three feet.

The operation of these units was examined for compliance with applicable property line noise standards based upon the current engineering design. It should be noted that functionally not every unit would be operating simultaneously, however, this condition was analyzed since it constitutes a worst-case assumption under CEQA.

Onsite Noise Assessment Approach (East Loading Dock Area)

Noise emissions from loading docks typically consist of sound associated with the movement of material into and out-of the trucks as well as sounds generated by engine idling. By far the largest noise generator out of these sources would be from the trucks themselves.

The truck noise source was also modeled as a hemi-spherical radiator sitting atop a partially reflective surface (i.e., the ground). Thus, the propagation rule would follow the conventional six-decibel drop per doubling of distance between source and receiver (i.e., 6 dBA/DD) drop plus an additional total attenuation factor corresponding to the difference between a spherical radiator (e.g., 0 dBA drop) versus a hemispherical one (e.g., 8 dBA drop).

The worst-case assumption of a partially reflective surface has the effect of partially mirroring the hemisphere for an additional +1.5 dBA gain; hence an overall additional (excess) attenuation level of -8 + (+1.5) or -6.5 dBA would be expected. This would be expressed as an additional 6.5-dBA loss above that predicted using a spherical radiator.

The proposed development anticipates a truck duty cycle of six minutes per hour at each loading area and an assumed stack height of eight feet. This operational level (10% of idling time per delivery per any given hour) was assumed for the purposes of a worst-case assessment as defined under CEQA and could be taken as a single delivery event or multiple events having the same duration. Further, this operational level was time-corrected to yield the requisite hourly exposure level for the purposes of comparison with the applicable standards identified in Table 1 above. For the purposes of this assessment, truck operation was assumed to run at a 10% duty cycle with a sound rating of 92.0 dBA at five feet as is typical for an idling truck. The proposed loading dock locations for both site plan configurations are identified in Figures 6a and -b on the following pages.

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[5] Source: *Carrier 50PG Series Package Heat Pump Data, 5/07.*

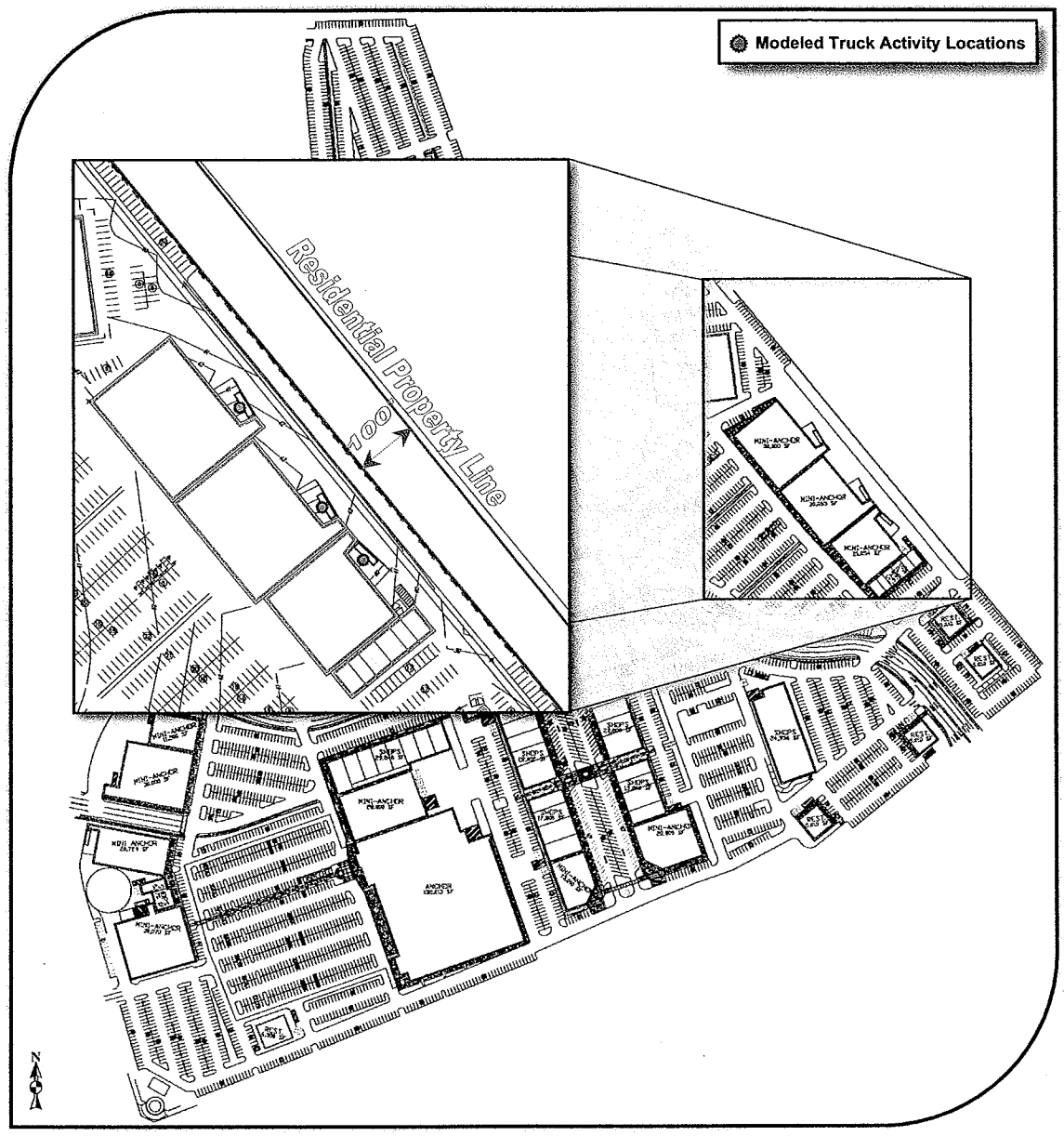

FIGURE 6a: Truck Operation Locations for Oceanside Pavilion Commercial Center (ISE 5/07)

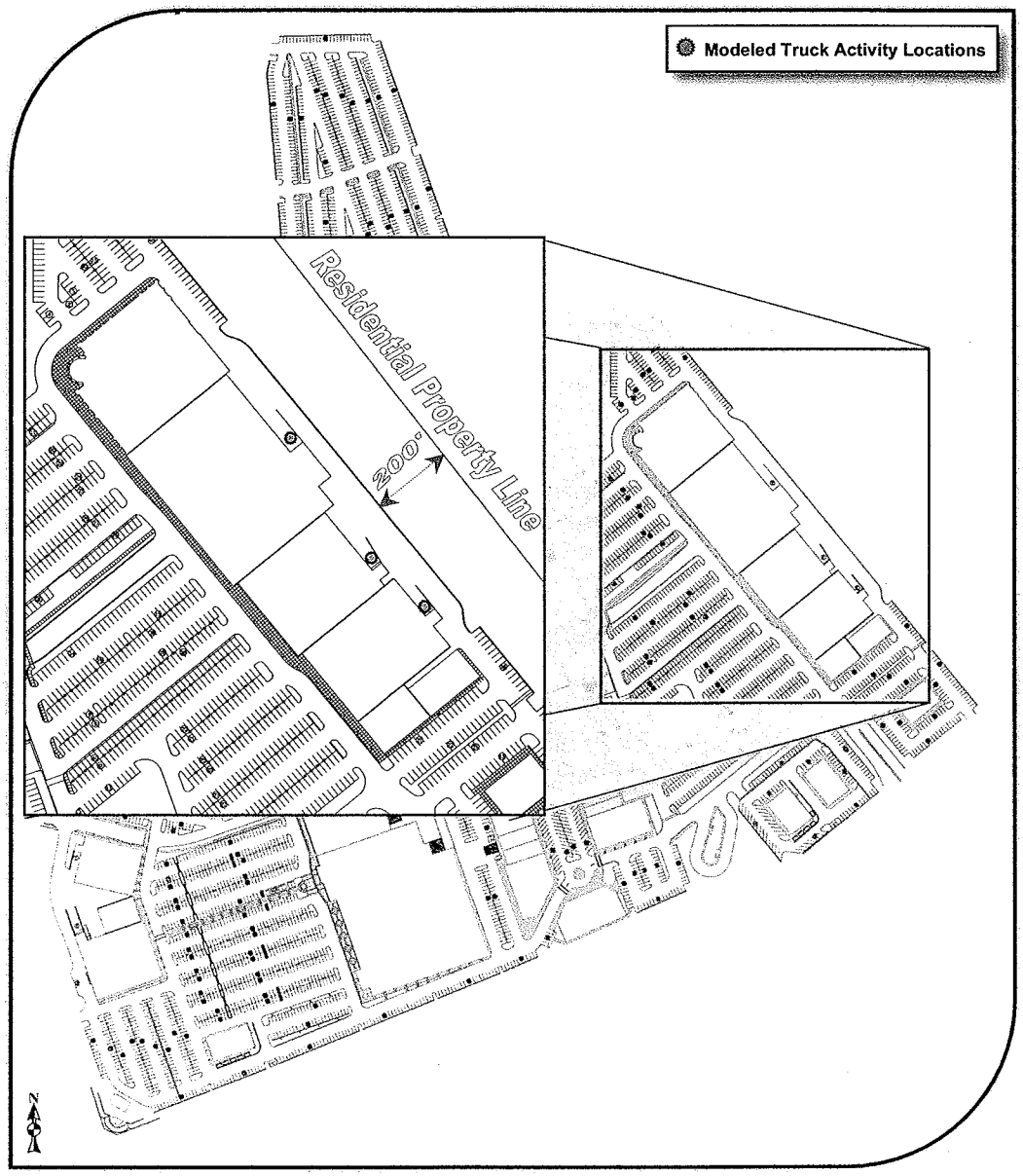

FIGURE 6b: Truck Operation Locations for Draft Sub Area Plan Alternative (ISE 1/08)

Traffic Segment Impact Assessment Approach

The ISE *RoadNoise v1.0* traffic noise prediction model which is based upon Caltrans Sound 32 Traffic Noise Prediction Model with California (CALVENO) noise emission factors (based on FHWA RD-77-108 and FHWA/CA/TL-87/03 standards) was used to calculate the increase in vehicular traffic noise levels along major servicing roadways due to the proposed development project.[6] The model assumed a 'hard-site' propagation rule (i.e., 3.0 dBA loss per doubling of distance (DD) between source and receiver), thereby yielding a representative worst-case noise contour set.

Habitat-Related Noise Impact Assessment Approach

Sensitive avian habitat was shown to exist around most of the project site as well as any proposed roadway extension areas.[7] The identified sensitive habitat area is shown in Figure 7 on the following page. The analysis of noise effects on sensitive habitat areas consisted of two parts: construction effects, and operational noise effects from the proposed Pala Road extension.

Construction Noise

Construction noise emission generators associated with grading operations for the proposed project would consist of the following equipment: Caterpillar D8 dozers, loaders, water trucks, hauling trucks, concrete trucks, pavers and scrapers. Typical construction phasing would include rough grading, underground utility installation, and paving phases. Each phase of the construction process would require the use of any variation of the aforementioned equipment.

ISE treated the construction process as dynamic, or moving with time. Our worst-case assumptions would assume that sensitive avian nesting sites could be as close as 35' from any giving construction area given that the sensitive avian habitat surrounds the project site. Aggregate noise levels associated with this type of activity were analyzed for consistency with the aforementioned wildlife habitat noise regulations. It should be noted that not all of the aforementioned equipment would be in operation at the same time; however, this condition was analyzed, as it constitutes a worst-case condition under CEQA.

Pala Road Extension Effects

The proposed extension of Pala Road was undertaken in a manner similar to that for construction noise with the replacement of a linear traffic noise source in place of the aforementioned construction noise equipment. The habitat assumptions taken earlier were assumed to still be in effect.

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[6] Source: *Revised Draft Traffic Impact Analysis Report – Oceanside Pavilion Commercial Center – RBF Consulting, 12/07.*

[7] Source: *Oceanside Pavilion Biological Study – Helix, 2008.*

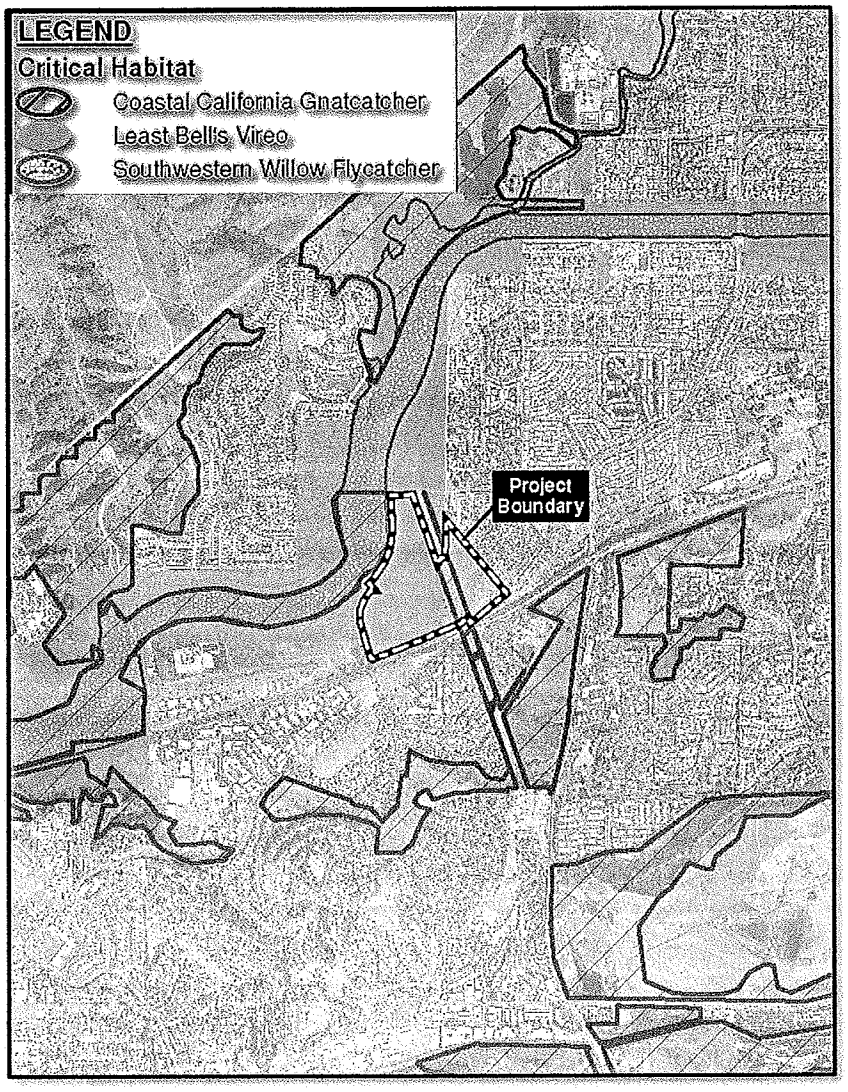

FIGURE 7: Critical Habitat surrounding the Oceanside Pavilion Commercial Center (Helix 2008)

Aircraft Noise Impact Assessment Approach

Finally, ISE examined the Comprehensive Land Use Plan (CLUP) for Oceanside Municipal Airport, which was developed by the San Diego Association of Governments (SANDAG) to examine the current Airport Influence Area due to operations at the airfield. The assessment consisted of determining the location (ground trace) of both the 60 and 65 dBA CNEL noise exposure contours with respect to the subject development parcel.

FINDINGS / RECOMMENDATIONS

Ambient Sound Measurement Results

Testing conditions during the monitoring period were sunny with an average barometric pressure reading of 30.01 in-Hg, an average westerly wind speed of 2 to 4 miles per hour (MPH) and an approximate mean temperature of 74 degrees Fahrenheit. The results of one-hour sound level monitoring are shown below in Table 2. The values for the energy equivalent sound level (Leq), the maximum and minimum measured sound levels (Lmax and Lmin), and the statistical indicators L10, L50, and L90, are given for each monitoring location.

TABLE 2: Measured Ambient Sound Levels – Oceanside Pavilion Commercial Center

		1-Hour Noise Level Descriptors in dBA					
Site	**Start Time**	**Leq**	**Lmax**	**Lmin**	**L10**	**L50**	**L90**
ML 1	3:00 p.m.	58.5	75.7	47.0	58.4	53.0	49.5
ML 2	3:30 p.m.	59.9	66.2	52.9	62.9	58.8	55.4
ML 3	4:00 p.m.	50.5	61.7	44.1	53.3	48.7	46.4

Monitoring Locations:

- ML 1: Northwest portion of project site facing canyon. GPS: 33°13.348'N x 117°20.673'W, EPE 12 ft.
- ML 2: South portion of project site facing State Route 76. GPS: 33°13.226'N x 117°20.405'W, EPE 12 ft.
- ML 3: Northeast portion of project site facing Fireside Street. GPS: 33°13.521'N x 117°20.335'W, EPE 12 ft.

Measurements performed by ISE on February 6, 2007. EPE = Estimated Position Error.

Measurements collected onsite reflect the ambient sound levels within the project site. The hourly average sound levels (or Leq-h) recorded over the monitoring period ranged between 50.5 to 59.9 dBA. The predominant noise source at each of the monitoring locations was clearly traffic generated. As indicated by the monitoring equipment, the acoustical background (L90) ranged between 46.4 to 55.4 dBA while the acoustic floor for the site, as seen by the Lmin indicator was found range between 44.1 and 52.9 dBA. These indicators show that the noise sources vary during a given hour generally consistent with normal traffic flows. No unusual noise sources were indicated.

Ambient Habitat Noise Monitoring Results

Habitat measurements collected onsite reflect the ambient sound levels within the habitat area (refer to Table 3 on the following page). The hourly average sound levels (or Leq-h) recorded over the monitoring period ranged between 59.2 to 42.6 dBA. The predominant noise sources at each of the monitoring locations were generated by nearby cyclist on the top of slope of the existing biking trail and overhead aircraft utilizing the Oceanside Municipal Airport.

TABLE 3: Measured Ambient Sound Levels – Sensitive Habitat Area

		1-Hour Noise Level Descriptors in dBA					
Site	**Start Time**	**Leq**	**Lmax**	**Lmin**	**L10**	**L50**	**L90**
ML 1	3:0 0 p.m.	59.2	75.6	42.3	60.3	48.5	45.7
ML 2	5:00 p.m.	42.6	52.3	37.7	45.4	41.1	39.1

Monitoring Locations:

- ML 1: Center portion of habitat area facing the Foussat Road Bridge. GPS: 33°13.529'N x 117°20.620'W, EPE 10 ft.
- ML 2: North portion of the habitat facing the bike trail. GPS: 33°14.069'N x 117°20.439'W, EPE 12 ft.

Measurements performed by ISE on February 13, 2008. EPE = Estimated Position Error.

As indicated by the monitoring equipment, the acoustical background (L90) ranged between 39.1 to 45.7 dBA while the acoustic floor for the site, as seen by the Lmin indicator was found range between 37.7 and 42.3 dBA.

Expected Outdoor Operational HVAC and Loading Dock Noise Levels

Utilizing the ISE *IS3* noise field model, a general area around the proposed project site was selected for the onsite HVAC analysis and an enhanced loading dock specific location was selected for the onsite loading dock analysis. The results of the predicted sound levels are represented as a color contour plot superimposed atop the proposed structural shell. The model input deck and output plots for both site plan configurations are provided as an attachment to this report.

The color-shaded areas as shown in Figures 8a and -b on the following pages represent areas of equal noise generated by the HVAC systems within the roofline and surrounding property and are a composite of the 106,925 data points generated by the computer model. Given this, all building rooftops were found to have property line noise exposure levels as high as 48.4 dBA Leq-h for the proposed site plan and as high as 49.5 dBA Leq-h for the draft sub area plan alternative. These levels are well below the City's threshold previously identified in Table 1.

Similarly, the color-shaded areas shown in Figures 9a and -b starting on Page 22 of this report represent areas of equal noise exposure for the loading docks and surrounding land uses. These graphical representations of the predicted sound levels are comprised of over 148,000 data points. Based upon the findings, the loading dock areas are expected to produce only 49.1 dBA Leq-h for the proposed site plan and 44.3 dBA Leq-h for the draft sub area plan alternative at the closest sensitive property line, which is well below the City's impact threshold. No impacts are therefore expected due to any onsite noise generation sources.

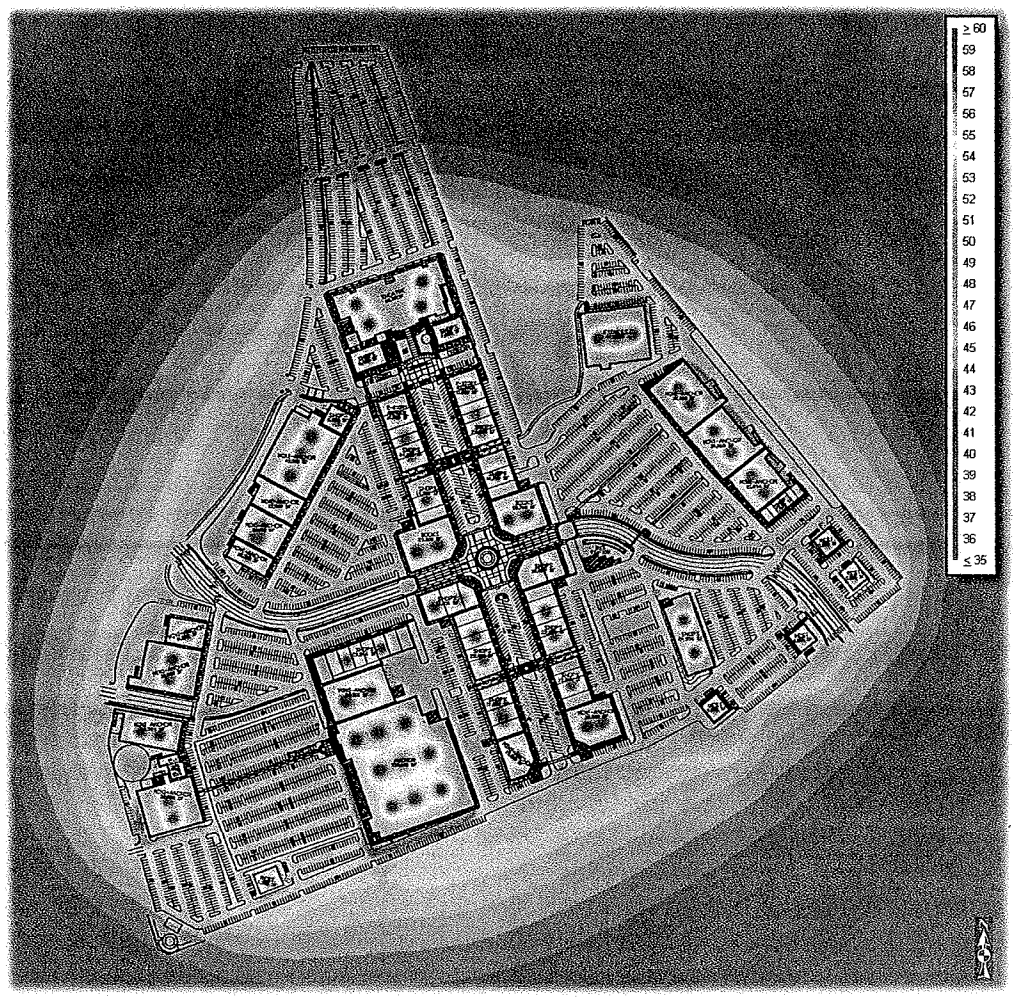

FIGURE 8a: Operational Noise Exposure Contour Plot in dBA for Proposed Project Site (ISE 5/07)

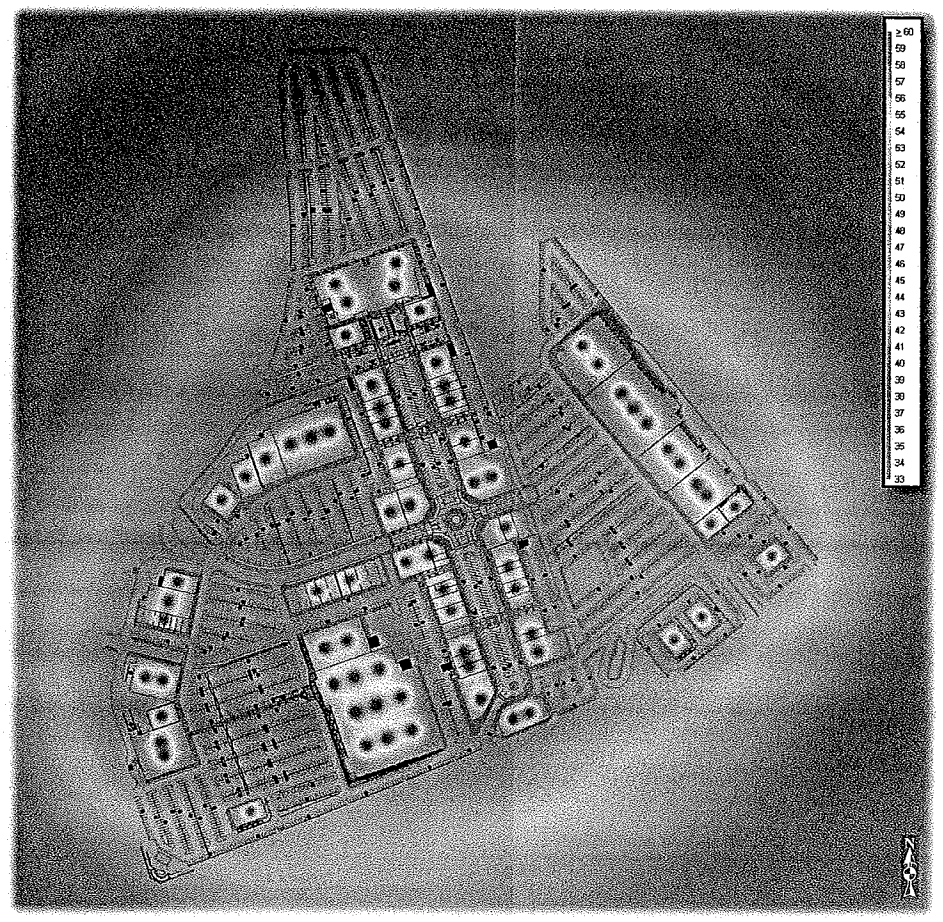

FIGURE 8b: Operational Noise Exposure Contour Plot for Draft Sub Area Alternative (ISE 1/08)

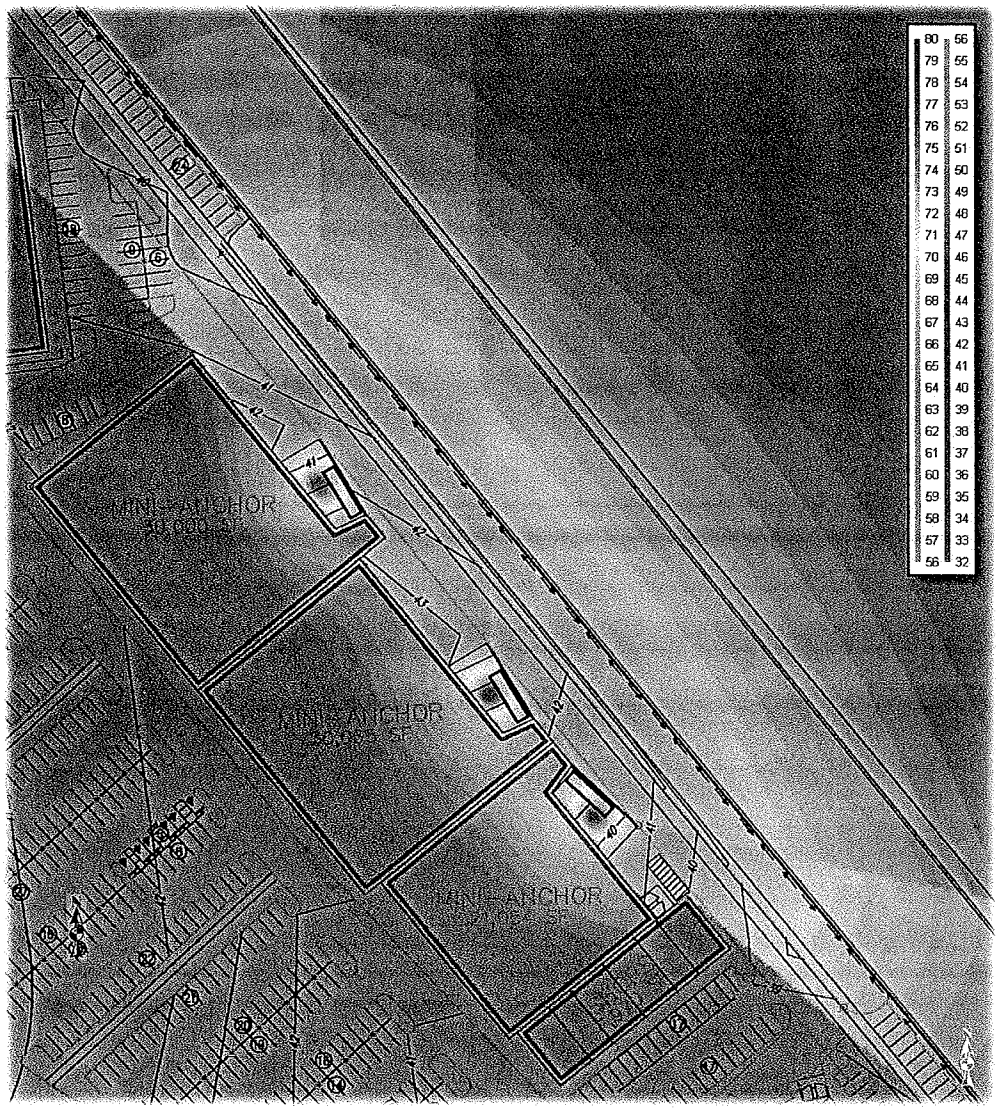

FIGURE 9a: Truck Operational Noise Exposure Contour Plot in dBA for the East P/L (ISE 5/07)

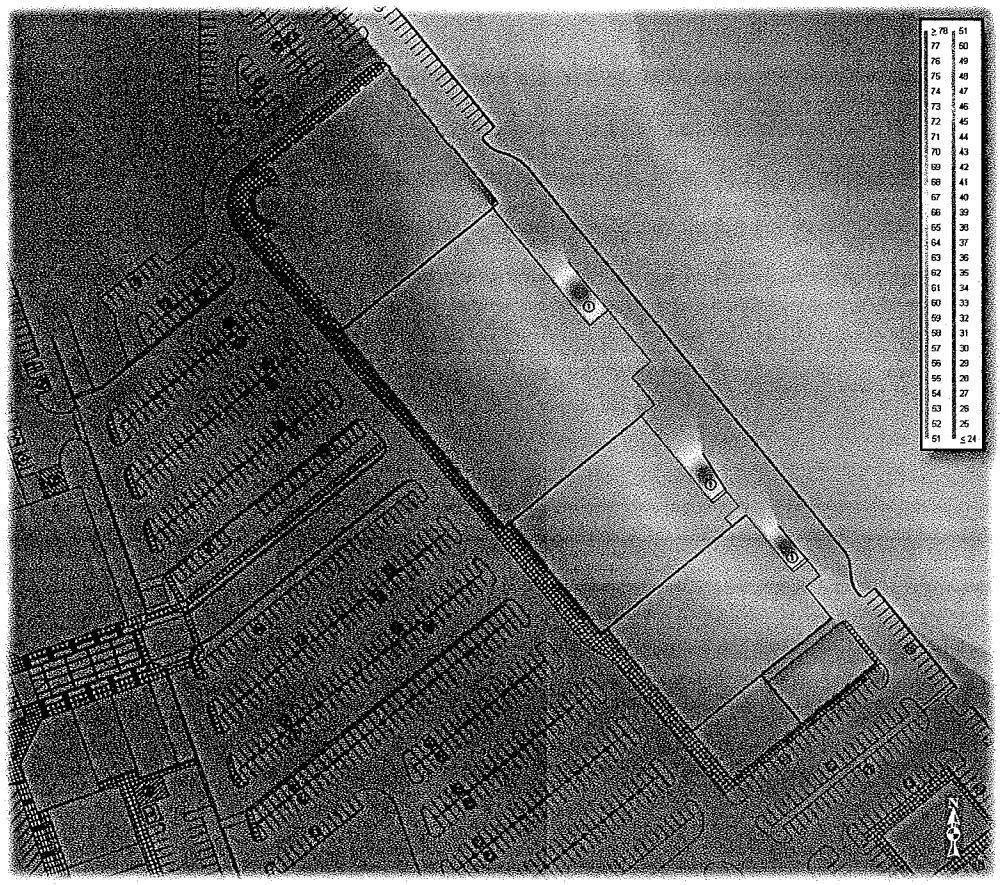

FIGURE 9b: Draft Sub Area Truck Operational Noise Exposure Contour Plot in dBA (ISE 1/08)

Predicted Vehicular Noise Levels along Adjacent Roadways

The results showing the effect of traffic noise increases on the various servicing roadway segments associated with the proposed Oceanside Pavilion Commercial Center are presented in Tables 4a through -l starting on the following page for the following scenarios:

Tables 4a and -b)	Existing Site Conditions with- and without Project
Tables 4c and -d)	Existing plus Cumulative Site Conditions with- and without Project
Tables 4e and -f)	2020 Site Conditions with Pala Extension with- and without Project
Tables 4g and -h)	2020 Site Conditions without Pala Extension with- and without Project
Table 4i)	Traffic Noise Increases Existing Site Conditions with- and without Project
Table 4j)	Traffic Noise Increases Cumulative Site Conditions with- and without Project
Table 4k)	Traffic Noise Increases 2020 Site Conditions with Pala Extension without Project
Table 4l)	Traffic Noise Increases 2020 Site Conditions with Pala Extension with Project

For each roadway segment examined, the worst case average daily traffic volume (ADT) and observed/predicted speeds are shown along with the corresponding reference noise level at 50-feet (in dBA). Additionally, the line-of-sight distance to the 60 and 65 dBA CNEL contours from the roadway centerline are provided as an indication of the worst-case unobstructed theoretical traffic noise contour placement.

As can be seen from the traffic data, the largest project-related noise increase would be 6.9 dBA CNEL (existing) and 3.9 dBA CNEL (future) along Foussat Road. This level is above the established 3.0-dBA-significance threshold; however, no significant noise impacts are expected since there are no sensitive receptors (either current or proposed) along this roadway segment. A detailed land use plan map, which facilitates this conclusion, is provided at the end of this report.

TABLE 4a: Existing Traffic Noise Conditions

					CNEL Contour Distances (feet)	
Roadway	Segment	ADT	Speed (MPH)	SPL	65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	24,099	65	77.0	787	2,488
SR-76	I-5 Ramps	36,584	65	78.8	1,194	3,777
SR-76	NB I-5 Ramps to Loretta St.	51,914	65	80.3	1,695	5,360
SR-76	Loretta to N. Canyon Rd.	50,058	65	80.1	1,634	5,168
SR-76	N. Canyon Rd. to Benet	56,708	65	80.7	1,852	5,855
SR-76	Benet to Airport	50,752	65	80.2	1,657	5,240
SR-76	Airport to Foussat	50,410	65	80.2	1,646	5,205
SR-76	Foussat to N. Douglas Rd.	53,671	65	80.4	1,752	5,541
SR-76	N. Douglas Rd. to RDO	47,177	65	79.9	1,540	4,871
SR-76	RDO to Old Grove Rd.	50,935	65	80.2	1,663	5,259
SR-76	Old Grove Rd. to Frazee	43,698	65	79.6	1,427	4,512
SR-76	Frazee to College Blvd.	46,636	65	79.8	1,523	4,815
SR-76	College Blvd to N. Santa Fe	45,303	65	79.7	1,479	4,677
SR-76	East of N. Santa Fe Ave.	53,742	65	80.5	1,755	5,549
SR-76	West of I-5 SB Ramps	26,332	50	74.6	460	1,456
SR-76	I-5 Ramps	32,914	50	75.6	575	1,819
SR-76	I-5 Ramps to N. Canyon	28,516	50	75.0	498	1,576
SR-76	N. Canyon to Mesa	24,258	50	74.3	424	1,341
SR-76	Mesa to Airport	18,154	50	73.0	317	1,003
Mission Ave	Airport to Foussat	19,472	50	73.3	340	1,076
Mission Ave	Foussat to El Camino Real	23,811	50	74.2	416	1,316
Mission Ave	El Camino Real to N. Douglas	20,210	50	73.5	353	1,117
Mission Ave	N. Douglas Rd. to RDO	24,996	50	74.4	437	1,382
Mission Ave	RDO to Old Grove Rd.	10,228	50	70.5	179	565
Mission Ave	East of Old Grove Rd.	7,362	50	69.1	129	407
N. Canyon Rd.	SR-76 to Mission Ave.	5,364	45	66.7	74	234
N. Canyon Rd.	South of Mission Ave.	12,882	45	70.5	178	561
N. Canyon Rd.	Mission to El Camino Real	5,600	35	64.6	45	143
Mesa Dr.	El Camino Real to RDO	12,432	45	70.3	171	542
Mesa Dr.	East of RDO	11,405	45	70.0	157	497
Airport Rd	SR-76 to Mission Ave.	3,099	35	62.0	25	79
Airport Rd	North of SR-76	5,990	50	68.2	105	331
Foussat Rd.	SR-76 to Mission Ave.	12,063	50	71.3	211	667
Foussat Rd.	Mission to Mesa Dr.	5,716	25	62.7	29	92
El Camino Real	N. Douglas Rd. to Los Arbolitos.	17,905	30	69.0	124	394
El Camino Real	Los Arbolitos to Mission Ave.	22,588	45	72.9	311	984
El Camino Real	Mission to Mesa Dr.	21,236	45	72.7	293	925
El Camino Real	Mesa to Oceanside Blvd	30,989	45	74.3	427	1,350
El Camino Real	South of Oceanside Blvd.	33,413	45	74.6	460	1,456
Rancho Del Oro	N. Douglas to Mission Ave	14,136	35	68.6	114	361
Rancho Del Oro	Mission to SR-76	7,789	35	66.0	63	199
Rancho Del Oro	SR-76 to Mesa Dr.	13,384	35	68.4	108	342
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	11,217	45	69.9	155	489
Rancho Del Oro	South of Oceanside Blvd.	10,320	45	69.5	142	450
Frazee Rd.	North of SR-76	5,474	20	61.0	20	63
Frazee Rd.	SR-76 to Mission Ave.	9,331	35	66.8	75	239
Old Grove Rd.	North of SR-76	7,390	40	67.0	79	249
Old Grove Rd.	South of SR-76	10,653	40	68.6	114	359
Old Grove Rd.	South of Mission Ave.	7,878	40	67.3	84	266
College Blvd.	North of SR-76	43,732	50	76.8	764	2,417
College Blvd.	South of SR-76	17,982	50	73.0	314	994
N. Santa Fe Ave.	South of SR-76	22,394	50	73.9	391	1,238
N. Douglas Dr.	North of N. River Rd.	14,136	45	70.9	195	616
N. Douglas Dr.	N. River Rd. to Pala Drive	32,667	50	75.6	571	1,806
N. Douglas Dr.	Pala Dr. to El Camino Real	35,539	50	75.9	621	1,964
N. Douglas Dr.	El Camino Real to Mission	20,967	45	72.6	289	914
N. Douglas Dr.	Mission to SR-76	20,376	40	71.4	217	687
N. River Rd.	East of N. Douglas Dr.	12,728	45	70.5	175	555
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	3,537	25	60.6	18	57
Oceanside Blvd	West of El Camino Real	28,921	40	72.9	309	976
Oceanside Blvd	El Camino Real to RDO	25,588	55	75.5	558	1,766
Oceanside Blvd	East of RDO	28,067	55	75.9	612	1,937
Pala Rd.	N. Douglas Dr to Los Arbolitos	2,507	35	61.1	20	64

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4b: Existing Traffic Noise Conditions plus Project

					CNEL Contour Distances (feet)	
Roadway	Segment	ADT	Speed (MPH)	SPL	65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	24,743	65	77.1	808	2,555
SR-76	I-5 Ramps	37,549	65	78.9	1,226	3,877
SR-76	NB I-5 Ramps to Loretta St.	53,201	65	80.4	1,737	5,493
SR-76	Loretta to N. Canyon Rd.	51,989	65	80.3	1,697	5,368
SR-76	N. Canyon Rd. to Benet	59,926	65	80.9	1,957	6,187
SR-76	Benet to Airport	54,291	65	80.5	1,773	5,605
SR-76	Airport to Foussat	54,271	65	80.5	1,772	5,603
SR-76	Foussat to N. Douglas Rd.	59,141	65	80.9	1,931	6,106
SR-76	N. Douglas Rd. to RDO	50,395	65	80.2	1,645	5,203
SR-76	RDO to Old Grove Rd.	53,187	65	80.4	1,737	5,491
SR-76	Old Grove Rd. to Frazee	44,985	65	79.7	1,469	4,645
SR-76	Frazee to College Blvd.	47,923	65	80.0	1,565	4,948
SR-76	College Blvd to N. Santa Fe	46,268	65	79.8	1,511	4,777
SR-76	East of N. Santa Fe Ave.	54,707	65	80.5	1,786	5,648
SR-76	West of I-5 SB Ramps	26,654	50	74.7	466	1,473
SR-76	I-5 Ramps	33,558	50	75.7	587	1,855
SR-76	I-5 Ramps to N. Canyon	30,447	50	75.3	532	1,683
SR-76	N. Canyon to Mesa	27,476	50	74.8	480	1,519
SR-76	Mesa to Airport	22,015	50	73.9	385	1,217
Mission Ave	Airport to Foussat	24,298	50	74.3	425	1,343
Mission Ave	Foussat to El Camino Real	36,359	50	76.0	636	2,010
Mission Ave	El Camino Real to N. Douglas	24,071	50	74.3	421	1,331
Mission Ave	N. Douglas Rd. to RDO	27,248	50	74.8	476	1,506
Mission Ave	RDO to Old Grove Rd.	10,872	50	70.8	190	601
Mission Ave	East of Old Grove Rd.	7,362	50	69.1	129	407
N. Canyon Rd.	SR-76 to Mission Ave.	6,651	45	67.6	92	290
N. Canyon Rd.	South of Mission Ave.	13,526	45	70.7	186	589
N. Canyon Rd.	Mission to El Camino Real	7,209	35	65.7	58	184
Mesa Dr.	El Camino Real to RDO	12,432	45	70.3	171	542
Mesa Dr.	East of RDO	11,405	45	70.0	157	497
Airport Rd	SR-76 to Mission Ave.	4,064	35	63.2	33	104
Airport Rd	North of SR-76	29,156	50	75.1	510	1,612
Foussat Rd.	SR-76 to Mission Ave.	26,220	50	74.6	458	1,449
Foussat Rd.	Mission to Mesa Dr.	7,968	25	64.1	41	129
El Camino Real	N. Douglas Rd. to Los Arbolitos.	19,192	30	69.3	133	422
El Camino Real	Los Arbolitos to Mission Ave.	25,806	45	73.5	356	1,124
El Camino Real	Mission to Mesa Dr.	23,167	45	73.1	319	1,010
El Camino Real	Mesa to Oceanside Blvd	31,793	45	74.4	438	1,385
El Camino Real	South of Oceanside Blvd.	34,378	45	74.8	474	1,498
Rancho Del Oro	N. Douglas to Mission Ave	14,136	35	68.6	114	361
Rancho Del Oro	Mission to SR-76	8,111	35	66.2	66	207
Rancho Del Oro	SR-76 to Mesa Dr.	14,671	35	68.8	119	375
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	11,861	45	70.1	163	517
Rancho Del Oro	South of Oceanside Blvd.	10,642	45	69.7	147	464
Frazee Rd.	North of SR-76	5,474	20	61.0	20	63
Frazee Rd.	SR-76 to Mission Ave.	9,331	35	66.8	75	239
Old Grove Rd.	North of SR-76	7,390	40	67.0	79	249
Old Grove Rd.	South of SR-76	11,618	40	68.9	124	392
Old Grove Rd.	South of Mission Ave.	8,522	40	67.6	91	287
College Blvd.	North of SR-76	44,054	50	76.9	770	2,435
College Blvd.	South of SR-76	17,982	50	73.0	314	994
N. Santa Fe Ave.	South of SR-76	22,394	50	73.9	391	1,238
N. Douglas Dr.	North of N. River Rd.	15,423	45	71.3	213	672
N. Douglas Dr.	N. River Rd. to Pala Drive	35,241	50	75.9	616	1,948
N. Douglas Dr.	Pala Dr. to El Camino Real	39,722	50	76.4	694	2,196
N. Douglas Dr.	El Camino Real to Mission	24,828	45	73.4	342	1,082
N. Douglas Dr.	Mission to SR-76	23,594	40	72.0	252	796
N. River Rd.	East of N. Douglas Dr.	13,693	45	70.8	189	597
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	5,789	25	62.7	30	94
Oceanside Blvd	West of El Camino Real	29,243	40	73.0	312	986
Oceanside Blvd	El Camino Real to RDO	25,588	55	75.5	558	1,766
Oceanside Blvd	East of RDO	28,067	55	75.9	612	1,937
Pala Rd.	N. Douglas Dr to Los Arbolitos	3,472	35	62.5	28	89

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4c: Cumulative Traffic Conditions without Project

					CNEL Contour Distances (feet)	
Roadway	Segment	ADT	Speed (MPH)	SPL	65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	25,850	65	77.3	844	2,669
SR-76	I-5 Ramps	38,946	65	79.1	1,272	4,021
SR-76	NB I-5 Ramps to Loretta St.	56,213	65	80.6	1,835	5,804
SR-76	Loretta to N. Canyon Rd.	55,034	65	80.6	1,797	5,682
SR-76	N. Canyon Rd. to Benet	63,559	65	81.2	2,075	6,562
SR-76	Benet to Airport	57,643	65	80.8	1,882	5,952
SR-76	Airport to Foussat	57,528	65	80.7	1,878	5,940
SR-76	Foussat to N. Douglas Rd.	60,850	65	81.0	1,987	6,283
SR-76	N. Douglas Rd. to RDO	51,926	65	80.3	1,695	5,361
SR-76	RDO to Old Grove Rd.	54,542	65	80.5	1,781	5,631
SR-76	Old Grove Rd. to Frazee	46,913	65	79.9	1,532	4,844
SR-76	Frazee to College Blvd.	50,559	65	80.2	1,651	5,220
SR-76	College Blvd to N. Santa Fe	52,056	65	80.3	1,700	5,375
SR-76	East of N. Santa Fe Ave.	59,951	65	80.9	1,957	6,190
SR-76	West of I-5 SB Ramps	28,492	50	75.0	498	1,575
SR-76	I-5 Ramps	34,565	50	75.8	604	1,911
SR-76	I-5 Ramps to N. Canyon	29,779	50	75.2	521	1,646
SR-76	N. Canyon to Mesa	25,588	50	74.5	447	1,414
SR-76	Mesa to Airport	19,519	50	73.3	341	1,079
Mission Ave	Airport to Foussat	20,996	50	73.7	367	1,161
Mission Ave	Foussat to El Camino Real	24,664	50	74.4	431	1,363
Mission Ave	El Camino Real to N. Douglas	20,424	50	73.5	357	1,129
Mission Ave	N. Douglas Rd. to RDO	25,046	50	74.4	438	1,384
Mission Ave	RDO to Old Grove Rd.	10,228	50	70.5	179	565
Mission Ave	East of Old Grove Rd.	7,362	50	69.1	129	407
N. Canyon Rd.	SR-76 to Mission Ave.	5,529	45	66.8	76	241
N. Canyon Rd.	South of Mission Ave.	12,947	45	70.5	178	564
N. Canyon Rd.	Mission to El Camino Real	6,220	35	65.0	50	159
Mesa Dr.	El Camino Real to RDO	14,843	45	71.1	205	647
Mesa Dr.	East of RDO	15,026	45	71.2	207	655
Airport Rd	SR-76 to Mission Ave.	3,724	35	62.8	30	95
Airport Rd	North of SR-76	6,055	50	68.3	106	335
Foussat Rd.	SR-76 to Mission Ave.	12,141	50	71.3	212	671
Foussat Rd.	Mission to Mesa Dr.	5,716	25	62.7	29	92
El Camino Real	N. Douglas Rd. to Los Arbolitos.	18,093	30	69.0	126	398
El Camino Real	Los Arbolitos to Mission Ave.	23,137	45	73.0	319	1,008
El Camino Real	Mission to Mesa Dr.	24,199	45	73.2	333	1,054
El Camino Real	Mesa to Oceanside Blvd	33,710	45	74.7	465	1,469
El Camino Real	South of Oceanside Blvd.	40,437	45	75.5	557	1,762
Rancho Del Oro	N. Douglas to Mission Ave	14,186	35	68.6	115	363
Rancho Del Oro	Mission to SR-76	9,833	35	67.0	80	251
Rancho Del Oro	SR-76 to Mesa Dr.	20,559	35	70.2	166	526
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	18,704	45	72.1	258	815
Rancho Del Oro	South of Oceanside Blvd.	17,099	45	71.7	236	745
Frazee Rd.	North of SR-76	5,774	20	61.2	21	66
Frazee Rd.	SR-76 to Mission Ave.	9,451	35	66.8	76	242
Old Grove Rd.	North of SR-76	7,390	40	67.0	79	249
Old Grove Rd.	South of SR-76	11,245	40	68.8	120	379
Old Grove Rd.	South of Mission Ave.	8,445	40	67.6	90	285
College Blvd.	North of SR-76	46,072	50	77.1	805	2,547
College Blvd.	South of SR-76	24,368	50	74.3	426	1,347
N. Santa Fe Ave.	South of SR-76	22,479	50	74.0	393	1,243
N. Douglas Dr.	North of N. River Rd.	14,783	45	71.1	204	644
N. Douglas Dr.	N. River Rd. to Pala Drive	34,087	50	75.8	596	1,884
N. Douglas Dr.	Pala Dr. to El Camino Real	37,430	50	76.2	654	2,069
N. Douglas Dr.	El Camino Real to Mission	22,417	45	72.9	309	977
N. Douglas Dr.	Mission to SR-76	21,370	40	71.6	228	721
N. River Rd.	East of N. Douglas Dr.	15,035	45	71.2	207	655
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	3,537	25	60.6	18	57
Oceanside Blvd	West of El Camino Real	32,569	40	73.4	347	1,099
Oceanside Blvd	El Camino Real to RDO	31,675	55	76.4	691	2,186
Oceanside Blvd	East of RDO	36,299	55	77.0	792	2,505
Pala Rd.	N. Douglas Dr to Los Arbolitos	2,607	35	61.2	21	67

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4d: Cumulative Traffic Conditions with Project

					CNEL Contour Distances (feet)	
Roadway	Segment	ADT	Speed (MPH)	SPL	65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	26,494	65	77.4	865	2,735
SR-76	I-5 Ramps	39,911	65	79.2	1,303	4,121
SR-76	NB I-5 Ramps to Loretta St.	57,500	65	80.7	1,877	5,937
SR-76	Loretta to N. Canyon Rd.	56,965	65	80.7	1,860	5,881
SR-76	N. Canyon Rd. to Benet	66,777	65	81.4	2,180	6,895
SR-76	Benet to Airport	61,182	65	81.0	1,998	6,317
SR-76	Airport to Foussat	61,389	65	81.0	2,004	6,338
SR-76	Foussat to N. Douglas Rd.	66,320	65	81.4	2,165	6,847
SR-76	N. Douglas Rd. to RDO	55,144	65	80.6	1,800	5,693
SR-76	RDO to Old Grove Rd.	56,794	65	80.7	1,854	5,864
SR-76	Old Grove Rd. to Frazee	48,200	65	80.0	1,574	4,977
SR-76	Frazee to College Blvd.	51,846	65	80.3	1,693	5,353
SR-76	College Blvd to N. Santa Fe	53,021	65	80.4	1,731	5,474
SR-76	East of N. Santa Fe Ave.	60,916	65	81.0	1,989	6,289
SR-76	West of I-5 SB Ramps	28,814	50	75.0	504	1,593
SR-76	I-5 Ramps	35,209	50	75.9	615	1,946
SR-76	I-5 Ramps to N. Canyon	31,710	50	75.4	554	1,753
SR-76	N. Canyon to Mesa	28,806	50	75.0	504	1,592
SR-76	Mesa to Airport	23,380	50	74.1	409	1,292
Mission Ave	Airport to Foussat	25,822	50	74.6	451	1,427
Mission Ave	Foussat to El Camino Real	37,212	50	76.1	650	2,057
Mission Ave	El Camino Real to N. Douglas	24,285	50	74.3	425	1,342
Mission Ave	N. Douglas Rd. to RDO	27,298	50	74.8	477	1,509
Mission Ave	RDO to Old Grove Rd.	10,872	50	70.8	190	601
Mission Ave	East of Old Grove Rd.	7,362	50	69.1	129	407
N. Canyon Rd.	SR-76 to Mission Ave.	6,816	45	67.7	94	297
N. Canyon Rd.	South of Mission Ave.	13,591	45	70.7	187	592
N. Canyon Rd.	Mission to El Camino Real	7,829	35	66.0	63	200
Mesa Dr.	El Camino Real to RDO	14,843	45	71.1	205	647
Mesa Dr.	East of RDO	15,026	45	71.2	207	655
Airport Rd	SR-76 to Mission Ave.	4,689	35	63.8	38	120
Airport Rd	North of SR-76	29,221	50	75.1	511	1,615
Foussat Rd.	SR-76 to Mission Ave.	26,298	50	74.6	460	1,454
Foussat Rd.	Mission to Mesa Dr.	7,968	25	64.1	41	129
El Camino Real	N. Douglas Rd. to Los Arbolitos.	19,380	30	69.3	135	426
El Camino Real	Los Arbolitos to Mission Ave.	26,355	45	73.6	363	1,148
El Camino Real	Mission to Mesa Dr.	26,130	45	73.6	360	1,139
El Camino Real	Mesa to Oceanside Blvd	34,514	45	74.8	476	1,504
El Camino Real	South of Oceanside Blvd.	41,402	45	75.6	571	1,804
Rancho Del Oro	N. Douglas to Mission Ave	14,186	35	68.6	115	363
Rancho Del Oro	Mission to SR-76	10,155	35	67.2	82	260
Rancho Del Oro	SR-76 to Mesa Dr.	21,846	35	70.5	177	559
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	19,348	45	72.3	267	843
Rancho Del Oro	South of Oceanside Blvd.	17,421	45	71.8	240	759
Frazee Rd.	North of SR-76	5,774	20	61.2	21	66
Frazee Rd.	SR-76 to Mission Ave.	9,451	35	66.8	76	242
Old Grove Rd.	North of SR-76	7,390	40	67.0	79	249
Old Grove Rd.	South of SR-76	12,210	40	69.2	130	412
Old Grove Rd.	South of Mission Ave.	9,089	40	67.9	97	307
College Blvd.	North of SR-76	46,394	50	77.1	811	2,564
College Blvd.	South of SR-76	24,368	50	74.3	426	1,347
N. Santa Fe Ave.	South of SR-76	22,479	50	74.0	393	1,243
N. Douglas Dr.	North of N. River Rd.	16,070	45	71.5	221	700
N. Douglas Dr.	N. River Rd. to Pala Drive	36,661	50	76.1	641	2,027
N. Douglas Dr.	Pala Dr. to El Camino Real	41,613	50	76.6	727	2,300
N. Douglas Dr.	El Camino Real to Mission	26,278	45	73.6	362	1,145
N. Douglas Dr.	Mission to SR-76	24,588	40	72.2	262	829
N. River Rd.	East of N. Douglas Dr.	16,000	45	71.4	220	697
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	5,789	25	62.7	30	94
Oceanside Blvd	West of El Camino Real	32,891	40	73.5	351	1,109
Oceanside Blvd	El Camino Real to RDO	31,675	55	76.4	691	2,186
Oceanside Blvd	East of RDO	36,299	55	77.0	792	2,505
Pala Rd.	N. Douglas Dr to Los Arbolitos	3,572	35	62.6	29	91

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4e: 2020 Traffic Conditions with Pala Extension without Project

Roadway	Segment	ADT	Speed (MPH)	SPL	CNEL Contour Distances (feet)	
					65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	27,714	65	77.6	905	2,861
SR-76	I-5 Ramps	40,242	65	79.2	1,314	4,155
SR-76	NB I-5 Ramps to Loretta St.	59,701	65	80.9	1,949	6,164
SR-76	Loretta to N. Canyon Rd.	57,567	65	80.8	1,880	5,944
SR-76	N. Canyon Rd. to Benet	66,050	65	81.3	2,157	6,820
SR-76	Benet to Airport	63,440	65	81.2	2,071	6,550
SR-76	Airport to Foussat	62,273	65	81.1	2,033	6,430
SR-76	Foussat to N. Douglas Rd.	64,739	65	81.3	2,114	6,684
SR-76	N. Douglas Rd. to RDO	54,262	65	80.5	1,772	5,602
SR-76	RDO to Old Grove Rd.	57,575	65	80.8	1,880	5,945
SR-76	Old Grove Rd. to Frazee	53,185	65	80.4	1,736	5,491
SR-76	Frazee to College Blvd.	53,631	65	80.4	1,751	5,537
SR-76	College Blvd to N. Santa Fe	58,527	65	80.8	1,911	6,043
SR-76	East of N. Santa Fe Ave.	61,803	65	81.1	2,018	6,381
SR-76	West of I-5 SB Ramps	33,276	50	75.7	582	1,839
SR-76	I-5 Ramps	36,205	50	76.0	633	2,001
SR-76	I-5 Ramps to N. Canyon	28,408	50	75.0	497	1,570
SR-76	N. Canyon to Mesa	25,588	50	74.5	447	1,414
SR-76	Mesa to Airport	21,470	50	73.8	375	1,187
Mission Ave	Airport to Foussat	23,095	50	74.1	404	1,277
Mission Ave	Foussat to El Camino Real	27,750	50	74.9	485	1,534
Mission Ave	El Camino Real to N. Douglas	25,263	50	74.5	442	1,396
Mission Ave	N. Douglas Rd. to RDO	27,496	50	74.8	481	1,520
Mission Ave	RDO to Old Grove Rd.	15,936	50	72.5	279	881
Mission Ave	East of Old Grove Rd.	7,510	50	69.2	131	415
N. Canyon Rd.	SR-76 to Mission Ave.	12,655	45	70.4	174	551
N. Canyon Rd.	South of Mission Ave.	15,086	45	71.2	208	657
N. Canyon Rd.	Mission to El Camino Real	10,327	35	67.2	84	264
Mesa Dr.	El Camino Real to RDO	15,717	45	71.4	217	685
Mesa Dr.	East of RDO	16,528	45	71.6	228	720
Airport Rd	SR-76 to Mission Ave.	5,232	35	64.3	42	134
Airport Rd	North of SR-76	11,990	50	71.2	210	663
Foussat Rd.	SR-76 to Mission Ave.	18,500	50	73.1	323	1,023
Foussat Rd.	Mission to Mesa Dr.	8,939	25	64.6	46	145
El Camino Real	N. Douglas Rd. to Los Arbolitos.	22,672	30	70.0	158	499
El Camino Real	Los Arbolitos to Mission Ave.	27,050	45	73.7	373	1,179
El Camino Real	Mission to Mesa Dr.	26,545	45	73.6	366	1,157
El Camino Real	Mesa to Oceanside Blvd	35,637	45	74.9	491	1,553
El Camino Real	South of Oceanside Blvd.	45,976	45	76.0	634	2,003
Rancho Del Oro	N. Douglas to Mission Ave	15,550	35	69.0	126	398
Rancho Del Oro	Mission to SR-76	11,194	35	67.6	91	286
Rancho Del Oro	SR-76 to Mesa Dr.	24,127	35	70.9	195	617
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	21,332	45	72.7	294	930
Rancho Del Oro	South of Oceanside Blvd.	33,427	45	74.6	461	1,457
Frazee Rd.	North of SR-76	6,021	20	61.4	22	69
Frazee Rd.	SR-76 to Mission Ave.	10,264	35	67.2	83	262
Old Grove Rd.	North of SR-76	8,129	40	67.4	87	274
Old Grove Rd.	South of SR-76	13,513	40	69.6	144	456
Old Grove Rd.	South of Mission Ave.	15,188	40	70.1	162	512
College Blvd.	North of SR-76	39,226	50	76.4	686	2,168
College Blvd.	South of SR-76	26,547	50	74.7	464	1,467
N. Santa Fe Ave.	South of SR-76	24,633	50	74.4	431	1,362
N. Douglas Dr.	North of N. River Rd.	16,256	45	71.5	224	708
N. Douglas Dr.	N. River Rd. to Pala Drive	36,567	50	76.1	639	2,021
N. Douglas Dr.	Pala Dr. to El Camino Real	38,297	50	76.3	669	2,117
N. Douglas Dr.	El Camino Real to Mission	22,308	45	72.9	307	972
N. Douglas Dr.	Mission to SR-76	23,120	40	71.9	247	780
N. River Rd.	East of N. Douglas Dr.	18,724	45	72.1	258	816
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	8,200	25	64.2	42	133
Oceanside Blvd	West of El Camino Real	34,870	40	73.7	372	1,176
Oceanside Blvd	El Camino Real to RDO	44,632	55	77.9	974	3,080
Oceanside Blvd	East of RDO	42,285	55	77.7	923	2,918
Pala Rd.	N. Douglas Dr to Los Arbolitos	12,100	35	67.9	98	309
Pala Rd.	Los Arbolitos to Foussat Rd.	6,000	35	64.9	49	106

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4f: 2020 Traffic Conditions with Pala Extension with Project

Roadway	Segment	ADT	Speed (MPH)	SPL	CNEL Contour Distances (feet) 65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	28,358	65	77.7	926	2,928
SR-76	I-5 Ramps	41,207	65	79.3	1,345	4,255
SR-76	NB I-5 Ramps to Loretta St.	60,988	65	81.0	1,991	6,297
SR-76	Loretta to N. Canyon Rd.	59,498	65	80.9	1,943	6,143
SR-76	N. Canyon Rd. to Benet	69,268	65	81.6	2,262	7,152
SR-76	Benet to Airport	66,979	65	81.4	2,187	6,915
SR-76	Airport to Foussat	66,134	65	81.4	2,159	6,828
SR-76	Foussat to N. Douglas Rd.	67,957	65	81.5	2,219	7,016
SR-76	N. Douglas Rd. to RDO	57,480	65	80.7	1,877	5,935
SR-76	RDO to Old Grove Rd.	59,827	65	80.9	1,953	6,177
SR-76	Old Grove Rd. to Frazee	54,472	65	80.5	1,779	5,624
SR-76	Frazee to College Blvd.	54,918	65	80.5	1,793	5,670
SR-76	College Blvd to N. Santa Fe	59,492	65	80.9	1,942	6,142
SR-76	East of N. Santa Fe Ave.	62,768	65	81.1	2,049	6,481
SR-76	West of I-5 SB Ramps	33,598	50	75.7	587	1,857
SR-76	I-5 Ramps	36,849	50	76.1	644	2,037
SR-76	I-5 Ramps to N. Canyon	30,339	50	75.3	530	1,677
SR-76	N. Canyon to Mesa	28,806	50	75.0	504	1,592
SR-76	Mesa to Airport	25,331	50	74.5	443	1,400
Mission Ave	Airport to Foussat	27,921	50	74.9	488	1,543
Mission Ave	Foussat to El Camino Real	38,368	50	76.3	671	2,121
Mission Ave	El Camino Real to N. Douglas	29,768	50	75.2	520	1,645
Mission Ave	N. Douglas Rd. to RDO	29,748	50	75.2	520	1,644
Mission Ave	RDO to Old Grove Rd.	16,901	50	72.7	295	934
Mission Ave	East of Old Grove Rd.	7,510	50	69.2	131	415
N. Canyon Rd.	SR-76 to Mission Ave.	13,942	45	70.8	192	608
N. Canyon Rd.	South of Mission Ave.	15,730	45	71.4	217	685
N. Canyon Rd.	Mission to El Camino Real	11,936	35	67.9	97	305
Mesa Dr.	El Camino Real to RDO	15,717	45	71.4	217	685
Mesa Dr.	East of RDO	16,528	45	71.6	228	720
Airport Rd	SR-76 to Mission Ave.	6,197	35	65.0	50	158
Airport Rd	North of SR-76	29,365	50	75.1	513	1,623
Foussat Rd.	SR-76 to Mission Ave.	29,118	50	75.1	509	1,610
Foussat Rd.	Mission to Mesa Dr.	11,191	25	65.6	57	181
El Camino Real	N. Douglas Rd. to Los Arbolitos.	23,316	30	70.1	162	513
El Camino Real	Los Arbolitos to Mission Ave.	28,015	45	73.9	386	1,221
El Camino Real	Mission to Mesa Dr.	28,476	45	73.9	392	1,241
El Camino Real	Mesa to Oceanside Blvd	36,441	45	75.0	502	1,588
El Camino Real	South of Oceanside Blvd.	46,941	45	76.1	647	2,046
Rancho Del Oro	N. Douglas to Mission Ave	16,837	35	69.4	136	431
Rancho Del Oro	Mission to SR-76	11,516	35	67.7	93	294
Rancho Del Oro	SR-76 to Mesa Dr.	25,414	35	71.1	205	650
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	21,976	45	72.8	303	958
Rancho Del Oro	South of Oceanside Blvd.	33,749	45	74.7	465	1,471
Frazee Rd.	North of SR-76	6,021	20	61.4	22	69
Frazee Rd.	SR-76 to Mission Ave.	10,264	35	67.2	83	262
Old Grove Rd.	North of SR-76	8,129	40	67.4	87	274
Old Grove Rd.	South of SR-76	14,478	40	69.9	154	488
Old Grove Rd.	South of Mission Ave.	15,832	40	70.3	169	534
College Blvd.	North of SR-76	39,548	50	76.4	691	2,186
College Blvd.	South of SR-76	26,547	50	74.7	464	1,467
N. Santa Fe Ave.	South of SR-76	24,633	50	74.4	431	1,362
N. Douglas Dr.	North of N. River Rd.	17,543	45	71.8	242	764
N. Douglas Dr.	N. River Rd. to Pala Drive	39,141	50	76.4	684	2,164
N. Douglas Dr.	Pala Dr. to El Camino Real	39,262	50	76.4	686	2,170
N. Douglas Dr.	El Camino Real to Mission	23,595	45	73.1	325	1,028
N. Douglas Dr.	Mission to SR-76	23,764	40	72.0	253	802
N. River Rd.	East of N. Douglas Dr.	19,689	45	72.3	271	858
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	9,809	25	65.0	50	159
Oceanside Blvd	West of El Camino Real	35,192	40	73.8	375	1,187
Oceanside Blvd	El Camino Real to RDO	44,632	55	77.9	974	3,080
Oceanside Blvd	East of RDO	42,285	55	77.7	923	2,918
Pala Rd.	N. Douglas Dr to Los Arbolitos	15,318	35	68.9	124	392
Pala Rd.	Los Arbolitos to Foussat Rd.	10,836	35	67.4	73	157

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4g: 2020 Traffic Conditions without Pala Extension without Project

Roadway	Segment	ADT	Speed (MPH)	SPL	CNEL Contour Distances (feet) 65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	27,714	65	77.6	905	2,861
SR-76	I-5 Ramps	40,242	65	79.2	1,314	4,155
SR-76	NB I-5 Ramps to Loretta St.	59,701	65	80.9	1,949	6,164
SR-76	Loretta to N. Canyon Rd.	57,567	65	80.8	1,880	5,944
SR-76	N. Canyon Rd. to Benet	66,050	65	81.3	2,157	6,820
SR-76	Benet to Airport	63,440	65	81.2	2,071	6,550
SR-76	Airport to Foussat	62,273	65	81.1	2,033	6,430
SR-76	Foussat to N. Douglas Rd.	66,539	65	81.4	2,172	6,870
SR-76	N. Douglas Rd. to RDO	54,262	65	80.5	1,772	5,602
SR-76	RDO to Old Grove Rd.	57,575	65	80.8	1,880	5,945
SR-76	Old Grove Rd. to Frazee	53,185	65	80.4	1,736	5,491
SR-76	Frazee to College Blvd.	53,631	65	80.4	1,751	5,537
SR-76	College Blvd to N. Santa Fe	58,527	65	80.8	1,911	6,043
SR-76	East of N. Santa Fe Ave.	61,803	65	81.1	2,018	6,381
SR-76	West of I-5 SB Ramps	33,276	50	75.7	582	1,839
SR-76	I-5 Ramps	36,205	50	76.0	633	2,001
SR-76	I-5 Ramps to N. Canyon	28,408	50	75.0	497	1,570
SR-76	N. Canyon to Mesa	25,588	50	74.5	447	1,414
SR-76	Mesa to Airport	21,470	50	73.8	375	1,187
Mission Ave	Airport to Foussat	23,095	50	74.1	404	1,277
Mission Ave	Foussat to El Camino Real	31,950	50	75.5	558	1,766
Mission Ave	El Camino Real to N. Douglas	26,163	50	74.6	457	1,446
Mission Ave	N. Douglas Rd. to RDO	27,496	50	74.8	481	1,520
Mission Ave	RDO to Old Grove Rd.	15,936	50	72.5	279	881
Mission Ave	East of Old Grove Rd.	7,510	50	69.2	131	415
N. Canyon Rd.	SR-76 to Mission Ave.	12,655	45	70.4	174	551
N. Canyon Rd.	South of Mission Ave.	15,086	45	71.2	208	657
N. Canyon Rd.	Mission to El Camino Real	10,327	35	67.2	84	264
Mesa Dr.	El Camino Real to RDO	15,717	45	71.4	217	685
Mesa Dr.	East of RDO	16,528	45	71.6	228	720
Airport Rd	SR-76 to Mission Ave.	5,232	35	64.3	42	134
Airport Rd	North of SR-76	5,990	50	68.2	105	331
Foussat Rd.	SR-76 to Mission Ave.	14,300	50	72.0	250	790
Foussat Rd.	Mission to Mesa Dr.	8,939	25	64.6	46	145
El Camino Real	N. Douglas Rd. to Los Arbolitos.	23,572	30	70.2	164	518
El Camino Real	Los Arbolitos to Mission Ave.	30,350	45	74.2	418	1,323
El Camino Real	Mission to Mesa Dr.	26,545	45	73.6	366	1,157
El Camino Real	Mesa to Oceanside Blvd	35,637	45	74.9	491	1,553
El Camino Real	South of Oceanside Blvd.	45,976	45	76.0	634	2,003
Rancho Del Oro	N. Douglas to Mission Ave	15,550	35	69.0	126	398
Rancho Del Oro	Mission to SR-76	11,194	35	67.6	91	286
Rancho Del Oro	SR-76 to Mesa Dr.	24,127	35	70.9	195	617
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	21,332	45	72.7	294	930
Rancho Del Oro	South of Oceanside Blvd.	33,427	45	74.6	461	1,457
Frazee Rd.	North of SR-76	6,021	20	61.4	22	69
Frazee Rd.	SR-76 to Mission Ave.	10,264	35	67.2	83	262
Old Grove Rd.	North of SR-76	8,129	40	67.4	87	274
Old Grove Rd.	South of SR-76	13,513	40	69.6	144	456
Old Grove Rd.	South of Mission Ave.	15,188	40	70.1	162	512
College Blvd.	North of SR-76	39,226	50	76.4	686	2,168
College Blvd.	South of SR-76	26,547	50	74.7	464	1,467
N. Santa Fe Ave.	South of SR-76	24,633	50	74.4	431	1,362
N. Douglas Dr.	North of N. River Rd.	16,256	45	71.5	224	708
N. Douglas Dr.	N. River Rd. to Pala Drive	36,567	50	76.1	639	2,021
N. Douglas Dr.	Pala Dr. to El Camino Real	41,897	50	76.7	732	2,316
N. Douglas Dr.	El Camino Real to Mission	25,008	45	73.4	345	1,090
N. Douglas Dr.	Mission to SR-76	24,920	40	72.3	266	841
N. River Rd.	East of N. Douglas Dr.	18,724	45	72.1	258	816
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	8,200	25	64.2	42	133
Oceanside Blvd	West of El Camino Real	34,870	40	73.7	372	1,176
Oceanside Blvd	El Camino Real to RDO	44,632	55	77.9	974	3,080
Oceanside Blvd	East of RDO	42,285	55	77.7	923	2,918
Pala Rd.	N. Douglas Dr to Los Arbolitos	9,400	35	66.8	76	240
Pala Rd.	Los Arbolitos to Foussat Rd.	3,400	35	62.4	34	72

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4h: 2020 Traffic Conditions without Pala Extension with Project

Roadway	Segment	ADT	Speed (MPH)	SPL	CNEL Contour Distances (feet) 65 dBA Contour	60 dBA Contour
SR-76	West of I-5 SB Ramps	28,358	65	77.7	926	2,928
SR-76	I-5 Ramps	41,207	65	79.3	1,345	4,255
SR-76	NB I-5 Ramps to Loretta St.	60,988	65	81.0	1,991	6,297
SR-76	Loretta to N. Canyon Rd.	59,498	65	80.9	1,943	6,143
SR-76	N. Canyon Rd. to Benet	69,268	65	81.6	2,262	7,152
SR-76	Benet to Airport	66,979	65	81.4	2,187	6,915
SR-76	Airport to Foussat	66,134	65	81.4	2,159	6,828
SR-76	Foussat to N. Douglas Rd.	72,009	65	81.7	2,351	7,435
SR-76	N. Douglas Rd. to RDO	57,480	65	80.7	1,877	5,935
SR-76	RDO to Old Grove Rd.	59,827	65	80.9	1,953	6,177
SR-76	Old Grove Rd. to Frazee	54,472	65	80.5	1,779	5,624
SR-76	Frazee to College Blvd.	54,918	65	80.5	1,793	5,670
SR-76	College Blvd to N. Santa Fe	59,492	65	80.9	1,942	6,142
SR-76	East of N. Santa Fe Ave.	62,768	65	81.1	2,049	6,481
SR-76	West of I-5 SB Ramps	33,598	50	75.7	587	1,857
SR-76	I-5 Ramps	36,849	50	76.1	644	2,037
SR-76	I-5 Ramps to N. Canyon	30,339	50	75.3	530	1,677
SR-76	N. Canyon to Mesa	28,806	50	75.0	504	1,592
SR-76	Mesa to Airport	25,331	50	74.5	443	1,400
Mission Ave	Airport to Foussat	27,921	50	74.9	488	1,543
Mission Ave	Foussat to El Camino Real	44,498	50	76.9	778	2,460
Mission Ave	El Camino Real to N. Douglas	30,024	50	75.2	525	1,660
Mission Ave	N. Douglas Rd. to RDO	29,748	50	75.2	520	1,644
Mission Ave	RDO to Old Grove Rd.	16,580	50	72.6	290	916
Mission Ave	East of Old Grove Rd.	7,510	50	69.2	131	415
N. Canyon Rd.	SR-76 to Mission Ave.	13,942	45	70.8	192	608
N. Canyon Rd.	South of Mission Ave.	15,730	45	71.4	217	685
N. Canyon Rd.	Mission to El Camino Real	11,936	35	67.9	97	305
Mesa Dr.	El Camino Real to RDO	15,717	45	71.4	217	685
Mesa Dr.	East of RDO	16,528	45	71.6	228	720
Airport Rd	SR-76 to Mission Ave.	6,197	35	65.0	50	158
Airport Rd	North of SR-76	29,156	50	75.1	510	1,612
Foussat Rd.	SR-76 to Mission Ave.	28,457	50	75.0	497	1,573
Foussat Rd.	Mission to Mesa Dr.	9,500	25	64.9	49	154
El Camino Real	N. Douglas Rd. to Los Arbolitos.	24,859	30	70.4	173	547
El Camino Real	Los Arbolitos to Mission Ave.	33,568	45	74.7	463	1,463
El Camino Real	Mission to Mesa Dr.	28,476	45	73.9	392	1,241
El Camino Real	Mesa to Oceanside Blvd	36,441	45	75.0	502	1,588
El Camino Real	South of Oceanside Blvd.	46,941	45	76.1	647	2,046
Rancho Del Oro	N. Douglas to Mission Ave	15,550	35	69.0	126	398
Rancho Del Oro	Mission to SR-76	11,516	35	67.7	93	294
Rancho Del Oro	SR-76 to Mesa Dr.	25,414	35	71.1	205	650
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	21,976	45	72.8	303	958
Rancho Del Oro	South of Oceanside Blvd.	33,749	45	74.7	465	1,471
Frazee Rd.	North of SR-76	6,021	20	61.4	22	69
Frazee Rd.	SR-76 to Mission Ave.	10,264	35	67.2	83	262
Old Grove Rd.	North of SR-76	8,129	40	67.4	87	274
Old Grove Rd.	South of SR-76	14,478	40	69.9	154	488
Old Grove Rd.	South of Mission Ave.	15,832	40	70.3	169	534
College Blvd.	North of SR-76	39,548	50	76.4	691	2,186
College Blvd.	South of SR-76	26,547	50	74.7	464	1,467
N. Santa Fe Ave.	South of SR-76	24,633	50	74.4	431	1,362
N. Douglas Dr.	North of N. River Rd.	17,543	45	71.8	242	764
N. Douglas Dr.	N. River Rd. to Pala Drive	39,141	50	76.4	684	2,164
N. Douglas Dr.	Pala Dr. to El Camino Real	46,080	50	77.1	805	2,547
N. Douglas Dr.	El Camino Real to Mission	28,869	45	74.0	398	1,258
N. Douglas Dr.	Mission to SR-76	28,138	40	72.8	300	949
N. River Rd.	East of N. Douglas Dr.	19,689	45	72.3	271	858
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	10,452	25	65.3	53	169
Oceanside Blvd	West of El Camino Real	35,192	40	73.8	375	1,187
Oceanside Blvd	El Camino Real to RDO	44,632	55	77.9	974	3,080
Oceanside Blvd	East of RDO	42,285	55	77.7	923	2,918
Pala Rd.	N. Douglas Dr to Los Arbolitos	10,365	35	67.2	84	265
Pala Rd.	Los Arbolitos to Foussat Rd.	3,400	35	62.4	34	72

ADT = Average Daily Trips. SPL = Sound Pressure Level in dBA at 50-feet from the road edge. CNEL = Community Noise Exposure Level.

TABLE 4i: Existing plus Project Related Traffic Noise Increases

Roadway	Segment	Existing (SPL)	Existing plus Project (SPL)	Project Related Difference (SPL)
SR-76	West of I-5 SB Ramps	77.0	77.1	0.1
SR-76	I-5 Ramps	78.8	78.9	0.1
SR-76	NB I-5 Ramps to Loretta St.	80.3	80.4	0.1
SR-76	Loretta to N. Canyon Rd.	80.1	80.3	0.2
SR-76	N. Canyon Rd. to Benet	80.7	80.9	0.2
SR-76	Benet to Airport	80.2	80.5	0.3
SR-76	Airport to Foussat	80.2	80.5	0.3
SR-76	Foussat to N. Douglas Rd.	80.4	80.9	0.4
SR-76	N. Douglas Rd. to RDO	79.9	80.2	0.3
SR-76	RDO to Old Grove Rd.	80.2	80.4	0.2
SR-76	Old Grove Rd. to Frazee	79.6	79.7	0.1
SR-76	Frazee to College Blvd.	79.8	80.0	0.1
SR-76	College Blvd to N. Santa Fe	79.7	79.8	0.1
SR-76	East of N. Santa Fe Ave.	80.5	80.5	0.1
SR-76	West of I-5 SB Ramps	74.6	74.7	0.1
SR-76	I-5 Ramps	75.6	75.7	0.1
SR-76	I-5 Ramps to N. Canyon	75.0	75.3	0.3
SR-76	N. Canyon to Mesa	74.3	74.8	0.5
SR-76	Mesa to Airport	73.0	73.9	0.8
Mission Ave	Airport to Foussat	73.3	74.3	1.0
Mission Ave	Foussat to El Camino Real	74.2	76.0	1.8
Mission Ave	El Camino Real to N. Douglas	73.5	74.3	0.8
Mission Ave	N. Douglas Rd. to RDO	74.4	74.8	0.4
Mission Ave	RDO to Old Grove Rd.	70.5	70.8	0.3
Mission Ave	East of Old Grove Rd.	69.1	69.1	0.0
N. Canyon Rd.	SR-76 to Mission Ave.	66.7	67.6	0.9
N. Canyon Rd.	South of Mission Ave.	70.5	70.7	0.2
N. Canyon Rd.	Mission to El Camino Real	64.6	65.7	1.1
Mesa Dr.	El Camino Real to RDO	70.3	70.3	0.0
Mesa Dr.	East of RDO	70.0	70.0	0.0
Airport Rd	SR-76 to Mission Ave.	62.0	63.2	1.2
Airport Rd	North of SR-76	68.2	75.1	6.9
Foussat Rd.	SR-76 to Mission Ave.	71.3	74.6	3.4
Foussat Rd.	Mission to Mesa Dr.	62.7	64.1	1.4
El Camino Real	N. Douglas Rd. to Los Arbolitos.	69.0	69.3	0.3
El Camino Real	Los Arbolitos to Mission Ave.	72.9	73.5	0.6
El Camino Real	Mission to Mesa Dr.	72.7	73.1	0.4
El Camino Real	Mesa to Oceanside Blvd	74.3	74.4	0.1
El Camino Real	South of Oceanside Blvd.	74.6	74.8	0.1
Rancho Del Oro	N. Douglas to Mission Ave	68.6	68.6	0.0
Rancho Del Oro	Mission to SR-76	66.0	66.2	0.2
Rancho Del Oro	SR-76 to Mesa Dr.	68.4	68.8	0.4
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	69.9	70.1	0.2
Rancho Del Oro	South of Oceanside Blvd.	69.5	69.7	0.1
Frazee Rd.	North of SR-76	61.0	61.0	0.0
Frazee Rd.	SR-76 to Mission Ave.	66.8	66.8	0.0
Old Grove Rd.	North of SR-76	67.0	67.0	0.0
Old Grove Rd.	South of SR-76	68.6	68.9	0.4
Old Grove Rd.	South of Mission Ave.	67.3	67.6	0.3
College Blvd.	North of SR-76	76.8	76.9	0.0
College Blvd.	South of SR-76	73.0	73.0	0.0
N. Santa Fe Ave.	South of SR-76	73.9	73.9	0.0
N. Douglas Dr.	North of N. River Rd.	70.9	71.3	0.4
N. Douglas Dr.	N. River Rd. to Pala Drive	75.6	75.9	0.3
N. Douglas Dr.	Pala Dr. to El Camino Real	75.9	76.4	0.5
N. Douglas Dr.	El Camino Real to Mission	72.6	73.4	0.7
N. Douglas Dr.	Mission to SR-76	71.4	72.0	0.6
N. River Rd.	East of N. Douglas Dr.	70.5	70.8	0.3
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	60.6	62.7	2.1
Oceanside Blvd	West of El Camino Real	72.9	73.0	0.0
Oceanside Blvd	El Camino Real to RDO	75.5	75.5	0.0
Oceanside Blvd	East of RDO	75.9	75.9	0.0
Pala Rd.	N. Douglas Dr to Los Arbolitos	61.1	62.5	1.4

TABLE 4j: Cumulative plus Project Related Traffic Noise Increases

Roadway	Segment	Existing (SPL)	Existing plus Project (SPL)	Project Related Difference (SPL)
SR-76	West of I-5 SB Ramps	77.3	77.4	0.1
SR-76	I-5 Ramps	79.1	79.2	0.1
SR-76	NB I-5 Ramps to Loretta St.	80.6	80.7	0.1
SR-76	Loretta to N. Canyon Rd.	80.6	80.7	0.1
SR-76	N. Canyon Rd. to Benet	81.2	81.4	0.2
SR-76	Benet to Airport	80.8	81.0	0.3
SR-76	Airport to Foussat	80.7	81.0	0.3
SR-76	Foussat to N. Douglas Rd.	81.0	81.4	0.4
SR-76	N. Douglas Rd. to RDO	80.3	80.6	0.3
SR-76	RDO to Old Grove Rd.	80.5	80.7	0.2
SR-76	Old Grove Rd. to Frazee	79.9	80.0	0.1
SR-76	Frazee to College Blvd.	80.2	80.3	0.1
SR-76	College Blvd to N. Santa Fe	80.3	80.4	0.1
SR-76	East of N. Santa Fe Ave.	80.9	81.0	0.1
SR-76	West of I-5 SB Ramps	75.0	75.0	0.0
SR-76	I-5 Ramps	75.8	75.9	0.1
SR-76	I-5 Ramps to N. Canyon	75.2	75.4	0.3
SR-76	N. Canyon to Mesa	74.5	75.0	0.5
SR-76	Mesa to Airport	73.3	74.1	0.8
Mission Ave	Airport to Foussat	73.7	74.6	0.9
Mission Ave	Foussat to El Camino Real	74.4	76.1	1.8
Mission Ave	El Camino Real to N. Douglas	73.5	74.3	0.8
Mission Ave	N. Douglas Rd. to RDO	74.4	74.8	0.4
Mission Ave	RDO to Old Grove Rd.	70.5	70.8	0.3
Mission Ave	East of Old Grove Rd.	69.1	69.1	0.0
N. Canyon Rd.	SR-76 to Mission Ave.	66.8	67.7	0.9
N. Canyon Rd.	South of Mission Ave.	70.5	70.7	0.2
N. Canyon Rd.	Mission to El Camino Real	65.0	66.0	1.0
Mesa Dr.	El Camino Real to RDO	71.1	71.1	0.0
Mesa Dr.	East of RDO	71.2	71.2	0.0
Airport Rd	SR-76 to Mission Ave.	62.8	63.8	1.0
Airport Rd	North of SR-76	68.3	75.1	6.8
Foussat Rd.	SR-76 to Mission Ave.	71.3	74.6	3.4
Foussat Rd.	Mission to Mesa Dr.	62.7	64.1	1.4
El Camino Real	N. Douglas Rd. to Los Arbolitos.	69.0	69.3	0.3
El Camino Real	Los Arbolitos to Mission Ave.	73.0	73.6	0.6
El Camino Real	Mission to Mesa Dr.	73.2	73.6	0.3
El Camino Real	Mesa to Oceanside Blvd	74.7	74.8	0.1
El Camino Real	South of Oceanside Blvd.	75.5	75.6	0.1
Rancho Del Oro	N. Douglas to Mission Ave	68.6	68.6	0.0
Rancho Del Oro	Mission to SR-76	67.0	67.2	0.1
Rancho Del Oro	SR-76 to Mesa Dr.	70.2	70.5	0.3
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	72.1	72.3	0.1
Rancho Del Oro	South of Oceanside Blvd.	71.7	71.8	0.1
Frazee Rd.	North of SR-76	61.2	61.2	0.0
Frazee Rd.	SR-76 to Mission Ave.	66.8	66.8	0.0
Old Grove Rd.	North of SR-76	67.0	67.0	0.0
Old Grove Rd.	South of SR-76	68.8	69.2	0.4
Old Grove Rd.	South of Mission Ave.	67.6	67.9	0.3
College Blvd.	North of SR-76	77.1	77.1	0.0
College Blvd.	South of SR-76	74.3	74.3	0.0
N. Santa Fe Ave.	South of SR-76	74.0	74.0	0.0
N. Douglas Dr.	North of N. River Rd.	71.1	71.5	0.4
N. Douglas Dr.	N. River Rd. to Pala Drive	75.8	76.1	0.3
N. Douglas Dr.	Pala Dr. to El Camino Real	76.2	76.6	0.5
N. Douglas Dr.	El Camino Real to Mission	72.9	73.6	0.7
N. Douglas Dr.	Mission to SR-76	71.6	72.2	0.6
N. River Rd.	East of N. Douglas Dr.	71.2	71.4	0.3
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	60.6	62.7	2.1
Oceanside Blvd	West of El Camino Real	73.4	73.5	0.0
Oceanside Blvd	El Camino Real to RDO	76.4	76.4	0.0
Oceanside Blvd	East of RDO	77.0	77.0	0.0
Pala Rd.	N. Douglas Dr to Los Arbolitos	61.2	62.6	1.4

TABLE 4k: 2020 Pala Extension Traffic Noise Increases

Roadway	Segment	2020 w/o Pala (SPL)	2020 w/ Pala (SPL)	Project Related Difference (SPL)
SR-76	West of I-5 SB Ramps	77.6	77.7	0.1
SR-76	I-5 Ramps	79.2	79.3	0.1
SR-76	NB I-5 Ramps to Loretta St.	80.9	81.0	0.1
SR-76	Loretta to N. Canyon Rd.	80.8	80.9	0.1
SR-76	N. Canyon Rd. to Benet	81.3	81.6	0.2
SR-76	Benet to Airport	81.2	81.4	0.2
SR-76	Airport to Foussat	81.1	81.4	0.3
SR-76	Foussat to N. Douglas Rd.	81.4	81.7	0.3
SR-76	N. Douglas Rd. to RDO	80.5	80.7	0.3
SR-76	RDO to Old Grove Rd.	80.8	80.9	0.2
SR-76	Old Grove Rd. to Frazee	80.4	80.5	0.1
SR-76	Frazee to College Blvd.	80.4	80.5	0.1
SR-76	College Blvd to N. Santa Fe	80.8	80.9	0.1
SR-76	East of N. Santa Fe Ave.	81.1	81.1	0.1
SR-76	West of I-5 SB Ramps	75.7	75.7	0.0
SR-76	I-5 Ramps	76.0	76.1	0.1
SR-76	I-5 Ramps to N. Canyon	75.0	75.3	0.3
SR-76	N. Canyon to Mesa	74.5	75.0	0.5
SR-76	Mesa to Airport	73.8	74.5	0.7
Mission Ave	Airport to Foussat	74.1	74.9	0.8
Mission Ave	Foussat to El Camino Real	75.5	76.9	1.4
Mission Ave	El Camino Real to N. Douglas	74.6	75.2	0.6
Mission Ave	N. Douglas Rd. to RDO	74.8	75.2	0.3
Mission Ave	RDO to Old Grove Rd.	72.5	72.6	0.2
Mission Ave	East of Old Grove Rd.	69.2	69.2	0.0
N. Canyon Rd.	SR-76 to Mission Ave.	70.4	70.8	0.4
N. Canyon Rd.	South of Mission Ave.	71.2	71.4	0.2
N. Canyon Rd.	Mission to El Camino Real	67.2	67.9	0.6
Mesa Dr.	El Camino Real to RDO	71.4	71.4	0.0
Mesa Dr.	East of RDO	71.6	71.6	0.0
Airport Rd	SR-76 to Mission Ave.	64.3	65.0	0.7
Airport Rd	North of SR-76	68.2	75.1	6.9
Foussat Rd.	SR-76 to Mission Ave.	72.0	75.0	3.0
Foussat Rd.	Mission to Mesa Dr.	64.6	64.9	0.3
El Camino Real	N. Douglas Rd. to Los Arbolitos.	70.2	70.4	0.2
El Camino Real	Los Arbolitos to Mission Ave.	74.2	74.7	0.4
El Camino Real	Mission to Mesa Dr.	73.6	73.9	0.3
El Camino Real	Mesa to Oceanside Blvd	74.9	75.0	0.1
El Camino Real	South of Oceanside Blvd.	76.0	76.1	0.1
Rancho Del Oro	N. Douglas to Mission Ave	69.0	69.0	0.0
Rancho Del Oro	Mission to SR-76	67.6	67.7	0.1
Rancho Del Oro	SR-76 to Mesa Dr.	70.9	71.1	0.2
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	72.7	72.8	0.1
Rancho Del Oro	South of Oceanside Blvd.	74.6	74.7	0.0
Frazee Rd.	North of SR-76	61.4	61.4	0.0
Frazee Rd.	SR-76 to Mission Ave.	67.2	67.2	0.0
Old Grove Rd.	North of SR-76	67.4	67.4	0.0
Old Grove Rd.	South of SR-76	69.6	69.9	0.3
Old Grove Rd.	South of Mission Ave.	70.1	70.3	0.2
College Blvd.	North of SR-76	76.4	76.4	0.0
College Blvd.	South of SR-76	74.7	74.7	0.0
N. Santa Fe Ave.	South of SR-76	74.4	74.4	0.0
N. Douglas Dr.	North of N. River Rd.	71.5	71.8	0.3
N. Douglas Dr.	N. River Rd. to Pala Drive	76.1	76.4	0.3
N. Douglas Dr.	Pala Dr. to El Camino Real	76.7	77.1	0.4
N. Douglas Dr.	El Camino Real to Mission	73.4	74.0	0.6
N. Douglas Dr.	Mission to SR-76	72.3	72.8	0.5
N. River Rd.	East of N. Douglas Dr.	72.1	72.3	0.2
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	64.2	65.3	1.1
Oceanside Blvd	West of El Camino Real	73.7	73.8	0.0
Oceanside Blvd	El Camino Real to RDO	77.9	77.9	0.0
Oceanside Blvd	East of RDO	77.7	77.7	0.0
Pala Rd.	N. Douglas Dr to Los Arbolitos	66.8	67.2	0.4
Pala Rd.	Los Arbolitos to Foussat Rd.	62.4	62.4	0.0

TABLE 4I: 2020 Pala Extension with Project Traffic Noise Increases

Roadway	Segment	2020 w/o Pala (SPL)	2020 w/ Pala (SPL)	Project Related Difference (SPL)
SR-76	West of I-5 SB Ramps	77.6	77.7	0.1
SR-76	I-5 Ramps	79.2	79.3	0.1
SR-76	NB I-5 Ramps to Loretta St.	80.9	81.0	0.1
SR-76	Loretta to N. Canyon Rd.	80.8	80.9	0.1
SR-76	N. Canyon Rd. to Benet	81.3	81.6	0.2
SR-76	Benet to Airport	81.2	81.4	0.2
SR-76	Airport to Foussat	81.1	81.4	0.3
SR-76	Foussat to N. Douglas Rd.	81.3	81.5	0.2
SR-76	N. Douglas Rd. to RDO	80.5	80.7	0.3
SR-76	RDO to Old Grove Rd.	80.8	80.9	0.2
SR-76	Old Grove Rd. to Frazee	80.4	80.5	0.1
SR-76	Frazee to College Blvd.	80.4	80.5	0.1
SR-76	College Blvd to N. Santa Fe	80.8	80.9	0.1
SR-76	East of N. Santa Fe Ave.	81.1	81.1	0.1
SR-76	West of I-5 SB Ramps	75.7	75.7	0.0
SR-76	I-5 Ramps	76.0	76.1	0.1
SR-76	I-5 Ramps to N. Canyon	75.0	75.3	0.3
SR-76	N. Canyon to Mesa	74.5	75.0	0.5
SR-76	Mesa to Airport	73.8	74.5	0.7
Mission Ave	Airport to Foussat	74.1	74.9	0.8
Mission Ave	Foussat to El Camino Real	74.9	76.3	1.4
Mission Ave	El Camino Real to N. Douglas	74.5	75.2	0.7
Mission Ave	N. Douglas Rd. to RDO	74.8	75.2	0.3
Mission Ave	RDO to Old Grove Rd.	72.5	72.7	0.3
Mission Ave	East of Old Grove Rd.	69.2	69.2	0.0
N. Canyon Rd.	SR-76 to Mission Ave.	70.4	70.8	0.4
N. Canyon Rd.	South of Mission Ave.	71.2	71.4	0.2
N. Canyon Rd.	Mission to El Camino Real	67.2	67.9	0.6
Mesa Dr.	El Camino Real to RDO	71.4	71.4	0.0
Mesa Dr.	East of RDO	71.6	71.6	0.0
Airport Rd	SR-76 to Mission Ave.	64.3	65.0	0.7
Airport Rd	North of SR-76	71.2	75.1	3.9
Foussat Rd.	SR-76 to Mission Ave.	73.1	75.1	2.0
Foussat Rd.	Mission to Mesa Dr.	64.6	65.6	1.0
El Camino Real	N. Douglas Rd. to Los Arbolitos.	70.0	70.1	0.1
El Camino Real	Los Arbolitos to Mission Ave.	73.7	73.9	0.2
El Camino Real	Mission to Mesa Dr.	73.6	73.9	0.3
El Camino Real	Mesa to Oceanside Blvd	74.9	75.0	0.1
El Camino Real	South of Oceanside Blvd.	76.0	76.1	0.1
Rancho Del Oro	N. Douglas to Mission Ave	69.0	69.4	0.3
Rancho Del Oro	Mission to SR-76	67.6	67.7	0.1
Rancho Del Oro	SR-76 to Mesa Dr.	70.9	71.1	0.2
Rancho Del Oro	Mesa Dr. to Oceanside Blvd	72.7	72.8	0.1
Rancho Del Oro	South of Oceanside Blvd.	74.6	74.7	0.0
Frazee Rd.	North of SR-76	61.4	61.4	0.0
Frazee Rd.	SR-76 to Mission Ave.	67.2	67.2	0.0
Old Grove Rd.	North of SR-76	67.4	67.4	0.0
Old Grove Rd.	South of SR-76	69.6	69.9	0.3
Old Grove Rd.	South of Mission Ave.	70.1	70.3	0.2
College Blvd.	North of SR-76	76.4	76.4	0.0
College Blvd.	South of SR-76	74.7	74.7	0.0
N. Santa Fe Ave.	South of SR-76	74.4	74.4	0.0
N. Douglas Dr.	North of N. River Rd.	71.5	71.8	0.3
N. Douglas Dr.	N. River Rd. to Pala Drive	76.1	76.4	0.3
N. Douglas Dr.	Pala Dr. to El Camino Real	76.3	76.4	0.1
N. Douglas Dr.	El Camino Real to Mission	72.9	73.1	0.2
N. Douglas Dr.	Mission to SR-76	71.9	72.0	0.1
N. River Rd.	East of N. Douglas Dr.	72.1	72.3	0.2
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	64.2	65.0	0.8
Oceanside Blvd	West of El Camino Real	73.7	73.8	0.0
Oceanside Blvd	El Camino Real to RDO	77.9	77.9	0.0
Oceanside Blvd	East of RDO	77.7	77.7	0.0
Pala Rd.	N. Douglas Dr to Los Arbolitos	67.9	68.9	1.0
Pala Rd.	Los Arbolitos to Foussat Rd.	64.9	67.4	2.5

Habitat Noise Effects and Impact Potential

Construction Noise

Construction within the proposed project site for any phase of the project would typically occur between the hours of 7 a.m. and 4 p.m. Monday through Friday. Additionally, there may be construction activities between March 1 to September 1 which is identified as "*least Bell's vireo breeding season*" and would limit construction noise levels to 60 dBA Leq or the Ambient Sound Level whichever is higher.

Tables 5a through –c below identifies typical major classes of construction equipment based upon past measured levels.[8] The table identifies the expected equipment type, the duty cycle of each of the equipment components, and the expected dynamic point source located at any particular location onsite roughly 35-feet from the habitat edge which would produce a 3.1 dBA increase compared to the Source Levels identified at 50-feet. These predictions would account for construction noise levels for any phase of the project.

TABLE 5a: Predicted Construction Noise Levels – Rough Grading

Equipment Type	Qty. Used	Duty Cycle (% Hour)	Source Level @ 50 Feet (dBA)	Cumulative Effect @ 50 Feet (dBA Leq-12h)
Dozer - D8 Cat	1	0.1	75	65.0
Loader	1	0.1	70	60.0
Water Truck	1	0.1	70	60.0
Dump/Haul Trucks	1	0.1	75	65.0
Scraper	1	0.1	80	70.0
			Aggregate Noise Level Measured @ 50-Feet:	72.6
			Noise Increase to nearest receptor @ 35-Feet:	3.1
			Sum @ Property Line (35 ft Distant):	**75.7**

TABLE 5b: Predicted Construction Noise Levels – Underground Utility Construction

Equipment Type	Qty. Used	Duty Cycle (% Hour)	Source Level @ 50 Feet (dBA)	Cumulative Effect @ 50 Feet (dBA Leq-12h)
Track Backhoe	1	0.2	75	68.0
Loader	1	0.2	70	63.0
Concrete Truck	1	0.2	70	68.0
Dump/Haul Trucks	1	0.1	75	65.0
			Aggregate Noise Level Measured @ 50-Feet:	72.5
			Noise Increase to nearest receptor @ 35-Feet:	3.1
			Sum @ Property Line (35 ft Distant):	**75.6**

[8] Source: *EPA PB 206717, Environmental Protection Agency, 12/31/71, "Noise from Construction Equipment and Operations"*.

TABLE 5c: Predicted Construction Noise Levels – Surface Paving Activities

Equipment Type	Qty. Used	Duty Cycle (% Hour)	Source Level @ 50 Feet (dBA)	Cumulative Effect @ 50 Feet (dBA Leq-12h)
Dump/Haul Trucks	1	0.2	75	68.0
Paver	1	0.2	70	63.0
Roller	1	0.1	75	65.0
			Aggregate Noise Level Measured @ 50-Feet:	70.6
			Noise Increase to nearest receptor @ 35-Feet:	3.1
			Sum @ Property Line (35 ft Distant):	**73.7**

Based upon our calculations, the loudest hourly sound level within the habitat area could be as high as 75.7 dBA, which is above the wildlife habitat noise regulations of 60 dBA. Therefore, should construction occur between March 1 and September 1, mitigation will be necessary.

A proposed mitigation plan consisting of a ten-foot-high wall was examined and found to be adequate to mitigate noise levels under the Wildlife Noise Regulation thresholds. The recommended placement of this wall is shown in Figure 10 on the following page. The wall or earth-berm/wall combination should run along the proposed top-of-slope adjacent to the sensitive habitat area identified within the project biological report. The wall can be constructed utilizing 4x4 wood posts and 5/8-inch plywood.

Pala Road Extension Effects

The proposed extension of Pala Road is expected to generate approximately 10,826 ADT traveling at an anticipated speed of 35 MPH. This would produce a soft-site 60-dBA Leq-h noise contour extending approximately 160 feet from the edge of the proposed roadway extension. Although precise grading plans for the roadway are unknown at this time, it is expected (based upon the previous construction noise mitigation solution) that an approximate eight- to 10-foot-high noise barrier would be required to mitigate this future traffic noise. A noise barrier of this type would conceptually run the entire length of the extension on both sides of the proposed right-of-way (as can be seen in the previously-cited Figure 10).

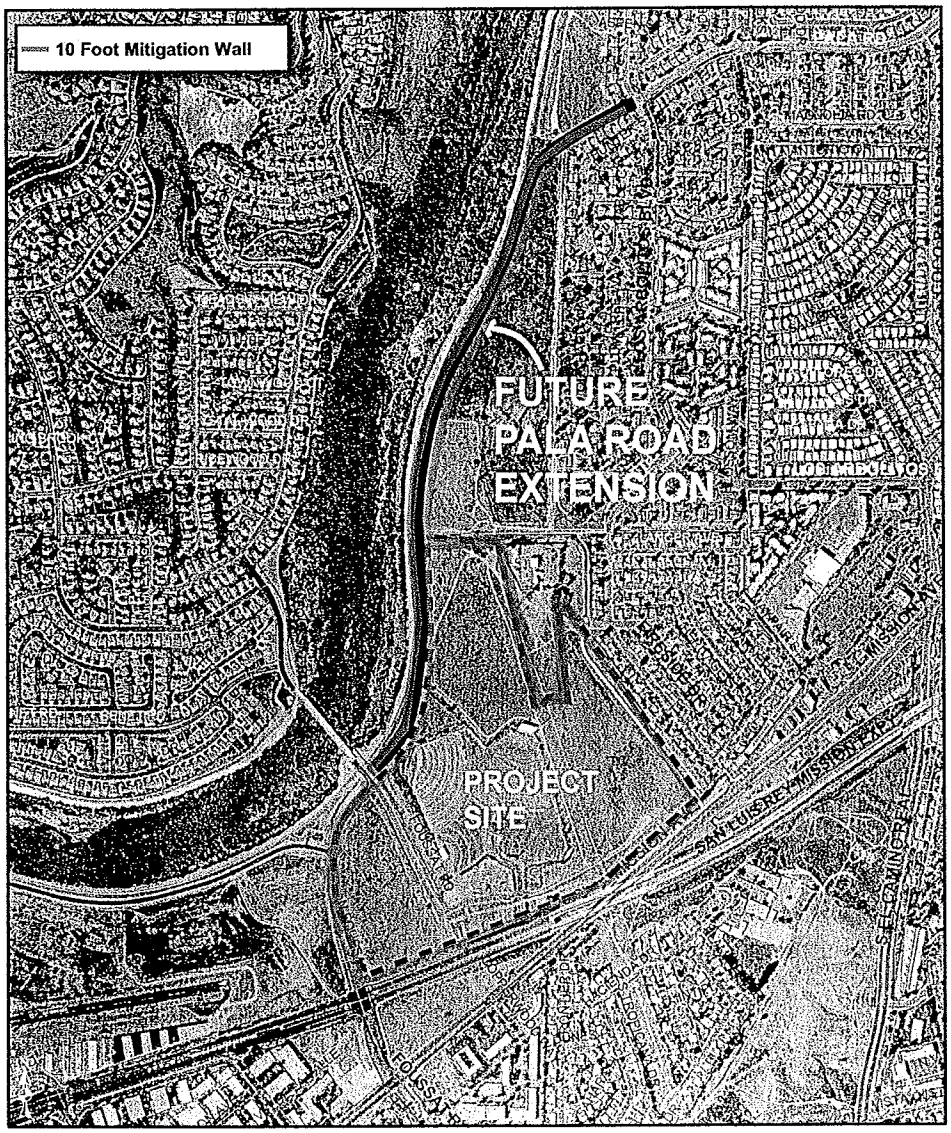

FIGURE 10: Habitat Mitigation Wall Location for Construction Noise – *shown in red*[9] (ISE/RBF 2/08)

[9] The proposed noise mitigation solution shown in Figure 10 (i.e., the red lines) is for the totality of the construction noise mitigation. The mitigation for the proposed Pala Road extension would be identical this solution sans the section that jogs to the right into the project site and the smaller segment to the bottom left.

Aircraft Noise Impact Potential

No excessive aircraft noise was observed from the nearby Oceanside Municipal Airport (which is to the immediate west). This is predominately due to the fact that the proposed project lies outside the 65-dBA CNEL noise contour. This can be seen in Figure 11 below.

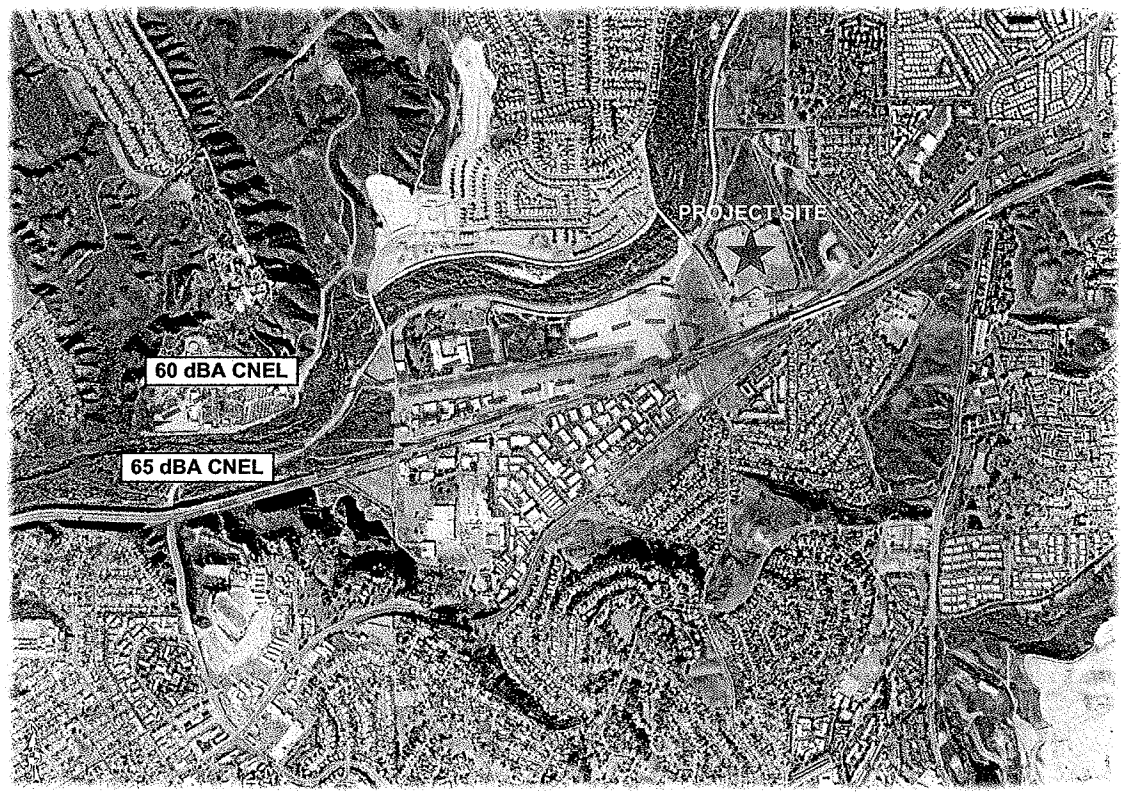

FIGURE 11: Oceanside Municipal Airport CNEL Noise Contours in Relation to Project Site

CERTIFICATION OF ACCURACY AND QUALIFICATIONS

This report was prepared by Investigative Science and Engineering, Inc. (ISE) located at 16486 Bernardo Center Drive, Suite 278, San Diego, CA 92128. The members of its professional staff contributing to the report are listed below:

Rick Tavares *(rtavares@ise.us)*	B.S. Aerospace Engineering / Engineering Mechanics M.S. Mechanical Engineering M.S. Structural Engineering Ph.D. Civil Engineering
Andre Estrada *(aestrada@ise.us)*	B.S. Mechanical Engineering

ISE affirms to the best of its knowledge and belief that the statements and information contained herein are in all respects true and correct as of the date of this report. Should the reader have any questions regarding the findings and conclusions presented in this report, please do not hesitate to contact ISE at (858) 451-3505.

Content and information contained within this report is intended only for the subject project and is protected under 17 U.S.C. §§ 101 through 810. Original reports contain non-photo blue ISE watermark at the bottom of each page.

Approved as to Form and Content:

Rick Tavares, Ph.D.
Project Principal
Investigative Science and Engineering, Inc.

Attachments to this report: IS3 Model Input/Output Data (HVAC and Truck Dock Scenarios)
Fresnel Barrier Calculations for Construction Noise Barrier

IS3 Model Input / Output Data (HVAC and Truck Loading Docks)

```
PROPOSED PAVILION HVAC OPERATIONAL NOISE
0 = START X POINT IN FEET
0 = START Y POINT IN FEET
3280 = END X POINT IN FEET
3240 = END Y POINT IN FEET
80 = NUMBER OF SOURCE POINTS
500 = DOMINANT FREQUENCY OF SOURCE IN HZ
3 = REFERENCE DISTANCE IN FEET
10 = DISTANCE BETWEEN STEPS
158 = NUMBER OF BARRIER PAIRS
5 = RECEPTOR ELEVATION IN FEET
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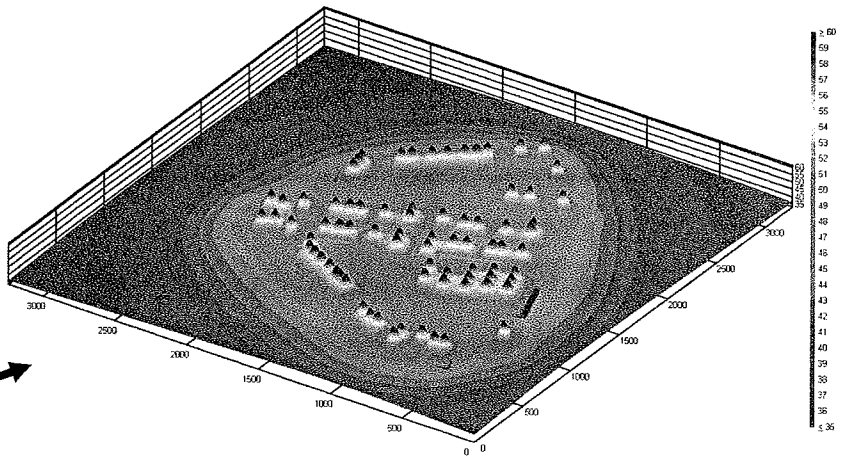
OUTPUT PLOT



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SUB ALTERNATIVE PAVILION HVAC OPERATIONAL NOISE
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0 = START Y POINT IN FEET
3280 = END X POINT IN FEET
3240 = END Y POINT IN FEET
74 = NUMBER OF SOURCE POINTS
500 = DOMINANT FREQUENCY OF SOURCE IN HZ
3 = REFERENCE DISTANCE IN FEET
10 = DISTANCE BETWEEN STEPS
183 = NUMBER OF BARRIER PAIRS
5 = RECEPTOR ELEVATION IN FEET
SOURCE POINTS IN FEET (XYZ - LEVEL in dBA)
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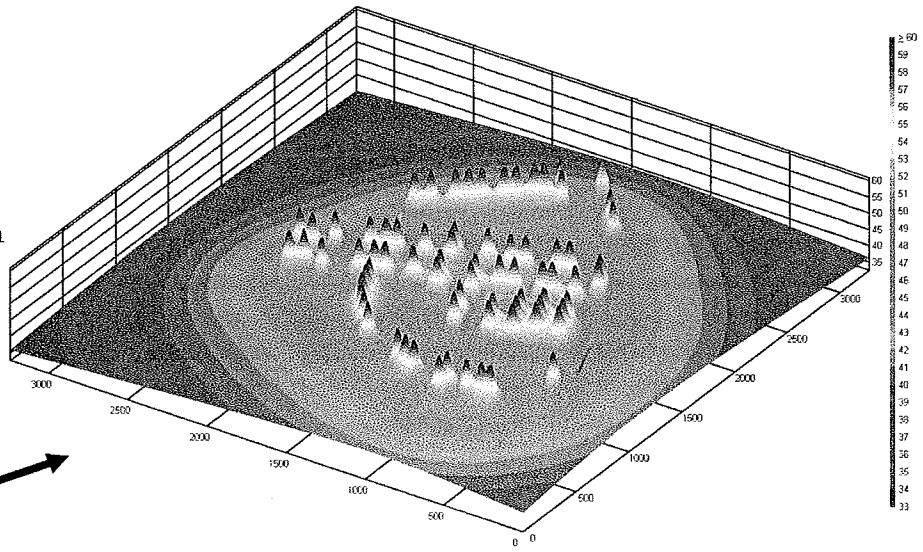

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PROPOSED PAVILION TRUCK OPERATIONAL NOISE
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2757 = END X POINT IN FEET
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3 = NUMBER OF SOURCE POINTS
250 = DOMINANT FREQUENCY OF SOURCE IN HZ
5 = REFERENCE DISTANCE IN FEET
2 = DISTANCE BETWEEN STEPS
186 = NUMBER OF BARRIER PAIRS
5 = RECEPTOR ELEVATION IN FEET
SOURCE POINTS IN FEET (XYZ - LEVEL IN DBA)
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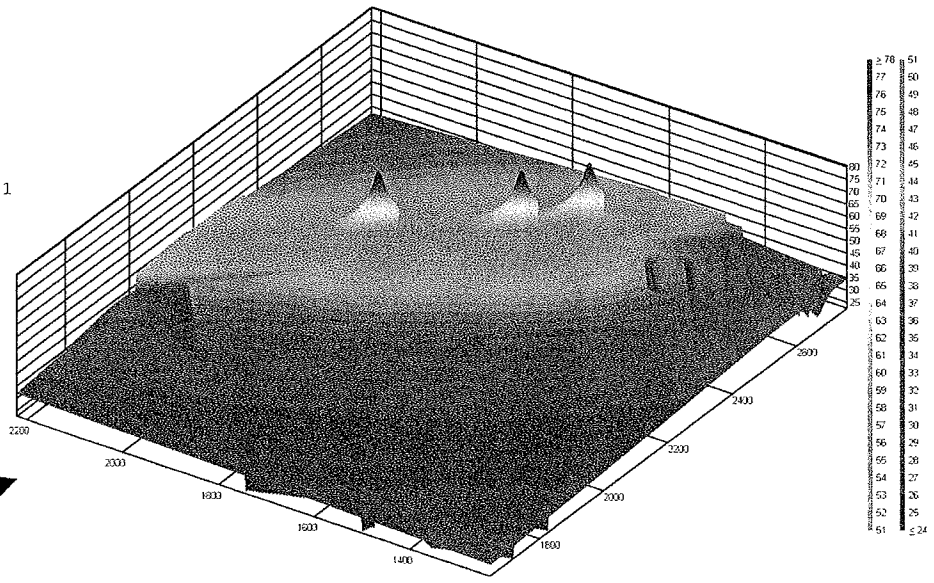

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2800 = END X POINT IN FEET
2325 = END Y POINT IN FEET
3 = NUMBER OF SOURCE POINTS
250 = DOMINANT FREQUENCY OF SOURCE IN HZ
5 = REFERENCE DISTANCE IN FEET
2 = DISTANCE BETWEEN STEPS
21 = NUMBER OF BARRIER PAIRS
5 = RECEPTOR ELEVATION IN FEET
SOURCE POINTS IN FEET (XYZ - LEVEL IN DBA)
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BARRIER SOURCE PAIRS IN FEET (START XY - END XY - HEIGHT - STC)
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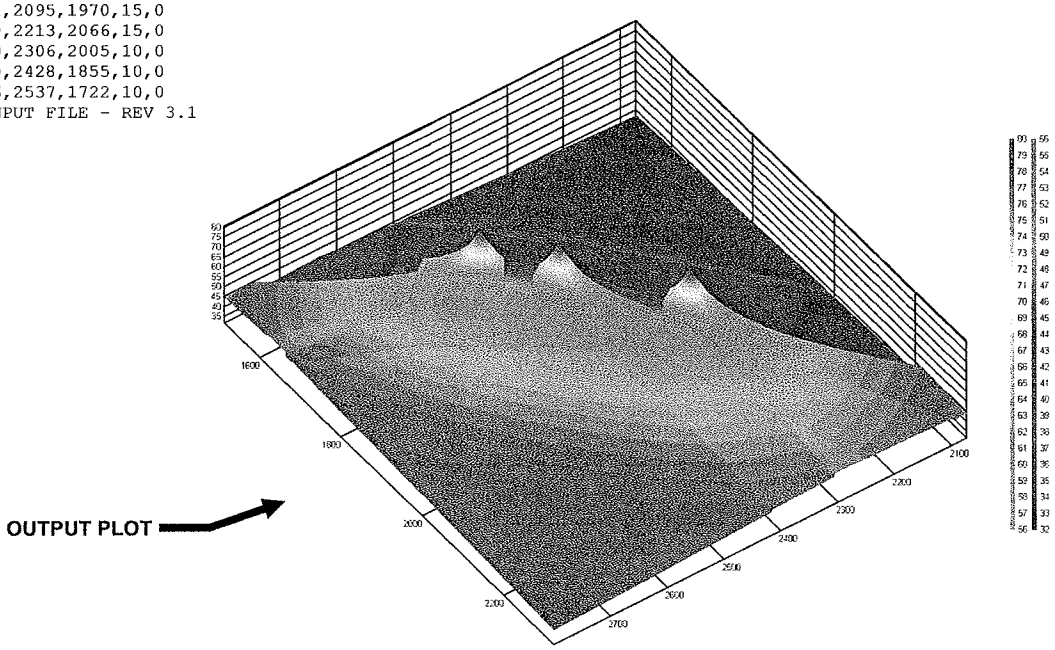

OUTPUT PLOT

Fresnel Diffraction Calculation for Construction Noise Barrier

```
Elevated Point Source
Source to  Receiver Horizontal Distance (ft) =   35.00
Source to  Barrier  Horizontal Distance (ft) =   30.00
Barrier to Receiver Horizontal Distance (ft) =    5.00
Source Height (ft)    =    5.00
Receiver Height (ft)  =    3.00
Barrier Height (ft)   =   10.00
Distance Source to Receptor (ft)       d =   35.06
Distance Source to Barrier top (ft)    d1 =  30.41
Distance Barrier top to Receiver (ft)  d2 =   8.60

Frequency (Hz) =  250  Attenuation (db) =  15.4   Fresnel N =1.756
```

I. Traffic Report

Oceanside Pavilion
TRAFFIC IMPACT ANALYSIS REPORT

Prepared for

THOMAS ENTERPRISES, INC.

2385 Shelter Island Dr., Suite 202, San Diego, CA 92106

Prepared by

RBF CONSULTING

5050 Avenida Encinas, Suite 260, Carlsbad, CA 92008
CONTACT: DAWN WILSON 760.476.9193 dwilson@rbf.com

March 2008

JN 55-100224.002

VOLUME 1 OF 2

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APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

EXECUTIVE SUMMARY

The Oceanside Pavilion commercial retail project is located on the northeast corner of State Route 76 (SR-76) and Foussat Road in the City of Oceanside. The site was previously used as the Oceanside Drive-In and is currently used on the weekends as a swap meet. The project proposes to convert the site from a vacant drive-in/swap meet to 950,100 square feet of commercial retail uses that include retail, restaurant, movie theater, and health club. Combined, the project is forecast to generate approximately 32,175 trips per day.

The analysis conducted herein is consistent with the requirements of the City of Oceanside General Plan Circulation Element and the SANDAG Congestion Management Program (CMP) traffic impact study guidelines. A total of 36 intersections and 62 roadway segments were included in the project study area, which was based on a select zone traffic model run using the SANDAG series 10 North County Subarea model for the year 2020.

This study evaluated intersection and roadway segment operating conditions for Existing Conditions, Cumulative Conditions and Horizon Year 2020 conditions without and with the proposed project. Horizon year conditions evaluated the future conditions without the Pala Road extension. As Pala Road is included in the City's Circulation Element, a supplemental analysis was conducted to evaluate the change in operating conditions in the study area if the Pala Road extension was constructed. It should be noted that at the time this traffic report was prepared, funding for this roadway extension was undetermined and the environmental constraints in constructing the offsite portion of the roadway extension along the San Luis Rey River are not fully known.

Results of the intersection level of service analysis are presented in Table ES-1. Roadway segment level of service analysis findings are provided in Table ES-2.Based on the findings of the analysis, recommended improvements for either deficient or significantly impacted locations were broken down into three categories:

- **Project Improvements** – Direct Impact. Improvements that are likely to be the sole responsibility of the project. These correspond to impacts that are directly related to project generated traffic.

- **Fair Share Improvements** – Cumulative Indirect Impact. Improvements that are likely to be funded in part by the project. Funding for the improvements will be based on the project's proportionate share of traffic at that location under deficient operating conditions. Fair share improvements are identified at locations that are deficient without or with the proposed project's traffic.

- **By Others** – Highway 76 is planned to be widened from four to six lanes. It is likely the funding for these improvements will come from other sources, such as TransNet. Therefore, we assume the improvements will be done by others, and are not the responsibility of the project.

Table ES-5 summarizes the roadway segments included in the traffic study forecast to operate at unacceptable LOS. Intersections forecast to operate at unacceptable LOS are summarized in Table ES-6. Of those locations forecast to operate at unacceptable LOS, the following locations are forecast to be significantly impacted by the project:

Roadway Segments:

- Mission Ave. from Foussat Rd. to El Camino Real (Direct)
- El Camino Real from Los Arbolitos Blvd. to Mission Ave.(Direct – Without Pala Road Only)
- N. Douglas Dr. from N. River Rd. to El Camino Real (Indirect)

Intersections:

- SR-76/Rancho Del Oro Dr. (Indirect)
- Pala Rd./N. Douglas Dr. (direct)

Recommended Mitigation Measures

Mitigation measures are required at all of the significantly impacted intersections and roadway segments. Direct impacts are identified for locations where the project specifically results in a change in operating conditions to deficient operating conditions. Indirect or cumulative impacts are identified for locations that are forecast to operate at deficient operating conditions without or with the proposed project. Regardless of a direct or indirect impact, the recommended improvements should return the LOS to acceptable operating conditions. The following sections provide a detailed description of the recommended improvements.

Creative measures are recommended for roadway segments where widening to meet daily traffic volumes is not a reasonable or recommended improvement. For these locations, creative mitigation measures that maximize the operational capacity, without increasing the total physical capacity of the roadway should be implemented.

Widening SR-76 is a planned Caltrans improvement project that was included in the TransNet initiative of 2005. Also included in the Regional Transportation Plan (RTP) prepared by SANDAG, the widening of SR-76 was included in the 2000 Prioritization List. As this is a regional arterial, it is likely that widening improvements to the mainline of SR-76 would not be a project responsibility.

Widening Foussat Road to a five lane secondary along the project frontage is a direct project mitigation measure. This improvement is necessary to accommodate the 15,000 to 25,000 project generated trips per day. This section will match the existing Foussatt Road south of SR-76 and accommodate the necessary turn lanes for the project. As the fifth lane serves as a dedicated turn lane into the project, this segment does not deviate from the current secondary classification.

Table ES-1
Summary of Short Term Intersection Operating Conditions

		Existing				Existing + Project				Project Related Change in Delay		Existing + Cumulative				Existing + Cum. + Proj.				Project Related Change in Delay	
		AM		PM		AM		PM				AM		PM		AM		PM			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	A.M.	P.M.	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1	SR-76/I-5 SB Ramps	14.1	B	18.3	B	14.3	B	18.3	B	0.2	0.0	15.2	B	18.3	B	15.4	B	18.3	B	0.2	0.0
2	SR-76/I-5 NB Ramps	11.0	B	15.4	B	11.2	B	15.5	B	0.2	0.1	13.1	B	18.4	B	13.3	B	18.7	B	0.2	0.3
3	SR-76/Loretta St.	4.2	A	5.5	A	4.6	A	7.0	A	0.4	1.5	5.4	A	8.3	A	5.8	A	10.9	B	0.4	2.6
4	SR-76/N. Canyon Dr.	6.8	A	15.2	B	7.3	A	20.9	C	0.5	5.7	8.1	A	23.1	C	8.7	A	33.2	C	0.6	10.1
5	SR-76/Benet Rd.	35.1	D	22.3	C	36.3	D	24.1	C	1.2	1.8	48.3	D	29.8	C	49.9	D	34.7	C	1.6	4.9
6	SR-76/Airport Rd.	25.7	C	16.2	B	28.1	C	22.8	C	2.4	6.6	39.0	D	25.5	C	42.0	D	37.1	D	3.0	11.6
7	SR-76/Foussat Rd.	16.6	B	20.4	C	24.8	C	34.1	C	8.2	13.7	16.7	B	20.7	C	24.8	C	34.5	C	8.1	13.8
8	SR-76/N. Douglas Dr.	26.4	C	20.6	C	31.0	C	23.2	C	4.6	2.6	45.9	D	25.1	C	54.3	D	30.6	C	8.4	5.5
9	SR-76/Rancho Del Oro Dr.	**67.8**	**E**	**130.2**	**F**	**74.1**	**E**	**137.2**	**F**	**6.3**	**7.0**	**85.8**	**F**	**133.8**	**F**	**91.8**	**F**	**141.3**	**F**	**6.0**	**7.5**
10	SR-76/Old Grove Rd.	26.0	C	18.7	B	27.2	C	19.9	B	1.2	1.2	28.5	C	24.4	C	30.6	C	25.8	C	2.1	1.4
11	SR-76/Frazee Rd.	19.7	B	20.4	C	19.6	B	20.6	C	-0.1	0.2	21.2	C	21.8	C	21.2	C	22.1	C	0.0	0.3
12	SR-76/College Blvd.	47.0	D	48.1	D	47.1	D	48.4	D	0.1	0.3	53.4	D	**74.6**	**E**	53.7	D	**76.1**	**E**	0.3	1.5
13	SR-76/N. Santa Fe Ave.	23.1	C	25.3	C	23.1	C	25.5	C	0.0	0.2	31.0	C	39.0	D	31.3	C	40.8	D	0.3	1.8
14	Mission Ave./I-5 SB Ramps	22.5	C	16.8	B	22.6	C	17.1	B	0.1	0.3	22.5	C	18.5	B	22.7	C	18.9	B	0.2	0.4
15	Mission Ave./I-5 NB Ramps	16.6	C	13.4	B	16.8	C	13.9	B	0.2	0.5	18.4	C	15.6	C	18.6	C	16.2	C	0.2	0.6
16	Mission Ave./N. Canyon Dr.	24.1	C	27.6	C	24.0	C	27.5	C	-0.1	-0.1	22.7	C	26.4	C	22.6	C	26.6	C	-0.1	0.2
17	Mission Ave./Mesa Dr.	20.3	C	12.8	B	19.9	B	11.8	B	-0.4	-1.0	20.3	C	13.3	B	20.0	B	12.6	B	-0.3	-0.7
18	Mission Ave./Airport Rd.	15.4	B	16.2	B	14.9	B	15.4	B	-0.5	-0.8	15.8	B	16.3	B	15.4	B	16.1	B	-0.4	-0.2
19	Mission Ave./Foussat Rd.	17.9	B	21.4	C	21.2	C	29.2	C	3.3	7.8	16.1	B	20.7	C	19.6	B	29.8	C	3.5	9.1
20	Mission Ave./El Camino Real	27.7	C	31.3	C	28.9	C	32.7	C	1.2	1.4	28.6	C	32.6	C	29.6	C	34.5	C	1.0	1.9
21	Mission Ave./N. Douglas Dr.	28.8	C	32.3	C	29.9	C	34.7	C	1.1	2.4	30.8	C	34.4	C	32.2	C	38.8	D	1.4	4.4
22	Mission Ave./Rancho Del Oro Dr.	24.2	C	21.8	C	24.1	C	22.0	C	-0.1	0.2	24.8	C	23.8	C	24.7	C	24.1	C	-0.1	0.3
23	Mission Ave./Old Grove Rd.	29.3	C	29.5	C	29.4	C	29.5	C	0.1	0.0	27.4	C	28.0	C	27.5	C	27.8	C	0.1	-0.2
24	Mesa Dr./El Camino Real	30.1	C	25.7	C	30.1	C	25.7	C	0.0	0.0	33.6	C	29.5	C	33.6	C	29.6	C	0.0	0.1
25	Mesa Dr./Rancho Del Oro Dr.	25.1	C	26.5	C	25.2	C	26.6	C	0.1	0.1	31.0	C	33.1	C	31.2	C	33.3	C	0.2	0.2
26	Oceanside Blvd./El Camino Real	37.1	D	39.8	D	37.1	D	40.0	D	0.0	0.2	41.2	D	48.8	D	41.3	D	49.8	D	0.1	1.0
27	Oceanside Blvd./Rancho Del Oro Dr.	24.0	C	23.6	C	24.1	C	23.8	C	0.1	0.2	28.5	C	34.2	C	28.6	C	34.7	C	0.1	0.5
28	N. River Rd./N. Douglas Dr.	31.7	C	25.1	C	31.8	C	25.6	C	0.1	0.5	33.4	C	26.4	C	33.8	C	27.2	C	0.4	0.8
29	Pala Rd./N. Douglas Dr.	13.9	B	12.4	B	15.3	B	14.0	B	1.4	1.6	14.9	B	13.1	B	16.5	B	15.1	B	1.6	2.0
30	El Camino Real/N. Douglas Dr.	19.2	B	29.5	C	20.1	C	32.0	C	0.9	2.5	24.4	C	33.7	C	26.4	C	38.6	D	2.0	4.9
31	Los Arbolitos Blvd./El Camino Real	14.0	B	17.8	B	16.9	B	21.9	C	2.9	4.1	14.0	B	17.7	B	16.8	B	21.8	C	2.8	4.1
32	Pala Rd./Los Arbolitos Blvd. [2]	10.5	B	10.2	B	10.5	B	10.2	B	0.0	0.0	10.7	B	10.3	B	10.7	B	10.3	B	0.0	0.0
33	Foussat/Project Access B	0.1	A	0.1	A	6.8	A	12.3	B	6.7	12.2	0.1	A	0.1	A	6.5	A	12.1	B	6.4	12.0
34	Project Access A/Foussat	14.2	B	14.9	B	22.0	C	29.7	C	7.8	14.8	13.6	B	14.8	B	22.7	C	28.0	C	9.1	13.2
35	Mission Avenue/Project Access	0.1	A	0.1	A	6.3	A	12.4	B	6.2	12.3	0.1	A	0.1	A	5.8	A	12.0	B	5.7	11.9
36	SR-76/Melrose Dr.	20.1	C	13.8	B	20.1	C	13.1	B	0.00	0.00	21.7	C	13.6	B	21.7	C	13.6	B	0.00	0.00

Table ES-2
Summary of Long Term Intersection Operating Conditions

		2020 Without Pala No Project				2020 Without Pala With Project				Project Related Change in Delay		2020 With Pala No Project				2020 With Pala With Project				Project Related Change in Delay	
		AM		PM		AM		PM				AM		PM		AM		PM			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	A.M	P.M.	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	A.M	P.M.
1	SR-76/I-5 SB Ramps	15.1	B	18.9	B	15.3	B	18.9	B	0.2	0.0	15.1	B	18.9	B	15.3	B	18.9	B	0.2	0.0
2	SR-76/I-5 NB Ramps	11.3	B	16.0	B	11.5	B	16.2	B	0.2	0.2	11.3	B	16.0	B	11.5	B	16.2	B	0.2	0.2
3	SR-76/Loretta St.	5.7	A	3.0	A	5.9	A	4.1	A	0.2	1.1	5.7	A	3.0	A	5.9	A	4.1	A	0.2	1.1
4	SR-76/N. Canyon Dr.	5.6	A	12.2	B	5.9	A	14.3	B	0.3	2.1	5.6	A	12.2	B	5.9	A	14.3	B	0.3	2.1
5	SR-76/Benet Rd.	12.6	B	16.6	B	12.6	B	16.9	B	0.0	0.3	12.6	B	16.6	B	12.6	B	16.9	B	0.0	0.3
6	SR-76/Airport Rd.	12.3	B	15.3	B	13.1	B	19.6	B	0.8	4.3	12.3	B	15.3	B	13.1	B	19.6	B	0.8	4.3
7	SR-76/Foussat Rd.	19.8	B	24.2	C	26.3	C	38.1	D	6.5	13.9	25.0	C	26.3	C	31.2	C	37.0	D	6.2	10.7
8	SR-76/N. Douglas Dr.	29.7	C	30.5	C	31.2	C	32.0	C	1.5	1.5	26.6	C	30.2	C	27.1	C	31.7	C	0.5	1.5
9	SR-76/Rancho Del Oro Dr.	45.6	D	36.3	D	46.4	D	37.3	D	0.8	1.0	45.6	D	36.3	D	46.4	D	37.3	D	0.8	1.0
10	SR-76/Old Grove Rd.	42.2	D	30.5	C	43.8	D	31.1	C	1.6	0.6	42.2	D	30.5	C	43.8	D	31.1	C	1.6	0.6
11	SR-76/Frazee Rd.	19.9	B	19.8	B	19.8	B	19.7	B	-0.1	-0.1	19.9	B	19.8	B	19.8	B	19.7	B	-0.1	-0.1
12	SR-76/College Blvd.	43.5	D	**56.9**	**E**	43.7	D	**58.5**	**E**	0.2	1.6	43.5	D	**56.9**	**E**	43.7	D	**58.5**	**E**	0.2	1.6
13	SR-76/N. Santa Fe Ave.	30.2	C	42.7	D	30.2	C	43.6	D	0.0	0.9	30.2	C	42.7	D	30.2	C	43.6	D	0.0	0.9
14	Mission Ave./I-5 SB Ramps	23.2	C	19.9	B	23.3	C	20.3	C	0.1	0.4	23.2	C	19.9	B	23.3	C	20.3	C	0.1	0.4
15	Mission Ave./I-5 NB Ramps	18.8	C	15.2	C	19.0	C	15.8	C	0.2	0.6	18.8	C	15.2	C	19.0	C	15.8	C	0.2	0.6
16	Mission Ave./N. Canyon Dr.	23.5	C	26.6	C	23.4	C	26.9	C	-0.1	0.3	27.0	C	30.9	C	27.0	C	31.5	C	0.0	0.6
17	Mission Ave./Mesa Dr.	21.2	C	16.6	B	20.8	C	15.7	B	-0.4	-0.9	21.2	C	16.6	B	20.8	C	15.7	B	-0.4	-0.9
18	Mission Ave./Airport Rd.	16.2	B	17.0	B	15.7	B	16.5	B	-0.5	-0.5	16.2	B	17.0	B	15.7	B	16.5	B	-0.5	-0.5
19	Mission Ave./Foussat Rd.	16.3	B	20.4	C	20.0	C	28.7	C	3.7	8.3	19.1	B	21.9	C	22.1	C	29.0	C	3.0	7.1
20	Mission Ave./El Camino Real	26.8	C	33.9	C	29.9	C	37.6	D	3.1	3.7	27.4	C	33.7	C	29.3	C	35.4	D	1.9	1.7
21	Mission Ave./N. Douglas Dr.	30.6	C	34.0	C	31.8	C	38.0	D	1.2	4.0	29.5	C	33.0	C	30.1	C	34.2	C	0.6	1.2
22	Mission Ave./Rancho Del Oro Dr.	26.2	C	23.7	C	25.8	C	24.2	C	-0.4	0.5	27.2	C	23.4	C	27.3	C	24.0	C	0.1	0.6
23	Mission Ave./Old Grove Rd.	30.5	C	30.1	C	30.5	C	30.2	C	0.0	0.1	30.5	C	30.1	C	30.5	C	30.2	C	0.0	0.1
24	Mesa Dr./El Camino Real	35.6	D	**58.1**	**E**	35.7	D	**59.2**	**E**	0.1	1.1	35.6	D	**58.1**	**E**	35.7	D	**59.2**	**E**	0.1	1.1
25	Mesa Dr./Rancho Del Oro Dr.	30.7	C	27.6	C	30.8	C	27.5	C	0.1	-0.1	30.7	C	27.6	C	30.8	C	27.5	C	0.1	-0.1
26	Oceanside Blvd./El Camino Real	39.3	D	**59.6**	**E**	39.4	D	**59.6**	**E**	0.1	0.0	39.3	D	**59.6**	**E**	39.4	D	**59.6**	**E**	0.1	0.0
27	Oceanside Blvd./Rancho Del Oro Dr.	28.9	C	34.6	C	28.9	C	34.9	C	0.0	0.3	28.9	C	34.6	C	28.9	C	34.9	C	0.0	0.3
28	N. River Rd./N. Douglas Dr.	33.7	C	31.8	C	34.1	C	32.7	C	0.4	0.9	33.7	C	31.8	C	34.1	C	32.7	C	0.4	0.9
29	Pala Rd./N. Douglas Dr.	48.2	D	21.6	C	**58.3**	**E**	27.1	C	**10.1**	5.5	25.3	C	16.7	B	25.6	C	18.1	B	0.3	1.4
30	El Camino Real/N. Douglas Dr.	22.4	C	46.7	D	23.7	C	54.3	D	1.3	7.6	19.7	B	41.4	D	19.9	B	43.2	D	0.2	1.8
31	Los Arbolitos Blvd./El Camino Real	18.6	B	19.7	B	21.7	C	25.6	C	3.1	5.9	16.6	B	18.5	B	17.4	B	19.8	B	0.8	1.3
32	Pala Rd./Los Arbolitos Blvd. [2]	11.2	B	10.8	B	11.2	B	10.8	B	0.0	0.0	13.0	B	14.3	B	16.6	C	34.6	D	3.6	20.3
33	Foussat/Project Access B	13.7	B	14.1	B	19.3	B	27.2	C	5.6	13.1	13.4	B	14.9	B	21.0	C	28.4	C	7.6	13.5
34	Project Access A/Foussat	14.5	B	15.2	B	22.2	C	29.8	C	7.7	14.6	23.6	C	20.4	C	27.9	C	32.2	C	4.3	11.8
35	Mission Avenue/Project Access	0.1	A	0.1	A	6.5	A	12.2	B	6.4	12.1	0.1	A	0.1	A	6.5	A	11.6	B	6.4	11.5
36	SR-76/Melrose Dr.	31.4	C	30.9	C	31.4	C	30.9	C	0.00	0.00	30.8	C	30.9	C	30.9	C	30.9	C	0.00	0.00

Table ES-3
Summary of Short Term Roadway Segment Operating Conditions

				Existing			Existing + Project				Existing + Cumulative			Existing + Cumul. + Project			
Segment	Location	Class	Capacity	ADT	V/C	LOS	ADT	V/C	LOS	Project Related Change in V/C	ADT	V/C	LOS	ADT	V/C	LOS	Project Related Change in V/C
SR-76	West of I-5 SB Ramps	Expressway	64,000	24,099	0.377	A	24,743	0.387	A	0.010	25,850	0.404	A	26,494	0.414	A	0.010
	I-5 Ramps	Expressway	64,000	36,584	0.572	A	37,549	0.587	A	0.015	38,946	0.609	B	39,911	0.624	B	0.015
	NB I-5 Ramps to Loretta St.	Expressway	64,000	51,914	0.811	D	53,201	0.831	D	0.020	56,213	0.878	D	57,500	0.898	D	0.020
	Loretta to N.. Canyon Rd.	Expressway	64,000	50,058	0.782	C	51,989	0.812	D	0.030	55,034	0.860	D	56,965	0.890	D	0.030
	N. Canyon Rd. to Benet	Expressway	64,000	56,708	0.886	D	59,926	0.936	E	0.050	63,559	0.993	E	66,777	1.043	F	0.050
	Benet to Airport	Expressway	64,000	50,752	0.793	C	54,291	0.848	D	0.055	57,643	0.901	E	61,182	0.956	E	0.055
	Airport to Foussat	Expressway	64,000	50,410	0.788	C	54,271	0.848	D	0.060	57,528	0.899	D	61,389	0.959	E	0.060
	Foussat to N. Douglas Rd.	Expressway	64,000	53,671	0.839	D	59,141	0.924	E	0.085	60,850	0.951	E	66,320	1.036	F	0.085
	N. Douglas Rd. to RDO	Expressway	64,000	47,177	0.737	C	50,395	0.787	C	0.050	51,926	0.811	D	55,144	0.862	D	0.050
	RDO to Old Grove Rd.	Expressway	64,000	50,935	0.796	C	53,187	0.831	D	0.035	54,542	0.852	D	56,794	0.887	D	0.035
	Old Grove Rd. to Frazee	Expressway	64,000	43,698	0.683	B	44,985	0.703	C	0.020	46,913	0.733	C	48,200	0.753	C	0.020
	Frazee to College Blvd.	Expressway	64,000	46,636	0.729	C	47,923	0.749	C	0.020	50,559	0.790	C	51,846	0.810	D	0.020
	College Blvd to N. Santa Fe	Expressway	64,000	45,303	0.708	C	46,268	0.723	C	0.015	52,056	0.813	D	53,021	0.828	D	0.015
	East of N. Santa Fe Ave.	Expressway	64,000	53,742	0.840	D	54,707	0.855	D	0.015	59,951	0.937	E	60,916	0.952	E	0.015
Mission Ave	West of I-5 SB Ramps	Major (4)	40,000	26,332	0.658	B	26,654	0.666	B	0.008	28,492	0.712	C	28,814	0.720	C	0.008
	I-5 Ramps	Major (4)	40,000	**32,914**	**0.823**	**D**	**33,558**	**0.839**	**D**	0.016	**34,565**	**0.864**	**D**	**35,209**	**0.880**	**D**	0.016
	I-5 Ramps to N. Canyon	Major (4)	40,000	28,516	0.713	C	30,447	0.761	C	0.048	29,779	0.744	C	31,710	0.793	C	0.048
	N. Canyon to Mesa	Major (4)	40,000	24,258	0.606	B	27,476	0.687	B	0.080	25,588	0.640	B	28,806	0.720	C	0.080
	Mesa to Airport	Major (4)	40,000	18,154	0.454	A	22,015	0.550	A	0.097	19,519	0.488	A	23,380	0.585	A	0.097
	Airport to Foussat	Major (4)	40,000	19,472	0.487	A	24,298	0.607	B	0.121	20,996	0.525	A	25,822	0.646	B	0.121
	Foussat to El Camino Real	Major (4)	40,000	23,811	0.529	A	**36,359**	**0.908**	**E**	**0.379**	24,664	0.616	B	**37,212**	**0.930**	**E**	**0.314**
	El Camino Real to N. Douglas	Major (4)	40,000	20,210	0.505	A	24,071	0.602	B	0.097	20,424	0.511	A	24,285	0.607	B	0.097
	N. Douglas Rd. to RDO	Major (4)	40,000	24,996	0.625	B	27,248	0.681	B	0.056	25,046	0.626	B	27,298	0.682	B	0.056
	RDO to Old Grove Rd.	Major (4)	40,000	10,228	0.256	A	10,872	0.272	A	0.016	10,228	0.256	A	10,872	0.272	A	0.016
	East of Old Grove Rd.	Major (4)	40,000	7,362	0.184	A	7,362	0.184	A	0.000	7,362	0.184	A	7,362	0.184	A	0.000
N. Canyon Rd.	SR-76 to Mission Ave.	Secondary	25,000	5,364	0.215	A	6,651	0.266	A	0.051	5,529	0.221	A	6,816	0.273	A	0.051
	South of Mission Ave.	Secondary	25,000	12,882	0.515	A	13,526	0.541	A	0.026	12,947	0.518	A	13,591	0.544	A	0.026
Mesa Dr.	Mission to El Camino Real	Secondary	25,000	5,600	0.224	A	7,209	0.288	A	0.064	6,220	0.249	A	7,829	0.313	A	0.064
	El Camino Real to RDO	Secondary	25,000	12,432	0.497	A	12,432	0.497	A	0.000	14,843	0.594	A	14,843	0.594	A	0.000
	East of Rdo	Secondary	25,000	11,405	0.456	A	11,405	0.456	A	0.000	15,026	0.601	B	15,026	0.601	B	0.000
Airport Rd	SR-76 to Mission Ave.	Industrial	10,000	3,099	0.310	A	4,064	0.406	A	0.097	3,724	0.372	A	4,689	0.469	A	0.097
Foussat Rd.	North of SR-76	Secondary (5)	37,500	5,990	0.159	A	29,156	0.777	C	0.618	6,055	0.161	A	29,221	0.779	C	0.618
	SR-76 to Mission Ave.	Secondary (5)	37,500	12,063	0.322	A	26,220	0.699	B	0.378	12,141	0.324	A	26,298	0.701	C	0.378
	Mission to Mesa Dr.	Secondary	12,500	5,716	0.572	B	7,968	0.797	C	0.225	5,716	0.572	A	7,968	0.797	C	0.225
El Camino Real	N. Douglas Rd. to Los Arbol.	Major (4)	40,000	17,905	0.448	A	19,192	0.480	A	0.032	18,093	0.452	A	19,380	0.485	A	0.032
	Los Arbol. to Mission Ave.	Major (4)	40,000	22,588	0.565	A	25,806	0.645	B	0.080	23,137	0.578	A	26,355	0.659	B	0.080
	Mission to Mesa Dr.	Major (4)	40,000	21,236	0.531	A	23,167	0.579	A	0.048	24,199	0.605	B	26,130	0.653	B	0.048
	Mesa to Oceanside Blvd	Major (4)	40,000	30,989	0.775	C	31,793	0.795	C	0.020	**33,710**	**0.843**	**D**	**34,514**	**0.863**	**D**	**0.020**
	South of Oceanside Blvd.	Prime (6)	60,000	33,413	0.557	A	34,378	0.573	A	0.016	40,437	0.674	B	41,402	0.690	B	0.016
Rancho Del Oro	N. Douglas to Mission Ave	Major (4)	40,000	14,136	0.353	A	14,136	0.353	A	0.000	14,186	0.355	A	14,186	0.355	A	0.000
	Mission to SR-76	Major (4)	40,000	7,789	0.195	A	8,111	0.203	A	0.008	9,833	0.246	A	10,155	0.254	A	0.008
	SR-76 to Mesa Dr.	Major (4)	40,000	13,384	0.335	A	14,671	0.367	A	0.032	20,559	0.514	A	21,846	0.546	A	0.032
	Mesa Dr. to Oceanside Blvd	Major (4)	40,000	11,217	0.280	A	11,861	0.297	A	0.016	18,704	0.468	A	19,348	0.484	A	0.016
	South of Oceanside Blvd.	Major (4)	40,000	10,320	0.258	A	10,642	0.266	A	0.008	17,099	0.427	A	17,421	0.436	A	0.008
Frazee Rd.	North of SR-76	Secondary	25,000	5,474	0.219	A	5,474	0.219	A	0.000	5,774	0.231	A	5,774	0.231	A	0.000
	SR-76 to Mission Ave.	Secondary	25,000	9,331	0.373	A	9,331	0.373	A	0.000	9,451	0.378	A	9,451	0.378	A	0.000
Old Grove Rd.	North of SR-76	Major (4)	40,000	7,390	0.185	A	7,390	0.185	A	0.000	7,390	0.185	A	7,390	0.185	A	0.000
	South of SR-76	Major (4)	40,000	10,653	0.266	A	11,618	0.290	A	0.024	11,245	0.281	A	12,210	0.305	A	0.024
	South of Mission Ave.	Major (4)	40,000	7,878	0.197	A	8,522	0.213	A	0.016	8,445	0.211	A	9,089	0.227	A	0.016
College Blvd.	North of SR-76	Prime (6)	60,000	43,732	0.729	C	44,054	0.734	C	0.005	46,072	0.768	C	46,394	0.773	C	0.005
	South of SR-76	Major (5)	45,000	17,982	0.400	A	17,982	0.400	A	0.000	24,368	0.542	A	24,368	0.542	A	0.000
N. Santa Fe Ave,	South of SR-76	Major (4)	40,000	22,394	0.560	A	22,394	0.560	A	0.000	22,479	0.562	A	22,479	0.562	A	0.000
N. Douglas Dr.	North of N. River Rd.	Major (4)	40,000	14,136	0.353	A	15,423	0.386	A	0.032	14,783	0.370	A	16,070	0.402	A	0.032
	N. River Rd. to Pala Drive	Major (4)	40,000	**32,667**	**0.817**	**D**	**35,241**	**0.881**	**D**	**0.064**	**34,087**	**0.852**	**D**	**36,661**	**0.917**	**E**	**0.064**
	Pala Dr. to El Camino Real	Major (4)	40,000	**35,539**	**0.888**	**D**	**39,722**	**0.993**	**E**	**0.105**	**37,430**	**0.936**	**E**	**41,613**	**1.040**	**F**	**0.105**
	El Camino Real to Mission	Major (4)	40,000	20,967	0.524	A	24,828	0.621	B	0.097	22,417	0.560	A	26,278	0.657	B	0.097
	Mission to SR-76	Major (4)	40,000	20,376	0.509	A	23,594	0.590	A	0.080	21,370	0.534	A	24,588	0.615	B	0.080
N. River Rd.	East of N. Douglas Dr.	Major (4)	40,000	12,728	0.318	A	13,693	0.342	A	0.024	15,035	0.376	A	16,000	0.400	A	0.024
Los Arbolitos Blvd.	Pala Dr. to El Camino Real	Collector	15,000	3,537	0.236	A	5,789	0.386	A	0.150	3,537	0.236	A	5,789	0.386	A	0.150
Oceanside Blvd	West of El Camino Real	Major (4)	40,000	28,921	0.723	C	29,243	0.731	C	0.008	**32,569**	**0.814**	**D**	**32,891**	**0.822**	**D**	0.008
	El Camino Real to RDO	Prime (6)	60,000	25,588	0.426	A	25,588	0.426	A	0.000	31,675	0.528	A	31,675	0.528	A	0.000
	East of Rdo	Prime (6)	60,000	28,067	0.468	A	28,067	0.468	A	0.000	36,299	0.605	B	36,299	0.605	B	0.000
Pala Rd.	N. Douglas Dr to Los Arborl.	Secondary	25,000	2,507	0.100	A	3,472	0.139	A	0.039	2,607	0.104	A	3,572	0.143	A	0.039

Table ES-4
Summary of Horizon Year 2020 Roadway Segment Operating Conditions

				No Pala Extension							With Pala Extension						
				2020 No Project			2020 With Project			Project Related Change in V/C	2020 No Project			2020 With Project			Project Related Change in V/C
Segment	Location	Class	Capacity	ADT	V/C	LOS	ADT	V/C	LOS		ADT	V/C	LOS	ADT	V/C	LOS	
SR-76	West of I-5 SB Ramps	Expressway	64,000	27,714	0.433	A	28,358	0.443	A	0.010	27,714	0.433	A	28,358	0.443	A	0.010
	Between I-5 Ramps	Expressway	64,000	40,242	0.629	B	41,207	0.644	B	0.015	40,242	0.629	B	41,207	0.644	B	0.015
	Between NB I-5 Ramps and Loretta St.	Expressway	80,000	59,701	0.746	C	60,988	0.762	C	0.016	59,701	0.746	C	60,988	0.762	C	0.016
	Between Loretta and N.. Canyon Rd.	Expressway	80,000	57,567	0.720	C	59,498	0.744	C	0.024	57,567	0.720	C	59,498	0.744	C	0.024
	Between N. Canyon Rd. and Benet	Expressway	80,000	66,050	0.826	D	69,268	0.866	D	0.040	66,050	0.826	D	69,268	0.866	D	0.040
	Between Benet and Airport	Expressway	80,000	63,440	0.793	C	66,979	0.837	D	0.044	63,440	0.793	C	66,979	0.837	D	0.044
	Between Airport and Foussat	Expressway	80,000	62,273	0.778	C	66,134	0.827	D	0.048	62,273	0.778	C	66,134	0.827	D	0.048
	Between Foussat and N. Douglas Rd.	Expressway	80,000	66,539	0.832	D	72,009	0.900	E	0.068	64,739	0.809	D	67,957	0.849	D	0.040
	Between N. Douglas Rd. and RDO	Expressway	80,000	54,262	0.678	B	57,480	0.718	C	0.040	54,262	0.678	B	57,480	0.718	C	0.040
	Between RDO and Old Grove Rd.	Expressway	80,000	57,575	0.720	C	59,827	0.748	C	0.028	57,575	0.720	C	59,827	0.748	C	0.028
	Between Old Grove Rd. and Frazee	Expressway	80,000	53,185	0.665	B	54,472	0.681	B	0.016	53,185	0.665	B	54,472	0.681	B	0.016
	Between Frazee and College Blvd.	Expressway	80,000	53,631	0.670	B	54,918	0.686	B	0.016	53,631	0.670	B	54,918	0.686	B	0.016
	Between College Blvd and N. Santa Fe	Expressway	80,000	58,527	0.732	C	59,492	0.744	C	0.012	58,527	0.732	C	59,492	0.744	C	0.012
	East of N. Santa Fe Ave.	Expressway	80,000	61,803	0.773	C	62,768	0.785	C	0.012	61,803	0.773	C	62,768	0.785	C	0.012
Mission Ave	West of I-5 SB Ramps	Major (4)	40,000	**33,276**	**0.832**	**D**	**33,598**	**0.840**	**D**	0.008	**33,276**	**0.832**	**D**	**33,598**	**0.840**	**D**	0.008
	Between I-5 Ramps	Major (4)	40,000	**36,205**	**0.905**	**E**	**36,849**	**0.921**	**E**	0.016	**36,205**	**0.905**	**E**	**36,849**	**0.921**	**E**	0.016
	Between I-5 Ramps and N. Canyon	Major (4)	40,000	28,408	0.710	C	30,339	0.758	C	0.048	28,408	0.710	C	30,339	0.758	C	0.048
	Between N. Canyon and Mesa	Major (4)	40,000	25,588	0.640	B	28,806	0.720	C	0.080	25,588	0.640	B	28,806	0.720	C	0.080
	Between Mesa and Airport	Major (4)	40,000	21,470	0.537	A	25,331	0.633	B	0.097	21,470	0.537	A	25,331	0.633	B	0.097
	Between Airport and Foussat	Major (4)	40,000	23,095	0.577	A	27,921	0.698	B	0.121	23,095	0.577	A	27,921	0.698	B	0.121
	Between Foussat and El Camino Real	Major (4)	40,000	31,950	0.799	C	**44,498**	**1.112**	**F**	**0.314**	27,750	0.694	B	**38,368**	**0.959**	**E**	**0.265**
	Between El Camino Real and N. Douglas	Major (4)	40,000	26,163	0.654	B	30,024	0.751	C	0.097	25,263	0.632	B	29,768	0.744	C	0.113
	Between N. Douglas Rd. and RDO	Major (4)	40,000	27,496	0.687	B	29,748	0.744	C	0.056	27,496	0.687	B	29,748	0.744	C	0.056
	Between RDO and Old Grove Rd.	Major (4)	40,000	15,936	0.398	A	16,580	0.414	A	0.016	15,936	0.398	A	16,901	0.423	A	0.024
	East of Old Grove Rd.	Major (4)	40,000	7,510	0.188	A	7,510	0.188	A	0.000	7,510	0.188	A	7,510	0.188	A	0.000
N. Canyon Rd.	Between SR-76 and Mission Ave.	Secondary	25,000	12,655	0.506	A	13,942	0.558	A	0.051	12,655	0.506	A	13,942	0.558	A	0.051
	South of Mission Ave.	Secondary	25,000	15,086	0.603	C	15,730	0.629	B	0.026	15,086	0.603	B	15,730	0.629	B	0.026
Mesa Dr.	Between Mission and El Camino Real	Secondary	25,000	10,327	0.413	A	11,936	0.477	A	0.064	10,327	0.413	A	11,936	0.477	A	0.064
	Between El Camino Real and RDO	Secondary	25,000	15,717	0.629	B	15,717	0.629	B	0.000	15,717	0.629	B	15,717	0.629	B	0.000
	East of Rdo	Secondary	25,000	16,528	0.661	B	16,528	0.661	B	0.000	16,528	0.661	B	16,528	0.661	B	0.000
Airport Rd	Between SR-76 and Mission Ave.	Industrial	10,000	5,232	0.523	A	6,197	0.620	B	0.097	5,232	0.523	A	6,197	0.620	B	0.097
Foussat Rd.	North of SR-76	Secondary (5)	37,500	5,990	0.159	A	29,156	0.777	C	0.618	11,990	0.319	A	29,365	0.783	C	0.464
	Between SR-76 and Mission Ave.	Secondary (5)	37,500	14,300	0.381	A	28,457	0.759	C	0.378	18,500	0.493	A	29,118	0.776	C	0.283
	Between Mission and Mesa Dr.	Secondary	12,500	8,939	0.715	C	9,500	0.760	C	0.045	8,939	0.715	C	9,500	0.760	C	0.045
El Camino Real	Between N. Douglas Rd. and Los Arbol.	Major (4)	40,000	23,572	0.589	A	24,859	0.621	B	0.032	22,672	0.567	A	23,316	0.583	A	0.016
	Between Los Arbol. And Mission Ave.	Major (4)	40,000	30,350	0.759	C	**33,568**	**0.839**	**D**	**0.080**	27,050	0.676	B	28,015	0.700	C	0.024
	Between Mission and Mesa Dr.	Major (4)	40,000	26,545	0.664	B	28,476	0.712	C	0.048	26,545	0.664	B	28,476	0.712	C	0.048
	Between Mesa and Oceanside Blvd	Major (4)	40,000	**35,637**	**0.891**	**D**	**36,441**	**0.910**	**E**	0.019	**35,637**	**0.891**	**D**	**36,441**	**0.910**	**E**	0.019
	South of Oceanside Blvd.	Prime (6)	60,000	45,976	0.766	C	46,941	0.782	C	0.016	45,976	0.766	C	46,941	0.782	C	0.016
Rancho Del Oro	Between N. Douglas and Mission Ave	Major (4)	40,000	15,550	0.389	A	15,550	0.389	A	0.000	15,550	0.389	A	16,837	0.421	A	0.032
	Between Mission and SR-76	Major (4)	40,000	11,194	0.280	A	11,516	0.288	A	0.008	11,194	0.280	A	11,516	0.288	A	0.008
	Between SR-76 and Mesa Dr.	Major (4)	40,000	24,127	0.603	B	25,414	0.635	B	0.032	24,127	0.603	B	25,414	0.635	B	0.032
	Between Mesa Dr. and Oceanside Blvd	Major (4)	40,000	21,332	0.533	A	21,976	0.549	A	0.016	21,332	0.533	A	21,976	0.549	A	0.016
	South of Oceanside Blvd.	Major (4)	40,000	**33,427**	**0.836**	**D**	**33,749**	**0.844**	**D**	0.008	**33,427**	**0.836**	**D**	**33,749**	**0.844**	**D**	0.008
Frazee Rd.	North of SR-76	Secondary	25,000	6,021	0.241	A	6,021	0.241	A	0.000	6,021	0.241	A	6,021	0.241	A	0.000
	Between SR-76 and Mission Ave.	Secondary	25,000	10,264	0.411	A	10,264	0.411	A	0.000	10,264	0.411	A	10,264	0.411	A	0.000
Old Grove Rd.	North of SR-76	Major (4)	40,000	8,129	0.203	A	8,129	0.203	A	0.000	8,129	0.203	A	8,129	0.203	A	0.000
	South of SR-76	Major (4)	40,000	13,513	0.338	A	14,478	0.362	A	0.024	13,513	0.338	A	14,478	0.362	A	0.024
	South of Mission Ave.	Major (4)	40,000	15,188	0.380	A	15,832	0.396	A	0.016	15,188	0.380	A	15,832	0.396	A	0.016
College Blvd.	North of SR-76	Prime (6)	60,000	39,226	0.654	B	39,548	0.659	B	0.005	39,226	0.654	B	39,548	0.659	B	0.005
	South of SR-76	Major (5)	45,000	26,547	0.590	A	26,547	0.590	A	0.000	26,547	0.590	A	26,547	0.590	A	0.000
N. Santa Fe Ave,	South of SR-76	Major (4)	40,000	24,633	0.616	B	24,633	0.616	B	0.000	24,633	0.616	B	24,633	0.616	B	0.000
N. Douglas Dr.	North of N. River Rd.	Major (4)	40,000	16,256	0.406	A	17,543	0.439	A	0.032	16,256	0.406	A	17,543	0.439	A	0.032
	Between N. River Rd. and Pala Dr.	Major (4)	40,000	**36,567**	**0.914**	**E**	**39,141**	**0.979**	**E**	**0.064**	**36,567**	**0.914**	**E**	**39,141**	**0.979**	**E**	**0.064**
	Between Pala Dr. and El Camino Real	Major (4)	40,000	**41,897**	**1.047**	**F**	**46,080**	**1.152**	**F**	**0.105**	**38,297**	**0.957**	**E**	**39,262**	**0.982**	**E**	**0.024**
	Between El Camino Real and Mission	Major (4)	40,000	25,008	0.625	B	28,869	0.722	C	0.097	22,308	0.558	A	23,595	0.590	A	0.032
	Between Mission and SR-76	Major (4)	40,000	24,920	0.623	B	28,138	0.703	C	0.080	23,120	0.578	A	23,764	0.594	A	0.016
N. River Rd.	East of N. Douglas Dr.	Major (4)	40,000	18,724	0.468	A	19,689	0.492	A	0.024	18,724	0.468	A	19,689	0.492	A	0.024
Los Arbolitos Blvd.	Between Pala Dr. and El Camino Real	Collector	15,000	8,200	0.547	A	10,452	0.697	B	0.150	8,200	0.547	A	9,809	0.654	B	0.107
Oceanside Blvd	West of El Camino Real	Major (4)	40,000	**34,870**	**0.872**	**D**	**35,192**	**0.880**	**D**	**0.008**	34,870	**0.872**	**D**	35,192	**0.880**	**D**	0.008
	Between El Camino Real and RDO	Prime (6)	60,000	44,632	0.744	C	44,632	0.744	C	0.000	44,632	0.744	C	44,632	0.744	C	0.000
	East of Rdo	Prime (6)	60,000	42,285	0.705	C	42,285	0.705	C	0.000	42,285	0.705	C	42,285	0.705	C	0.000
Pala Rd.	Between N. Douglas Dr and Los Arborl.	Secondary	25,000	9,400	0.376	A	10,365	0.415	A	0.039	12,100	0.484	A	15,318	0.613	B	0.129
	Between Los Arbolitos Blvd. and Foussat Rd.	Secondary	25,000	3,400	0.136	A	3,400	0.136	A	0.000	6,000	0.24	A	10,826	0.433	A	0.913

Table ES-5
Summary of Recommended Roadway Segment Mitigation Measures

Deficient Segment		Study Scenario LOS								Sig. Impacted?	Improvement / Mitigation	Direct/Indirect Impact?
		Existing		Cumulative		2020 w/o Pala		2020 w/Pala				
		No Project	With Project	No Project	With Project	No Project	With Project	No Project	With Project			
Mission Ave	West of I-5 SB Ramps	B	B	C	C	**D**	**D**	**D**	**D**	**No**		
	Between the I-5 Ramps	**D**	**D**	**D**	**D**	**E**	**E**	**E**	**E**	**No**		
	Between Foussat Rd. and El Camino Real	A	**E**	B	**E**	C	**F**	B	**E**	**Yes**	Creative Measures Install dedicated right turn lane WB and dual EB left turn lanes at project access road to improve traffic flow along Mission Avenue.	Direct Impact
El Camino Real	Los Arbolitos Blvd. to Mission Ave.	A	B	A	B	C	**D**	B	C	**Yes**	Creative Measures: Install second northbound left turn lane at Los Arbolitos Blvd./El Camino Real to improve northbound traffic flow on El Camino Real.	Cumulative Indirect Impact
	Mesa Dr. to Oceanside Blvd.	C	C	**D**	**D**	**D**	**E**	**D**	**E**	**No**		
Rancho Del Oro Dr.	South of Oceanside Blvd.	A	A	A	A	**D**	**D**	**D**	**D**	**No**		
N. Douglas Dr.	Between N. River and Pala Rd.	**D**	**D**	**D**	**E**	**E**	**E**	**E**	**E**	**Yes**	Significant/unavoidable due to bridge. Identified in City of Oceanside Circulation Element.	Cumulative Indirect Impact
	Between Pala Rd. and El Camino Real	**D**	**E**	**E**	**F**	**F**	**F**	**E**	**E**	**Yes**	Creative Measures: Install dual NB left turn lanes at Pala Road to improve flow on N. Douglas Dr.	Cumulative Indirect Impact
Oceanside Blvd.	West of El Camino Real	C	C	**D**	**D**	**D**	**D**	**D**	**D**	**No**		

Table ES-6
Summary of Intersection Mitigation Measures

Deficient Study Intersection	Study Scenario LOS								Sig. Impacted?	Recommended Improvement	Direct/ Indirect Impact?	Mitigated LOS
	Existing		Cumulative		2020 No Pala		2020 With Pala					
	No Project	With Project	No Project	With Project	No Project	With Project	No Project	With Project				
SR-76/Rancho Del Oro	**E/F**	**E/F**	**F/F**	**F/F**	D/D	D/D	D/D	D/D	**Yes**	Add additional EB/WB thru lane in conjunction w/SR-76 widening.(To be completed by Caltrans).	Indirect/ Cumulative	D/D
										Restripe NB approach to provide exclusive right turn lane & right turn overlap phase.	Indirect/ Cumulative	
SR-76/College	D/D	D/D	D/**E**	D/**E**	D/**E**	D/**E**	D/**E**	D/**E**	No			
Mesa Dr./ El Camino Real	C/C	C/C	C/C	C/C	D/**E**	D/**E**	D/**E**	D/**E**	No			
Oceanside Blvd./ El Camino Real	D/D	D/D	D/D	D/D	D/**E**	D/**E**	D/**E**	D/**E**	No			
Pala Rd./N. Douglas Dr.	B/B	B/B	B/B	B/B	D/C	**E**/C	C/B	C/B	**Yes**	Modify traffic signal and phasing to include EB right turn overlap phase. Install dual NB left turn lanes at Pala Road to improve flow on N. Douglas Drive.	Direct	C/B

SR-76/Rancho del Oro Drive Intersection Improvements. Currently operating at deficient LOS, this intersection is forecast to be significantly impacted (Indirect/Cumulative Impact) by the project. Widening SR-76 from 4 to 6 lanes is forecast to mitigate the condition by 2020, but these improvements are not likely to occur for several years. Adding a northbound right turn pocket and/or restriping the northbound approach to include a dedicated right turn lane is forecast to mitigate the short term impacts.

Pala Road/N. Douglas Drive Intersection Improvements. This intersection is forecast to operate at LOS E in the a.m. peak hour with the proposed project (Direct Impact) if the Pala Road extension is not constructed and is indirectly/cumulative impacted. However, construction of dual northbound left turn lanes and modification to the traffic signal to include an eastbound right turn overlap phase is forecast to mitigate the identified impact at both the intersection and along N. Douglas Drive. This improvement would require changes in the traffic signal controller, new signal heads and potentially new loop detectors.

Portions of N. Douglas Drive are currently operating at and are forecast to continue to operate at deficient levels of service. Between N. River Road and El Camino Real, N. Douglas Drive currently operates at LOS D and is forecast to operate at LOS E or F through year 2020 (without or with Pala Road extension). City of Oceanside Circulation Element states:

> "North of El Camino Real to North River Road, forecast volumes approach 38,000 ADT [along N. Douglas Drive]. With these forecasted volumes, a Six-Lane Major Arterial classification would provide for acceptable LOS, however, due to right-of-way constraints, only a Four-Lane Major Arterial classification can be accommodated. This segment will operate at unacceptable LOS using the ADT method. With the use of special capacity enhancement treatments, an acceptable LOS can be achieved. "

N. Douglas Drive has been constructed as a four-lane major arterial, as described in the Circulation Element, with dedicated turn lanes at major access points and signalized intersections. As the City has recognized that widening of this road is not feasible, other creative measures may be necessary to improve these segments of roadway. Traffic signal coordination, interconnect and other capacity enhancements should be coordinated with City of Oceanside staff. However, if such enhancements are not feasible, it may be necessary to accept a statement of overriding considerations for the identified indirect impact.

Pala Road Assessment

This traffic study evaluates the project related impacts for both Near Term and Horizon Year 2020 that excludes the offsite portion of the Pala Road extension, as the planning and feasibility of this offsite roadway segment was uncertain at the time this report was prepared. The Pala Road Assessment evaluates the net change in traffic volumes in the study area associated with the construction of the Pala Road offsite extension, as illustrated in the City's Circulation Element. The purpose of this analysis was to determine changes in levels of service if the Pala Road offsite extension were constructed. The analysis is based on traffic model runs conducted without and with Pala Road for the Horizon Year 2020 conditions without and with the project.

The results of the analysis show that the offsite extension of Pala Road will have the greatest effect on the roadways and intersections in the immediate vicinity of the roadway extension: El Camino Real, Douglas Drive, Foussat/Pala and Mission Avenue. The forecast traffic model shows that approximately 11,500 vehicles per day would use the Pala Road extension of which approximately 5,300 trips per day are associated with the Oceanside Pavilion project. The extension of Pala Road would provide partial relief to the intersection of El Camino Real/Mission Avenue, as well as to segments of Douglas Drive and El Camino Real. Traffic is forecast to increase along Pala Road west of Douglas to Foussat Road and Foussat Road north of Mission Avenue to Pala Road.

Although the Pala Road extension would eliminate project related impacts identified for the "without Pala Road", these direct impacts (El Camino Real/Mission Avenue and Pala Road/N. Douglas Drive) could be mitigated by means other than construction of this roadway. Therefore, Pala Road is not necessary for the Oceanside Pavilion project. City-wide benefit of the Pala Road extension will be evaluated as part of an ongoing project that has been initiated by City of Oceanside independent of this project.

INTRODUCTION

This study analyzes the forecast traffic impact of the proposed Oceanside Pavilion commercial retail project located on the northeast corner of State Route 76 (SR-76) and Foussat Road in the City of Oceanside. Exhibit 1 shows the regional project vicinity.

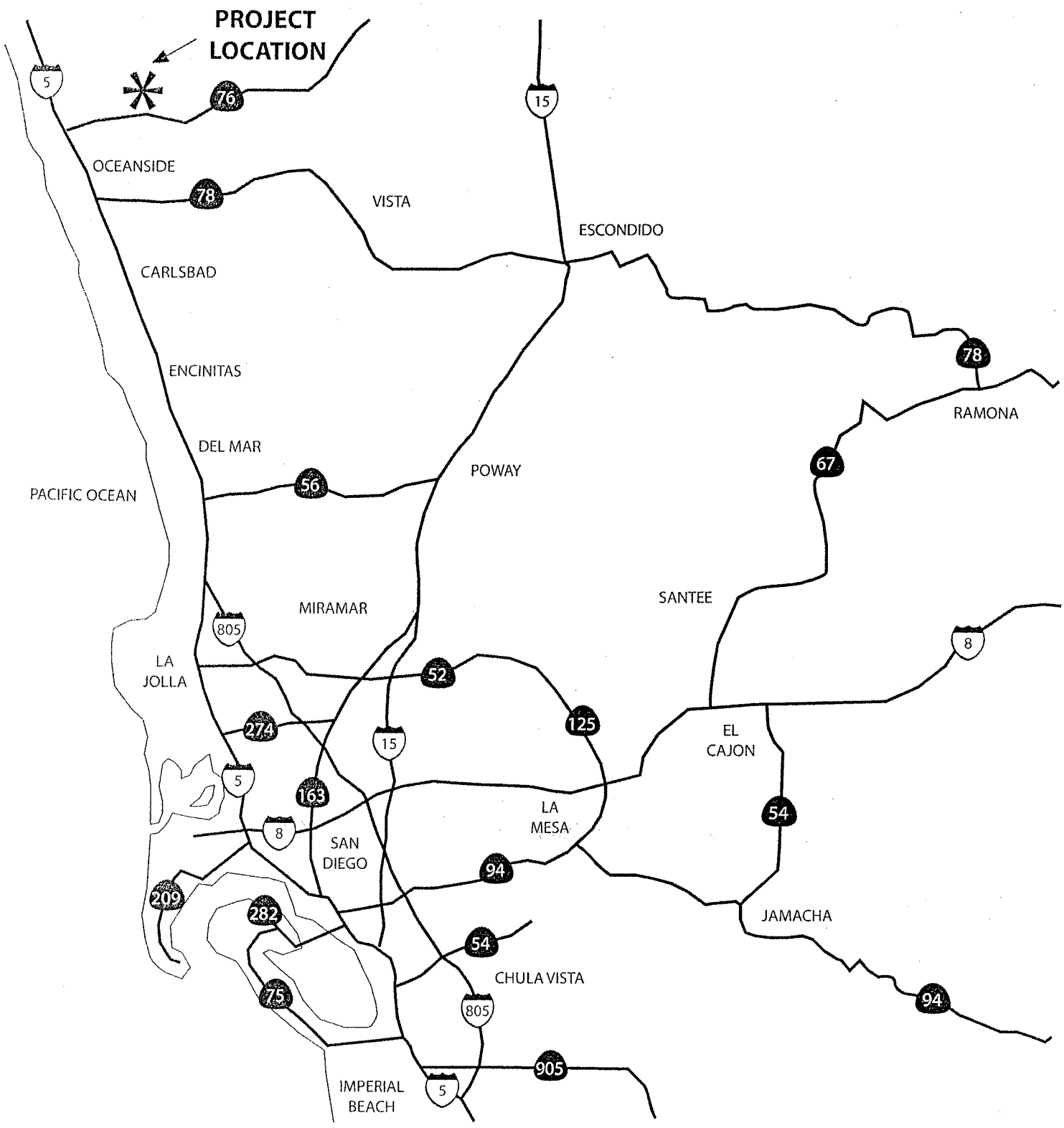
The analysis conducted herein is consistent with the requirements of the City of Oceanside and of regional authorities. As required by the City of Oceanside, this traffic impact study has been prepared in accordance with the General Plan Circulation Element and the SANDAG Congestion Management Program (CMP) traffic impact study guidelines.

The threshold to determine the need for traffic studies is 500 daily trips for non-conforming land uses and 1,000 daily trips for projects consistent with land uses in the City's General Plan. The proposed Oceanside Pavilion commercial retail project is forecast to generate approximately 32,175 trips per day, with 1,254 trips occurring in the a.m. peak hour and 2,872 trips occurring in the p.m. peak hour. Project traffic was distributed onto the roadway network based on a select zone analysis run conducted by SANDAG. A total of 36 intersections and 62 roadway segments are included in the study area.

Project Description

The project site plan is provided as Exhibit 2. At the time this report was prepared, the total building area was fluctuating as the site plan was being refined. In order to assure trip generation was not understated in this report, this study uses a total of 950,100 square feet of commercial uses which includes retail, restaurants, movie theater, and health club.

Access to the project site will be provided at several locations. Two new signalized intersections are proposed on Foussat Road. Secondary access will also be provided from a limited access driveways (right-turn in, right-turn out) located on Foussat Road, north of SR-76. Signalized access will be provided on Mission Road. This intersection is currently controlled by a traffic signal providing weekend access to the swap meet.



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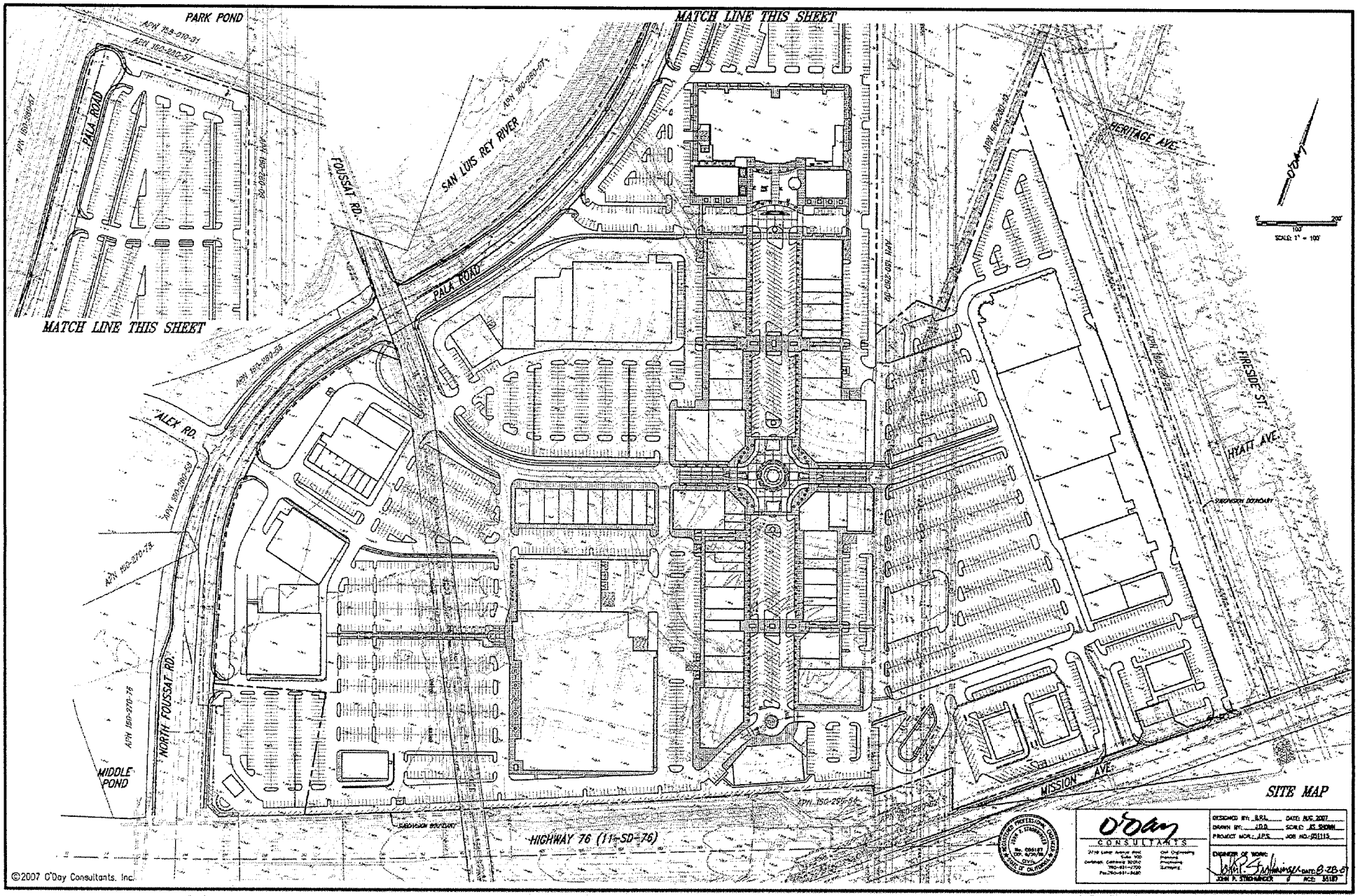
REGIONAL PROJECT VICINITY

EXHIBIT 1



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SITE PLAN

EXHIBIT 2

Study Area

According to the SANDAG Congestion Management Program (CMP) guidelines, intersections and roadway segments where 50 or more peak hour trips are forecast to be added shall be selected for inclusion in this analysis. The proposed project is forecast to generate approximately 1,254 a.m. peak hour and 2,872 p.m. peak hour trips. Project-generated trips were assigned to the roadway network based on a select zone model run produced by the SANDAG Series 10 traffic model. A total of 36 study intersections and 62 roadway segments were identified for inclusion in this traffic study. Based on the threshold set by the SANDAG CMP guidelines, the study area consists of the following intersections and roadway segments adjacent to the listed intersections:

Study Intersections

1) SR-76/I-5 Southbound Ramps;
2) SR-76/I-5 Northbound Ramps;
3) SR-76/Loretta Street;
4) SR-76/North Canyon Drive;
5) SR-76/Benet Road;
6) SR-76/Airport Road;
7) SR-76/Foussat Road;
8) SR-76/Douglas Drive;
9) SR-76/Rancho Del Oro Drive;
10) SR-76/Old Grove Road;
11) SR-76/Frazee Road;
12) SR-76/College Boulevard;
13) SR-76/North Santa Fe Road;
14) Mission Avenue/I-5 Southbound Ramps;
15) Mission Avenue/I-5 Northbound Ramps;
16) Mission Avenue/Canyon Drive;
17) Mission Avenue/Mesa Drive;
18) Mission Avenue/Airport Road;
19) Mission Avenue/Foussat Road;
20) Mission Avenue/El Camino Real;
21) Mission Avenue/Douglas Drive;
22) Mission Avenue/Rancho Del Oro Drive;
23) Mission Avenue/Old Grove Road;
24) Mesa Drive/El Camino Real;
25) Mesa Drive/Rancho Del Oro Drive;
26) Oceanside Boulevard/El Camino Real;
27) Oceanside Boulevard/Rancho Del Oro Drive;
28) North River Road/Douglas Drive;
29) Pala Road/Douglas Drive;
30) El Camino Real/Douglas Drive;
31) Los Arbolitos Boulevard/El Camino Real;
32) Pala Road/Los Arbolitos Boulevard;
33) Mission Avenue/Project Access;
34) Foussat Road/Project Access "A";
35) Foussat Road/Project Access "B";
36) SR-76/Melrose Drive.

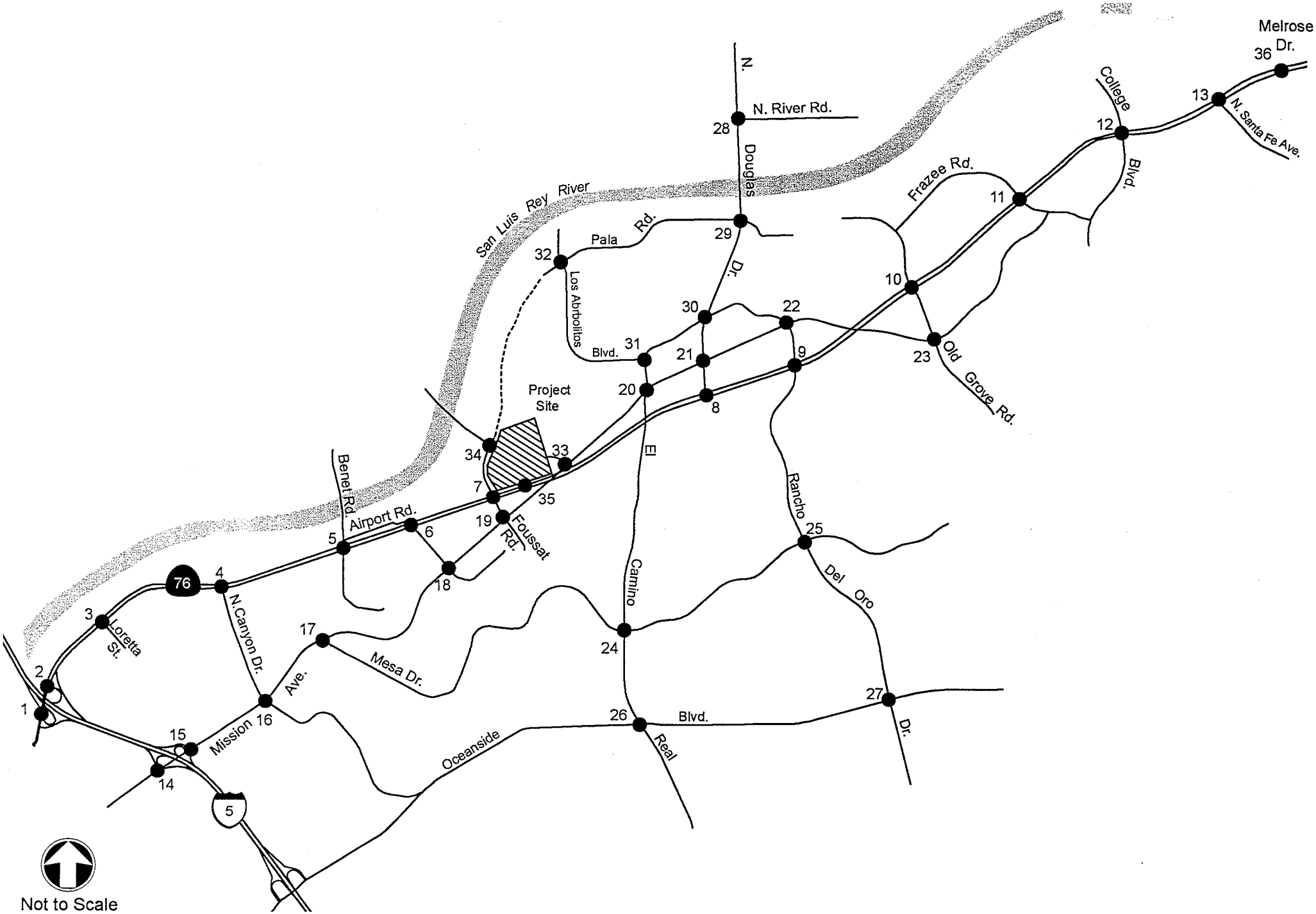
The project study area is shown in Exhibit 3. According to the SANDAG CMP, SR-76, El Camino Real, College Boulevard, North Santa Fe Avenue, and Oceanside Boulevard are parts of the Regional Arterial System. Therefore, all signalized intersections and roadway segments where 50 or more peak hour trips were added along these arterials were included in the analysis.

ANALYSIS METHODOLOGY

In accordance with the SANDAG CMP traffic impact study guidelines and City of Oceanside requirements, this study analyzes the followings study scenarios:

- **Existing Conditions** – Analysis of existing traffic count volumes, intersection geometry and existing roadway network.

- **Existing Plus Project Conditions** – Analysis of existing traffic volumes overlaid with the forecast project-generated traffic. The existing intersection geometry and roadway network were used in this analysis, which includes project intersection improvements.



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PROJECT STUDY AREA

EXHIBIT 3

- **Existing Plus Cumulative Conditions** – Analysis of existing traffic volumes overlaid with traffic associated with approved or pending projects assumed to be constructed and occupied by the project-opening year. The existing plus cumulative conditions also include all roadway improvements within the project study area planned for completion by the project-opening year.

- **Existing Plus Cumulative Plus Project Conditions** – Analysis of existing traffic volumes overlaid with forecast cumulative project traffic and traffic generated by the proposed project. The existing plus cumulative plus project conditions also include all roadway improvements within the project study area planned for completion by the project-opening year.

- **Horizon Year 2020 Conditions Without Project** – Analysis of Horizon Year 2020 conditions was conducted using the industry standard SANDAG Series 10 North San Diego County subarea traffic model. Trips associated with the project zones were cleared based on select zone runs to reflect without project conditions. The resulting Horizon Year 2020 volumes were then post-processed for the peak hours based on the forecast daily volumes. Build-out of roadway improvements and General Plan land uses are included in the analysis of Horizon Year 2020 Conditions.

- **Horizon Year 2020 Conditions With Project** – Analysis of Horizon Year 2020 conditions with the proposed project uses industry standard methods for post-processed traffic model volumes from the previous without project condition. Trips were then added to the daily and peak hour volumes using the distribution developed for the project. All build-out roadway improvements in the project study area are included in the analysis of Horizon Year 2020 Conditions.

Intersection Analysis Methodology

Analysis of all intersections and roadway segments in the project study area is based on the guidelines set forth in the 1995 City of Oceanside General Plan Circulation Element, subsequent publications from the City of Oceanside Transportation Division, and SANDAG CMP Guidelines. As required, the 2000 Highway Capacity Manual (HCM) operation methodology for *Signalized and Unsignalized Intersections* was used to determine the operating Levels of Service (LOS) of the study intersections. The TRAFFIX software package was used to evaluate the study intersections using the HCM methodology. The HCM methodology describes the operation of an intersection using a range of levels of service (LOS) from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on corresponding delay per vehicle thresholds for signalized and unsignalized intersections shown in Table 1. The City of Oceanside considers LOS D or better to be acceptable intersection operating conditions during the peak hours.

Table 1
Level of Service & Delay Ranges

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual.

Roadway Segment Methodology

A daily roadway segment analysis was conducted for all study area roadways, which was based upon the 1995 City of Oceanside Circulation Element and SANDAG CMP guidelines. The roadway segment level of service criteria is included in Table 2. Excerpts from the 1995 City of Oceanside Circulation Element that summarizes the capacity thresholds by roadway segment and level of service criteria are provided in Appendix A.

Table 2
Daily Level of Service Thresholds for Roadway Segments

Classification / Lanes	Level of Service				
	A	B	C	D	E
Expressway / 6	48,000	56,000	64,000	72,000	80,000
Expressway / 4	38,400	44,800	51,200	57,600	64,000
Prime Arterial / 6	36,000	42,000	48,000	54,000	60,000
Major Arterial / 5	27,000	31,500	36,000	40,500	45,000
Major Arterial / 4	24,000	28,000	32,000	36,000	40,000
Secondary / 4	18,000	21,000	24,000	27,000	30,000
Secondary / 2	15,000	17,500	24,000	27,000	30,000
Industrial / 2	6,000	7,000	8,000	9,000	10,000
Collector / 2	5,250	6,125	7,000	7,875	8,750

Source: Ultimate Capacities from City of Oceanside Circulation Element, 1995; SANDAG CMP Guidelines, 2002.

According to the 1995 City of Oceanside Circulation Element, the City's goal for acceptable service standards during daily periods is LOS C for all roadway segments. The City of Oceanside recognizes that due to regional traffic passing through the City, LOS C cannot be maintained along

regional arterials; therefore, the City will accept LOS D during the peak hours. The City of Oceanside requires peak hour arterial analysis for any roadway segment that is found to operate at LOS D on a daily basis. In these cases, regardless of the peak hourly analysis, creative measures must be prepared and proposed for City review and approval.

Peak hour roadway segment LOS is based on roadway segment speed and urban street class, defined by the 2000 HCM. There are four urban street classifications, defined by number in the HCM:

I. High Speed Principal Arterial – Typically four or more lanes, divided, no on-street parking with signals spaced no closer than two every mile. Speed limits range from 45-55 mph.

II. Suburban Principal Arterial – Typically four or more lanes, divided, no on-street parking with signals spaced no closer than three every mile. Speed limits range from 40-45 mph.

III. Intermediate Minor Arterial – Typically two lanes with some on-street parking. Traffic signals spaced no closer than five every mile. Speed limits range from 30-45 mph.

IV. Urban Minor Arterial – Typically two lanes, undivided roadway with significant on-street parking. Traffic signals spaced at about six every mile. Speed limits range from 25 to 35 mph.

Table 3 summarizes the urban street LOS by speed as published in the 2000 HCM. The TRAFFIX software was used to evaluate the peak hour roadway segment LOS where appropriate.

Table 3
Peak Hour Roadway Segment LOS Criteria

Urban Street Class	I	II	III	IV
Range of free flow speeds (FFS)	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	> 42	> 35	> 30	> 25
B	> 34-42	> 28-35	> 24-30	> 19-25
C	> 27-34	> 22-28	> 1-24	> 13-19
D	> 31-27	> 17-22	> 14-18	> 9-13
E	> 16-21	> 13-17	> 10-14	> 7-9
F	≤ 16	≤ 13	≤ 10	≤ 7

Source: 2000 Highway Capacity Manual.

Significant Impact Thresholds

Within the City of Oceanside, a significant impact is forecast to occur if project-generated traffic increases the peak hour intersection delay by 2.0 seconds or more for intersections operating at deficient levels of service (LOS E or worse). For roadway segments, a significant impact is forecast to occur if the project-generated traffic results in an increase in the V/C ratio on a roadway segment by 0.020 or more roadway segments forecast to operate at a deficient level of service (LOS D or worse in the City of Oceanside).

EXISTING CONDITIONS

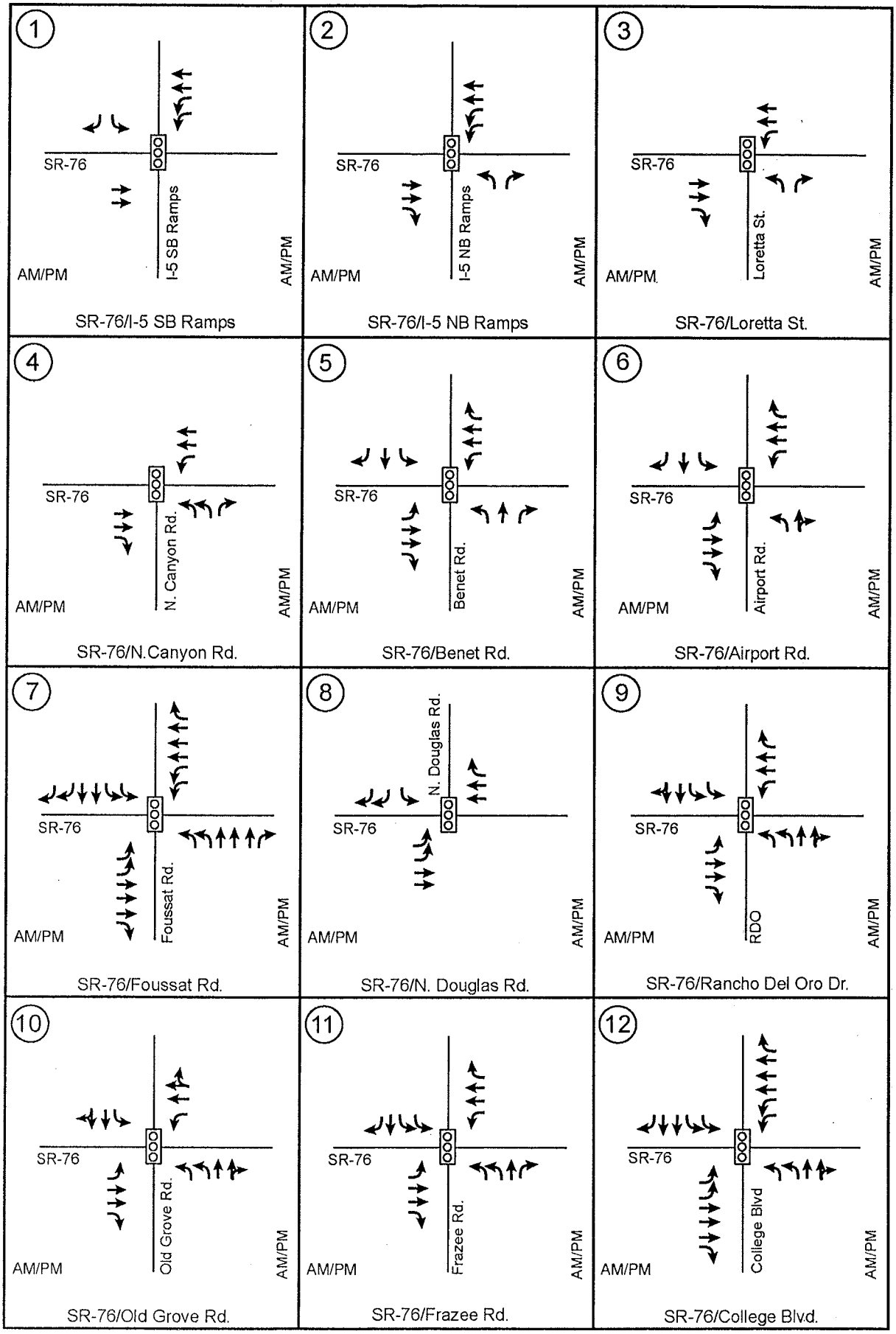
Existing Roadway Circulation System

A field review was conducted to determine the existing intersection geometry, traffic control devices, signal phasing and other factors, which may affect intersection or roadway segment capacity. The existing intersection geometry is illustrated in Exhibits 4A, 4B, and 4C. The following is a description of roadways in the study area.

State Route 76 (SR-76) provides regional access to Oceanside as a major expressway facility and is oriented in an east-west direction. In the vicinity of the project, the expressway is generally a four-lane facility. At the intersection with Foussat Road, SR-76 widens to six-lanes through the intersection in both the eastbound and westbound directions. Regional project access is provided at the intersection of SR-76 and Foussat Road. SR-76 is part of the Regional Arterial System, as classified by the SANDAG Congestion Management Program.

Mission Avenue is a four-lane major roadway generally oriented in an east-west direction. The roadway extends from downtown Oceanside, west of the project site, to its terminus at Frazee Road, east of the project site. Project access will be provided from Mission Avenue.

Foussat Road is classified as a secondary arterial roadway from Mission Avenue to north of SR-76. South of Mission Avenue, Foussat Road is a collector roadway that extends to its terminus at Industry Street, south of Oceanside Boulevard. In the vicinity of SR-76, Foussat Road widens to six-lanes. Further north of SR-76, Foussat Road currently narrows to a two-lane facility. Project access will be provided from Foussat Road. To accommodate the necessary turn lanes along the project frontage, Foussatt will be constructed with five through lanes (three northbound and two southbound). The third through lane will transition into a dedicated right turn lane at the project's northern most signalized access point (Foussatt/Pala). The capacity at LOS E of this segment along the project frontage is 37,500, which is consistent with both capacity and lane configuration of the segment of Foussatt Road between Mission Avenue and SR-76.



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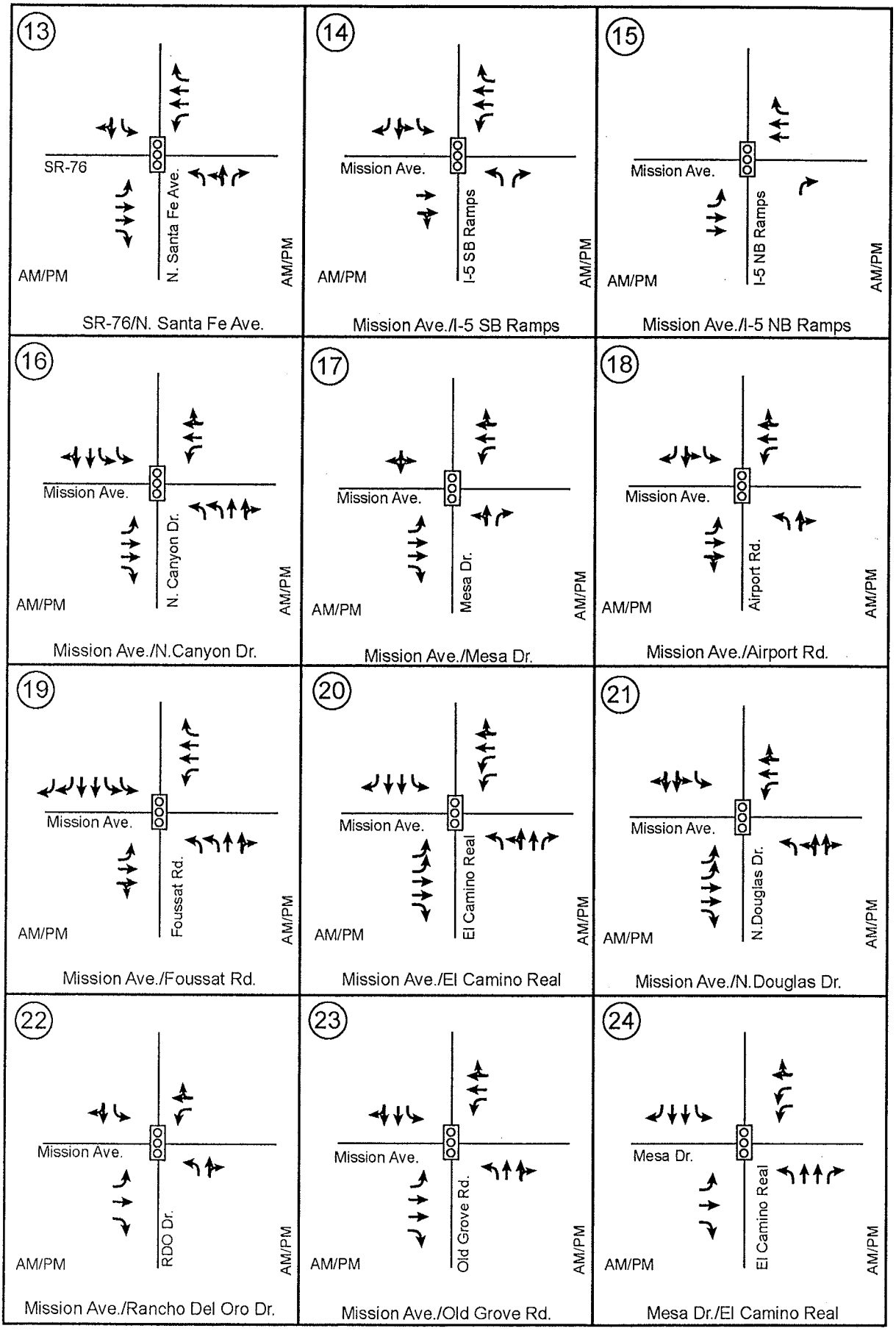
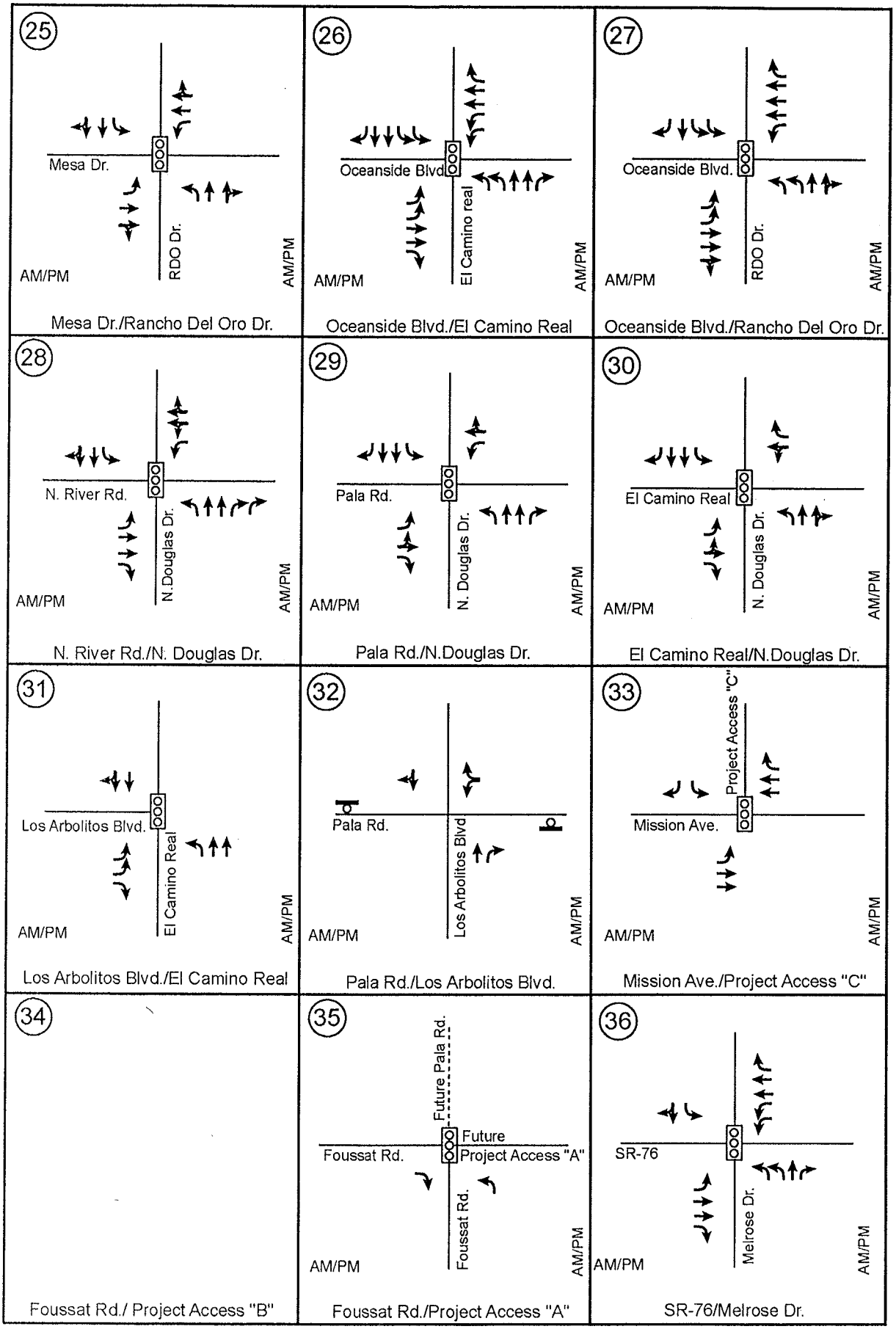
EXISTING INTERSECTION LANE GEOMETRY

EXHIBIT 4A



EXISTING INTERSECTION LANE GEOMETRY

EXHIBIT 4B


25
Mesa Dr.
RDO Dr.
AM/PM
AM/PM
Mesa Dr./Rancho Del Oro Dr.
26
Oceanside Blvd.
El Camino real
AM/PM
AM/PM
Oceanside Blvd./El Camino Real
27
Oceanside Blvd.
RDO Dr.
AM/PM
AM/PM
Oceanside Blvd./Rancho Del Oro Dr.
28
N. River Rd.
N.Douglas Dr.
AM/PM
AM/PM
N. River Rd./N. Douglas Dr.
29
Pala Rd.
N. Douglas Dr.
AM/PM
AM/PM
Pala Rd./N.Douglas Dr.
30
El Camino Real
N. Douglas Dr.
AM/PM
AM/PM
El Camino Real/N.Douglas Dr.
31
Los Arbolitos Blvd.
El Camino Real
AM/PM
AM/PM
Los Arbolitos Blvd./El Camino Real
32
Pala Rd.
Los Arbolitos Blvd
AM/PM
AM/PM
Pala Rd./Los Arbolitos Blvd.
33
Project Access "C"
Mission Ave.
AM/PM
AM/PM
Mission Ave./Project Access "C"
34
Foussat Rd./ Project Access "B"
35
Future Pala Rd.
Future
Project Access "A"
Foussat Rd.
Foussat Rd.
AM/PM
AM/PM
Foussat Rd./Project Access "A"
36
SR-76
Melrose Dr.
AM/PM
AM/PM
SR-76/Melrose Dr.

El Camino Real is a four-lane major roadway from Douglas Drive to Oceanside Boulevard. From Oceanside Boulevard to State Route 78, El Camino Real is a six-lane prime arterial roadway. The roadway is oriented in a north-south direction. El Camino Real is part of the Regional Arterial System, as classified by the SANDAG Congestion Management Program.

Douglas Drive is a four-lane major roadway from SR-76 to North River Road. From North River Road to Vandergrift Boulevard, the roadway is classified as a secondary arterial.

Pala Road is a two-lane roadway that currently extends from Douglas Drive to Los Arbolitos Boulevard. Based on the City of Oceanside Circulation Element, Pala Road is planned to extend to Foussat Road along the San Luis Rey River. The Circulation Element classifies Pala Road as a secondary arterial.

Los Arbolitos is a two-lane collector roadway connecting Pala Road, Douglas Drive and El Camino Real. On-street parking is permitted along sections of Los Arbolitos, and portions of the road include a raised or striped median.

Existing Transit Service

The project site is currently served by North County Transit District (NCTD) routes 303, 315, 403, 409 and 419. A brief description of each transit line is provided below.

> ***Route 303*** runs along Mission Avenue connecting the Vista Transit Center and Oceanside Transit Center.
>
> ***Route 315*** runs along Mission Avenue and Vandergrift Street connecting the Oceanside Transit Center with Camp Pendleton.
>
> ***Route 403*** provides service to Martin Luther King Middle School and El Camino High School. This transit line serves the local communities along N. River Road, Douglas Drive and Los Arbolitos. Service along Route 403 is provided school days only.
>
> ***Route 419*** provides service between Oceanside and South Carlsbad Business Parks. The transit route general follows El Camino Real to Palomar Airport Road. This route provides service Monday through Friday only.

Transit stops for Routes 303 and 315 are provided at Foussat Road/Mission Avenue. All other routes have stops at Mission Avenue/Fireside Street (immediately east of the project site) and Mission Avenue/El Camino Real.

Pedestrian and Bicycle Access

Sidewalks are currently provided along the project frontage for sections of Mission Avenue from the intersection of Oceanpointe Drive easterly. The project will complete sidewalks along Mission Avenue and Foussat Road along the project frontage. On-site, the project will provide for clearly marked and illuminated pedestrian walkways and pedestrian friendly gathering spaces.

Pedestrians will be provided paved walkways along all project entrances and reasonably spaced crossings throughout the site. Pedestrian facilities are illustrated on the project site plan (Exhibit 2).

Bicycle lanes are provided along Mission Avenue and along Foussat Road. Bicycle storage facilities (i.e. racks) will be provided on-site.

The project site connects with the San Luis Rey River Bicycle Trail from the west. The project will accommodate future bicycle and pedestrian access from the bicycle trail through the use of signalized crossings at major project access points, a shared bicycle/pedestrian path along Foussat Road along the project frontage, and clearly marked crossings within the site circulation system.

Existing Levels of Service

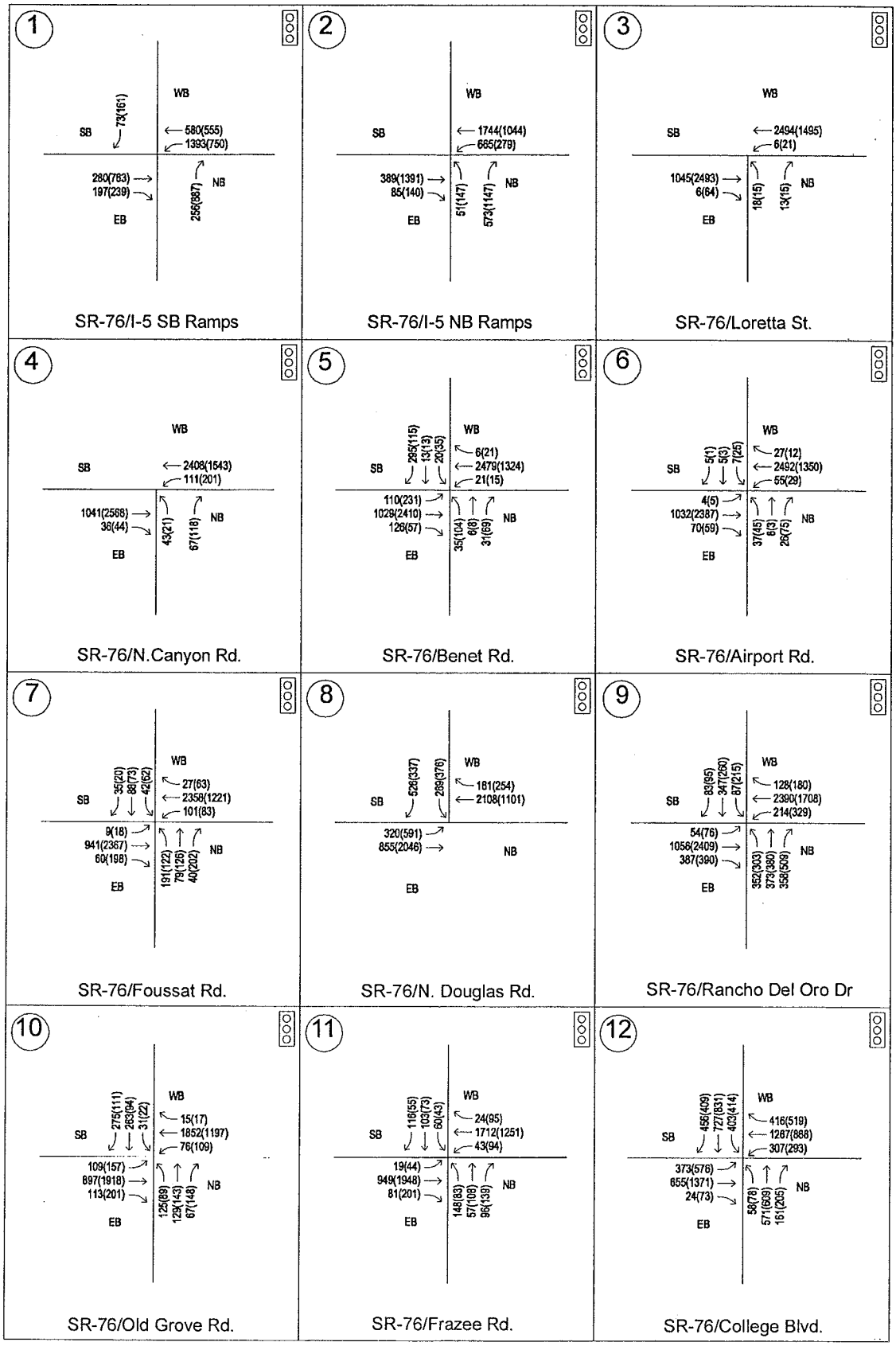
To determine the existing operation of the study intersections, intersection movement counts were taken on a typical weekday during the a.m. (7:00 to 9:00 a.m.) and p.m. (4:00 to 6:00 p.m.) peak period. Exhibits 5A, 5B, and 5C show the existing a.m. and p.m. peak one-hour volumes at each of the study intersections based on the traffic count data collected for this study. Average Daily Traffic (ADT) volumes collected for this project are illustrated in Exhibit 6. Detailed count data is contained in Appendix B.

Table 4 summarizes the existing a.m. and p.m. peak hour intersection LOS of the study intersections based on the existing peak hour intersection volumes and existing intersection geometry. Detailed HCM calculation sheets are contained in Appendix C. As shown in Table 4, all study intersections are currently operating at an acceptable LOS (LOS D or better) during the a.m. and p.m. peak hours except for the intersection of SR-76/Rancho Del Oro Drive, which currently operates at LOS E during the a.m. peak hour and LOS F in the p.m. peak hour.

Daily roadway segment levels of service were calculated based on the capacity of the roadway determined based on classification and ADT volumes. Table 5 presents the results of the existing conditions daily roadway segment level of service analysis.

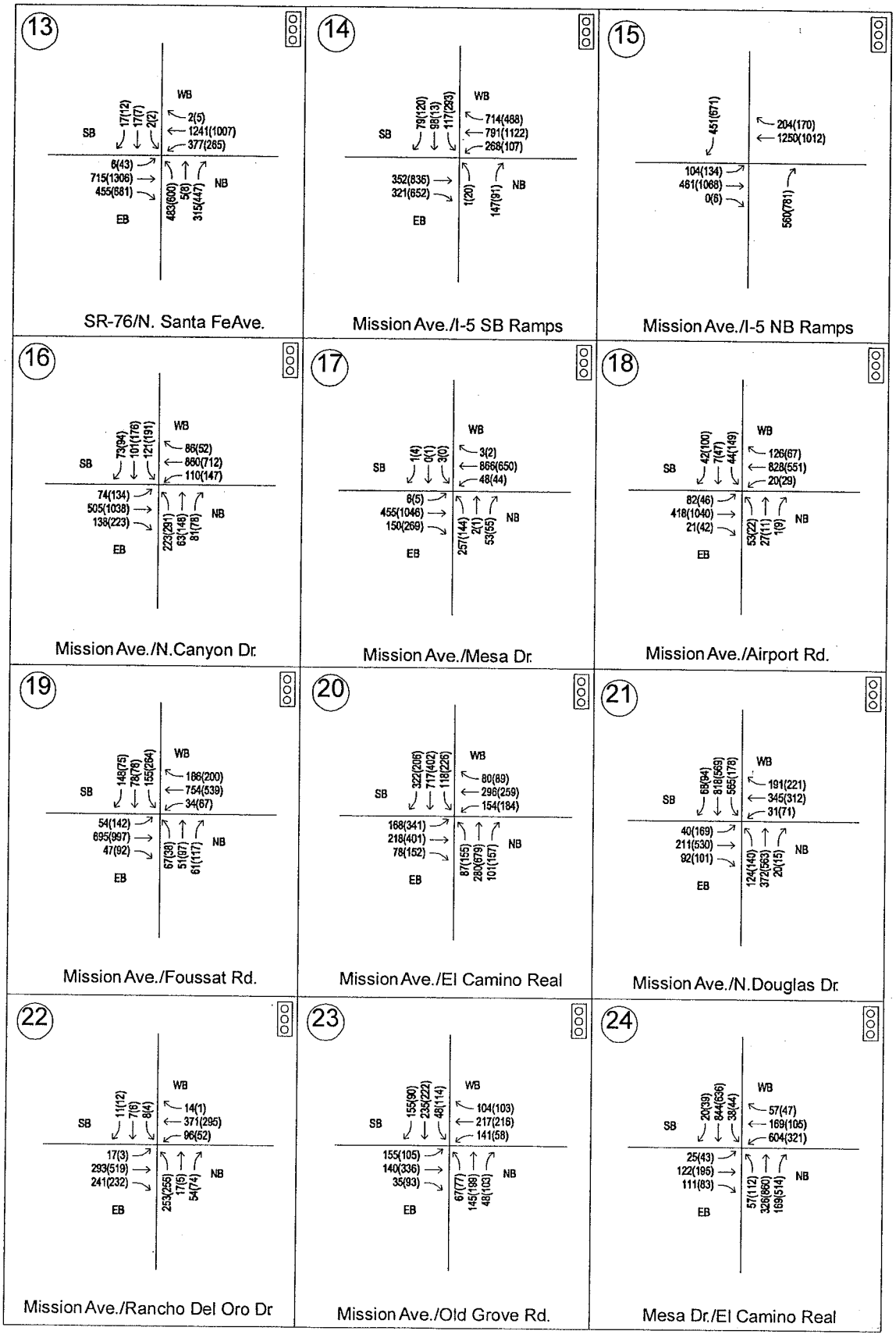
As shown in Table 5, all of the study roadway segments currently operate at acceptable levels of service (LOS C or better) except for: Douglas Drive from North River Road to El Camino Real (LOS D)

SR-76 is a Caltrans facility that is designated as a CMP System Roadway, Caltrans and has designated the acceptable operating condition from I-5 to Douglas Drive as LOS F and LOS E from Douglas Drive to Melrose Drive.



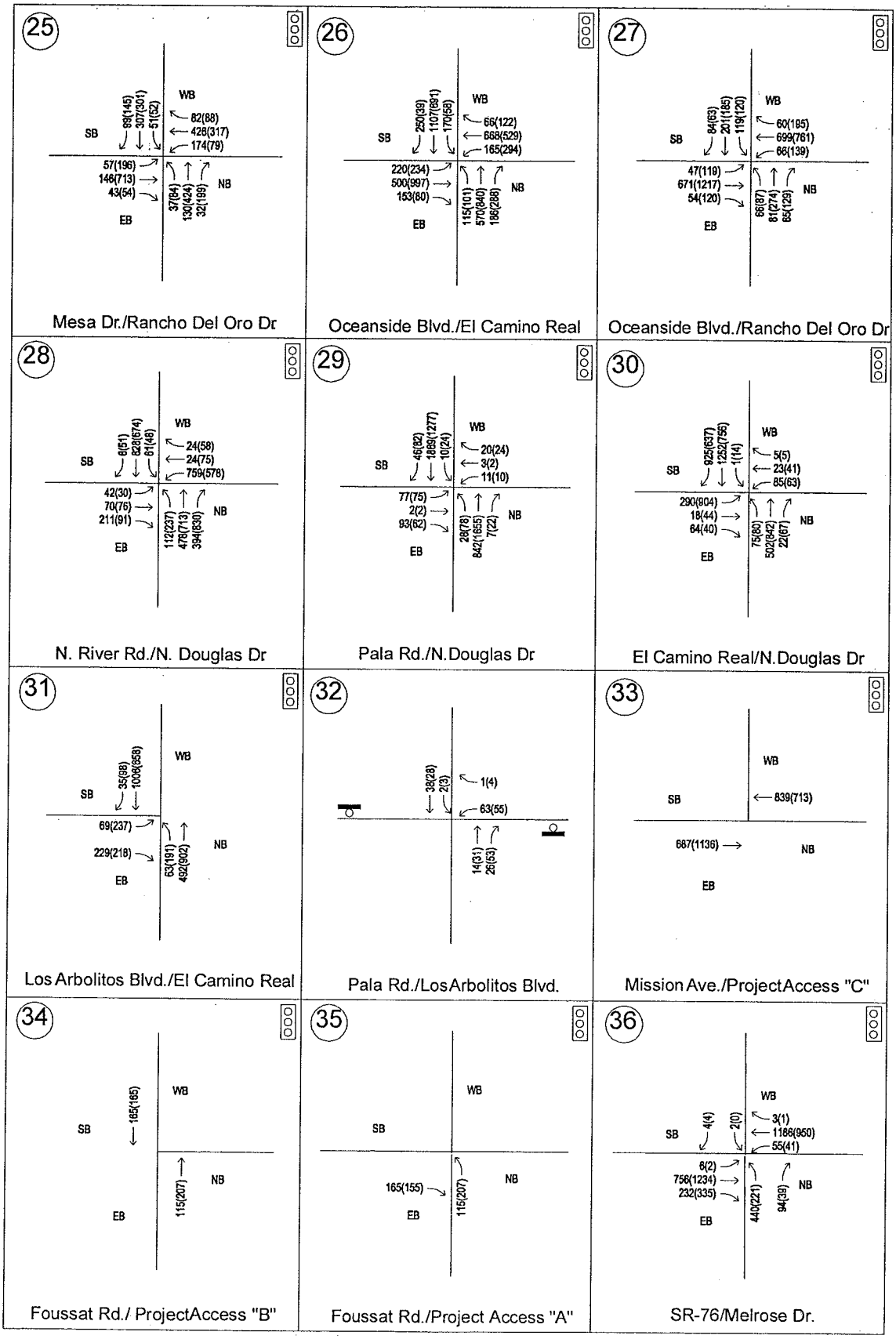
EXISTING INTERSECTION PEAK HOUR VOLUMES

EXHIBIT 5A



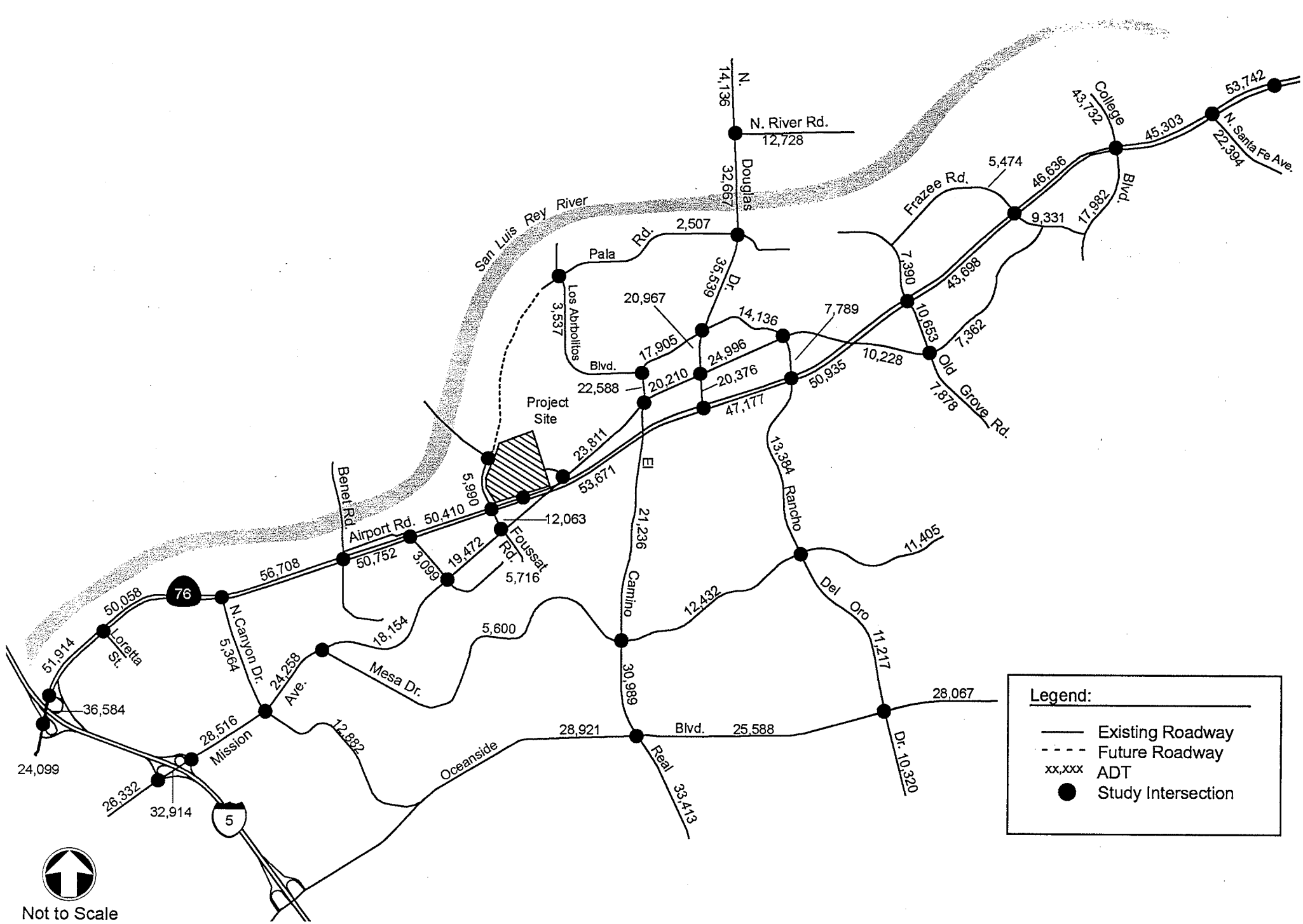
EXISTING INTERSECTION PEAK HOUR VOLUMES

EXHIBIT 5B



EXISTING INTERSECTION PEAK HOUR VOLUMES

EXHIBIT 5C



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EXISTING ADT VOLUMES

EXHIBIT 6

Table 4
Existing Peak Hour Intersection Conditions

Study Intersection	AM Delay – LOS (sec/veh)	PM Delay – LOS (sec/veh)
SR-76/I-5 SB Ramps	14.1 - B	18.3 - B
SR-76/I-5 NB Ramps	11.0 - B	15.4 - B
SR-76/Loretta St.	4.2 - A	5.5 - A
SR-76/N. Canyon Dr.	6.8 - A	15.2 - B
SR-76/Benet Rd.	35.1 - D	22.3 - C
SR-76/Airport Rd.	25.7 - C	16.2 - B
SR-76/Foussat Rd.	16.6 - B	20.4 - C
SR-76/N. Douglas Dr.	26.4 - C	20.6 - C
SR-76/Rancho Del Oro Dr.	**67.8 - E**	**130.2 - F**
SR-76/Old Grove Rd.	26.0 - C	18.7 - B
SR-76/Frazee Rd.	19.7 - B	20.4 - C
SR-76/College Blvd.	47.0 - D	48.1 - D
SR-76/N. Santa Fe Ave.	23.1 - C	25.3 - C
Mission Ave./I-5 SB Ramps	22.5 - C	16.8 - B
Mission Ave./I-5 NB Ramps	16.6 - C	13.4 - B
Mission Ave./N. Canyon Dr.	24.1 - C	27.6 - C
Mission Ave./Mesa Dr.	20.3 - C	12.8 - B
Mission Ave./Airport Rd.	15.4 - B	16.2 - B
Mission Ave./Foussat Rd.	17.9 - B	21.4 - C
Mission Ave./El Camino Real	27.7 - C	31.3 - C
Mission Ave./N. Douglas Dr.	28.8 - C	32.3 - C
Mission Ave./Rancho Del Oro Dr.	24.2 - C	21.8 - C
Mission Ave./Old Grove Rd.	29.3 - C	29.5 - C
Mesa Dr./El Camino Real	30.1 - C	25.7 - C
Mesa Dr./Rancho Del Oro Dr.	25.1 - C	26.5 - C
Oceanside Blvd./El Camino Real	37.1 - D	39.8 - D
Oceanside Blvd./Rancho Del Oro Dr.	24.0 - C	23.6 - C
N. River Rd./N. Douglas Dr.	31.7 - C	25.1 - C
Pala Rd./N. Douglas Dr.	13.9 - B	12.4 - B
El Camino Real/N. Douglas Dr.	19.2 - B	29.5 - C
Los Arbolitos Blvd./El Camino Real	14.0 - B	17.8 - B
Pala Rd./Los Arbolitos Blvd. [1] [2]	10.5 - B	10.2 - B
Mission Ave./Project Access	0.1 - A	0.1 - A
SR-76/Melrose Drive	20.1 - C	13.1 - B

Note: Deficient intersection operation shown in **bold.**

[1] Indicates an unsignalized intersection.

[2] The highest approach delay, rather than the average delay, is reported for side-street stop-controlled intersections.

Table 5
Existing Daily Roadway Segment Conditions

Roadway	Location	Classification	Daily Capacity	Existing ADT	V/C	LOS
SR-76 [1]	West of I-5 SB Ramps	Expressway	64,000	24,099	0.377	A
	Between I-5 Ramps	Expressway	64,000	36,584	0.572	A
	Between NB I-5 Ramps and Loretta St.	Expressway	64,000	51,914	0.811	D
	Between Loretta St. and N. Canyon Rd.	Expressway	64,000	50,058	0.782	C
	Between N. Canyon Rd. and Benet Rd.	Expressway	64,000	56,708	0.886	D
	Between Benet Rd. and Airport Rd.	Expressway	64,000	50,752	0.793	C
	Between Airport Rd. and Foussat Rd.	Expressway	64,000	50,410	0.788	C
	Between Foussat Rd. and N. Douglas Dr.	Expressway	64,000	53,671	0.839	D
	Between N. Douglas Dr. and RDO	Expressway	64,000	47,177	0.737	C
	Between RDO and Old Grove Rd.	Expressway	64,000	50,935	0.796	C
	Between Old Grove Rd. and Frazee Rd.	Expressway	64,000	43,698	0.683	B
	Between Frazee Rd. and College Blvd.	Expressway	64,000	46,636	0.729	C
	Between College Blvd. And N. Santa Fe Ave.	Expressway	64,000	45,303	0.708	C
	East of N. Santa Fe Ave.	Expressway	64,000	53,742	0.840	D
Mission Ave.	West of I-5 Ramps	Major (4)	40,000	26,332	0.658	B
	Between I-5 Ramps and N. Canyon Dr.	Major (4)	40,000	28,516	0.713	C
	Between N. Canyon Dr. and Mesa Dr.	Major (4)	40,000	24,258	0.606	B
	Between Mesa Dr. and Airport Rd.	Major (4)	40,000	18,154	0.454	A
	Between Airport Rd. and Foussat Rd.	Major (4)	40,000	19,472	0.487	A
	Between Foussat Rd. and El Camino Real	Major (4)	40,000	23,811	0.595	A
	Between El Camino Real and N. Douglas Dr.	Major (4)	40,000	20,210	0.505	A
	Between N. Douglas Dr. and RDO	Major (4)	40,000	24,996	0.625	B
	Between RDO and Old Grove Rd.	Major (4)	40,000	10,228	0.256	A
	East of Old Grove Rd.	Major (4)	40,000	7,362	0.184	A
N. Canyon Dr.	Between SR-76 and Mission Ave.	Secondary (4)	25,000	5,364	0.215	A
	South of Mission Ave.	Secondary (4)	25,000	12,882	0.515	A
Mesa Dr.	Between Mission Ave. and El Camino Real	Secondary (4)	25,000	5,600	0.224	A
	Between El Camino Real and RDO	Secondary (4)	25,000	12,432	0.497	A
	East of RDO	Secondary (4)	25,000	11,405	0.456	A
Airport Rd.	Between SR-76 and Mission Ave.	Industrial (2)	10,000	3,099	0.310	A
Foussat Rd.	North of SR-76	Secondary (4)	30,000	5,990	0.200	A
	Between SR-76 and Mission Ave.	Secondary (5)	37,500	12,063	0.322	A
	Between Mission and Mesa Dr.	Collector (2)	10,000	5,716	0.572	A
El Camino Real	Between N. Douglas Dr. and Los Arbolitos Blvd.	Major (4)	40,000	17,905	0.448	A
	Between Los Arbolitos Blvd. And Mission Ave.	Major (4)	40,000	22,588	0.565	A
	Between Mission Ave. and Mesa Dr.	Major (4)	40,000	21,236	0.531	A
	Between Mesa Dr. and Oceanside Blvd.	Major (4)	40,000	30,989	0.775	C
	South of Oceanside Blvd.	Prime (6)	60,000	33,413	0.557	A

Table 5 (Continued)
Existing Daily Roadway Segment Conditions

Roadway	Location	Class (# Lanes)	Daily Capacity	Existing ADT	V/C	LOS
RDO	Between N. Douglas Dr. and Mission Ave.	Major (4)	40,000	14,136	0.353	A
	Between Mission Ave. and SR-76	Major (4)	40,000	7,789	0.195	A
	Between SR-76 and Mesa Dr.	Major (4)	40,000	13,384	0.335	A
	Between Mesa Dr. and Oceanside Blvd.	Major (4)	40,000	11,217	0.280	A
	South of Oceanside Blvd.	Major (4)	40,000	10,320	0.258	A
Frazee Rd.	North of SR-76	Secondary (4)	25,000	5,474	0.219	A
	Between SR-76 and Mission Ave.	Secondary (4)	25,000	9,331	0.373	A
Old Grove Rd.	North of SR-76	Major (4)	40,000	7,390	0.185	A
	South of SR-76	Major (4)	40,000	10,653	0.266	A
	Between SR-76 and Mission Ave.	Major (4)	40,000	7,878	0.197	A
College Blvd.	North of SR-76	Prime (6)	60,000	43,732	0.729	C
	South of SR-76	Major (5)	45,000	17,982	0.400	A
N. Santa Fe Ave.	South of SR-76	Major (4)	40,000	22,394	0.560	A
N. Douglas Dr.	North of N. River Rd.	Major (4)	40,000	14,136	0.353	A
	Between N. River Rd. and Pala Rd.	Major (4)	40,000	**32,667**	**0.817**	**D**
	Between Pala Rd. and El Camino Real	Major (4)	40,000	**35,539**	**0.888**	**D**
	Between El Camino Real and Mission Ave.	Major (4)	40,000	20,967	0.524	A
	Between Mission Ave. and SR-76	Major (4)	40,000	20,376	0.509	A
N. River Rd.	East of N. Douglas Dr.	Major (4)	40,000	12,728	0.318	A
Los Arbolitos Blvd.	Between Pala Rd. and El Camino Real	Collector (2)	15,000	3,537	0.236	A
Oceanside Blvd.	West of El Camino Real	Major (4)	40,000	28,921	0.723	C
	Between El Camino Real and RDO	Prime (6)	60,000	25,588	0.426	A
	East of Rancho Del Oro Dr.	Prime (6)	60,000	28,067	0.468	A
Pala Rd.	Between N. Douglas Dr. and Los Arbolitos Blvd.	Secondary (4)	25,000	2,507	0.100	A

Note: Deficient City of Oceanside roadway segment operation shown in **bold**.

(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

PROPOSED PROJECT

The proposed Oceanside Pavilion project is located on the northeast corner of the SR-76/Foussat Road intersection in the City of Oceanside. The proposed 950,000 square foot commercial retail project includes retail, restaurant, movie theater, and health club. The project site was previously used as the Oceanside Drive-In and is currently used on the weekends as a swap meet.

Project Trip Generation

To determine the trips forecast to be generated by the proposed project, *April 2002 SANDAG Trip Generation* rates were utilized in accordance with the City of Oceanside and SANDAG CMP Traffic Study Guidelines. The SANDAG *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) showing the trip generation rate for the proposed land use is provided in Appendix D. Table 6 summarizes the project trip generation rates and forecast project generated trips.

Table 6
Proposed Project Trip Generation Rates and
Forecast Project Generated Trips

Trip Generation Rates

Land Use	Units	Daily Trip Rate	AM Trip Rates			PM Trip Rates		
			Total	In	Out	Total	In	Out
Super Regional Commercial	ksf	35	4%	70%	30%	10%	50%	50%
Theaters	ksf	80	0%	0%	0%	8%	60%	40%
Health Club	ksf	30	4%	60%	40%	9%	60%	40%

Forecast Project Generated Trips

Land Use	Units	Daily Trip Rate	AM Trip Rates			PM Trip Rates		
			Total	In	Out	Total	In	Out
Super Regional Commercial	850,100	29,750	1190	833	357	2975	1488	1488
Theaters	60,000	4,800	16	0	0	384	230	154
Health Club	40,000	1,200	48	29	19	108	65	43
Sub Total		**35,750**	**1,254**	**862**	**376**	**3,467**	**1,783**	**1,685**
Trip Reduction (Diverted/PassBy)		*-3,575*	*0*	*0*	*0*	*-595*	*-298*	*-297*
TOTAL NET NEW PROJECT TRIPS		**32,175**	**1,254**	**862**	**376**	**2,872**	**1,485**	**1,388**

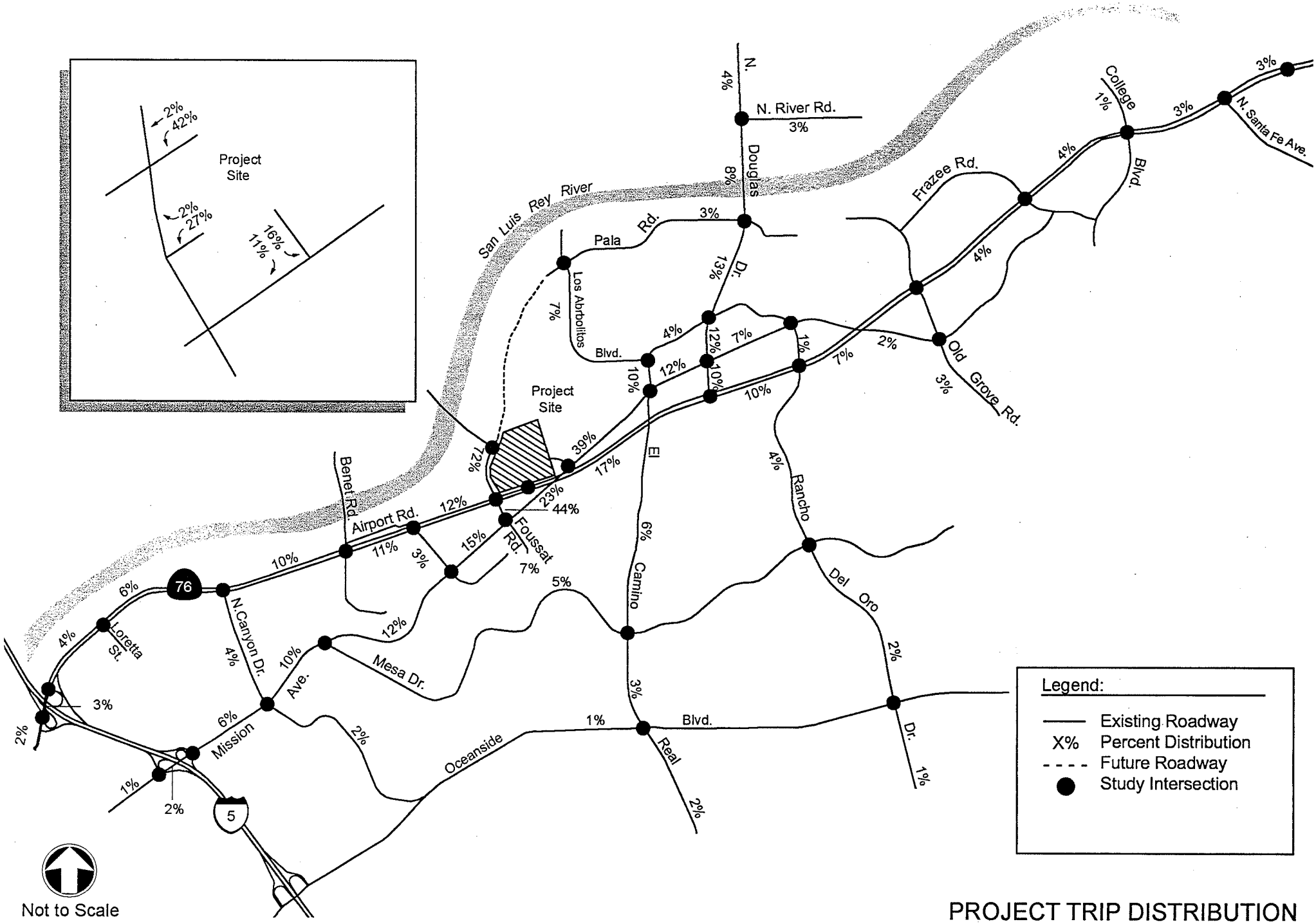
Project Trip Distribution

Project traffic was distributed on the roadway network based on a Select Zone Assignment model run conducted by SANDAG using industry standard methods. The SANDAG traffic model Select Zone Assignment used for this project was run under Year 2020 conditions; therefore a short-term future distribution was also developed based on the Select Zone run but adjusted to reflect the existing and cumulative conditions roadway network. The primary difference between the Horizon Year 2020 conditions and existing conditions network is the extension of Pala Road from its existing terminus at Los Arbolitos Boulevard to Foussat Road.

Exhibit 7 illustrates the trip distribution without the Pala Road extension.

Project Trip Assignment

Utilizing the project trip distribution shown in Exhibit 7, the forecast project-generated trips were assigned to the roadway network. Exhibit 8 illustrates the forecast assignment of project-generated peak hour volumes at the study intersections. Daily traffic volume assignment is illustrated in Exhibit 9. All study scenarios assume Pala Road is not extended northeast of the project site. An independent assessment of the Pala Road extension is discussed later in this report.

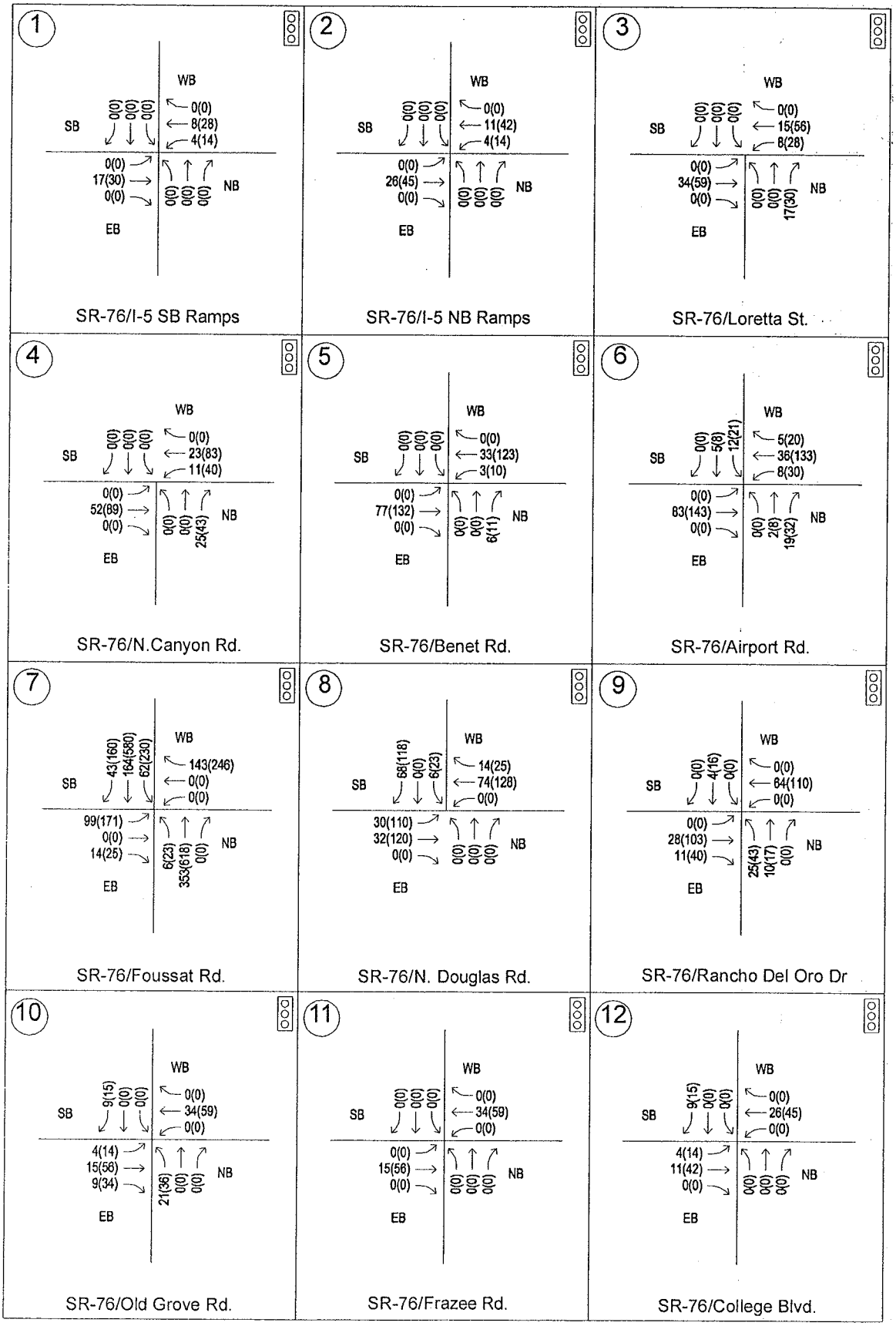


PROJECT TRIP DISTRIBUTION
(WITHOUT PALA ROAD EXTENSION)

RBF

55-100224.002

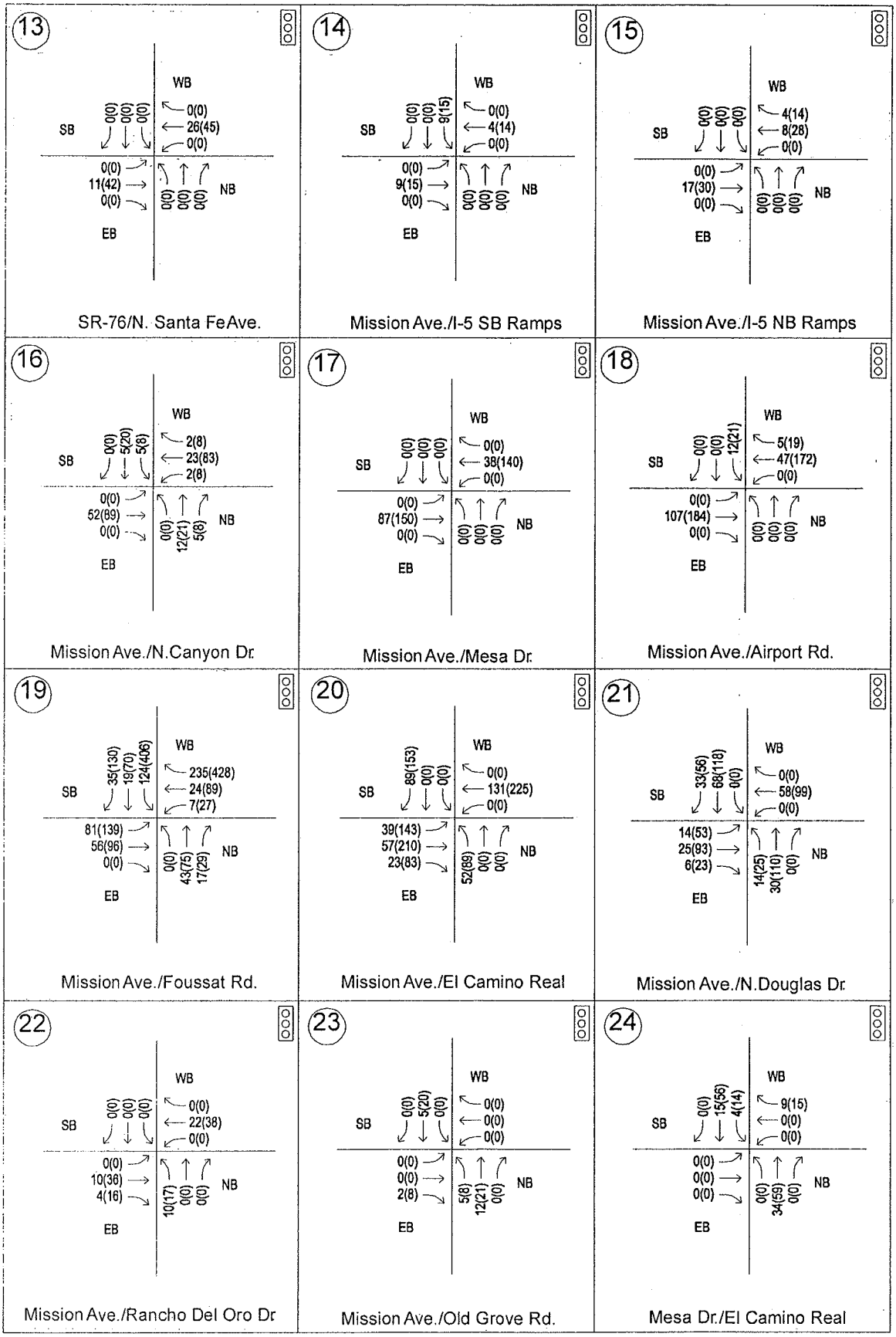
EXHIBIT 7



PEAK HOUR PROJECT TRIP ASSIGNMENT

(WITHOUT PALA ROAD EXTENSION)

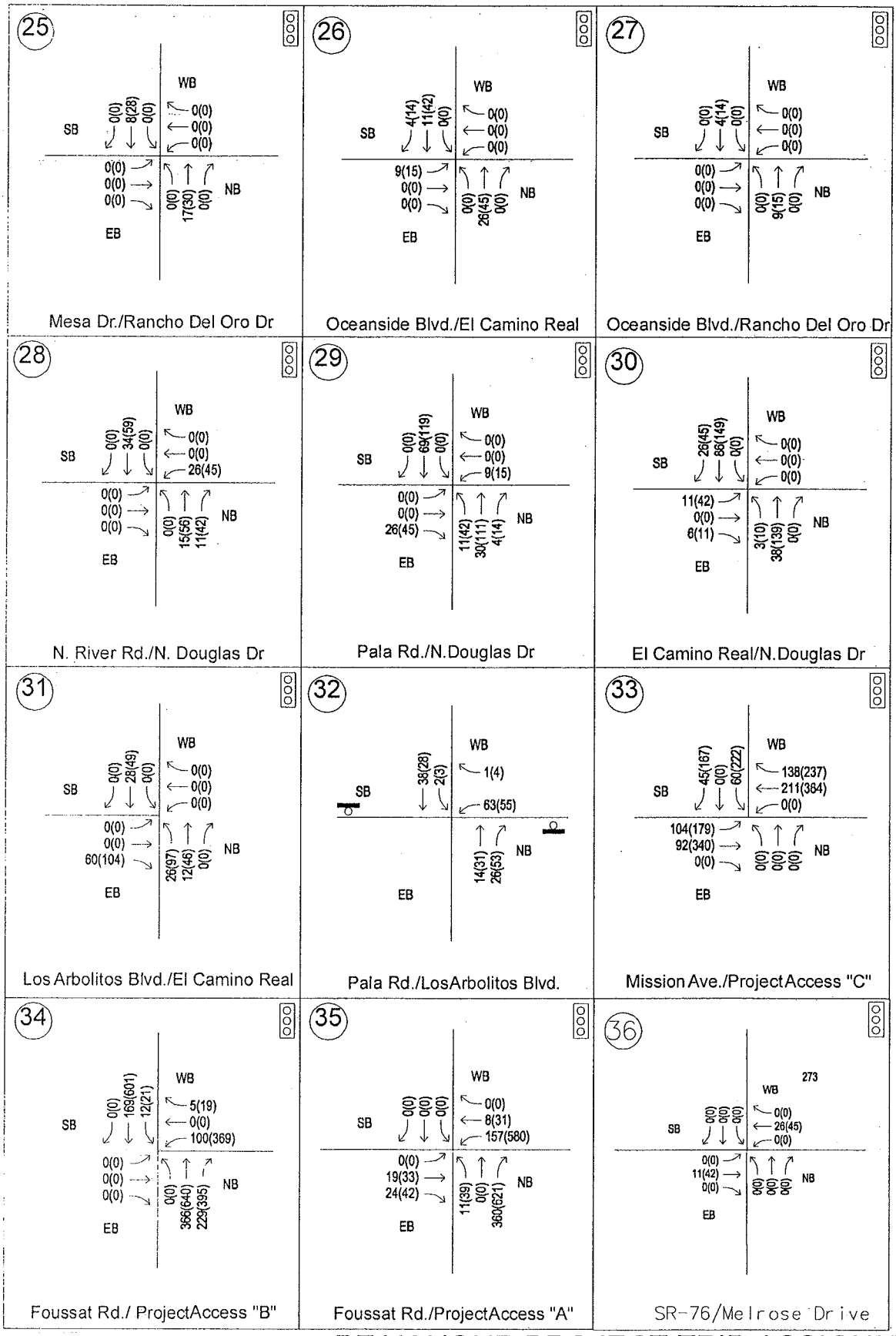
EXHIBIT 8A



PEAK HOUR PROJECT TRIP ASSIGNMENT

(WITHOUT PALA ROAD EXTENSION)

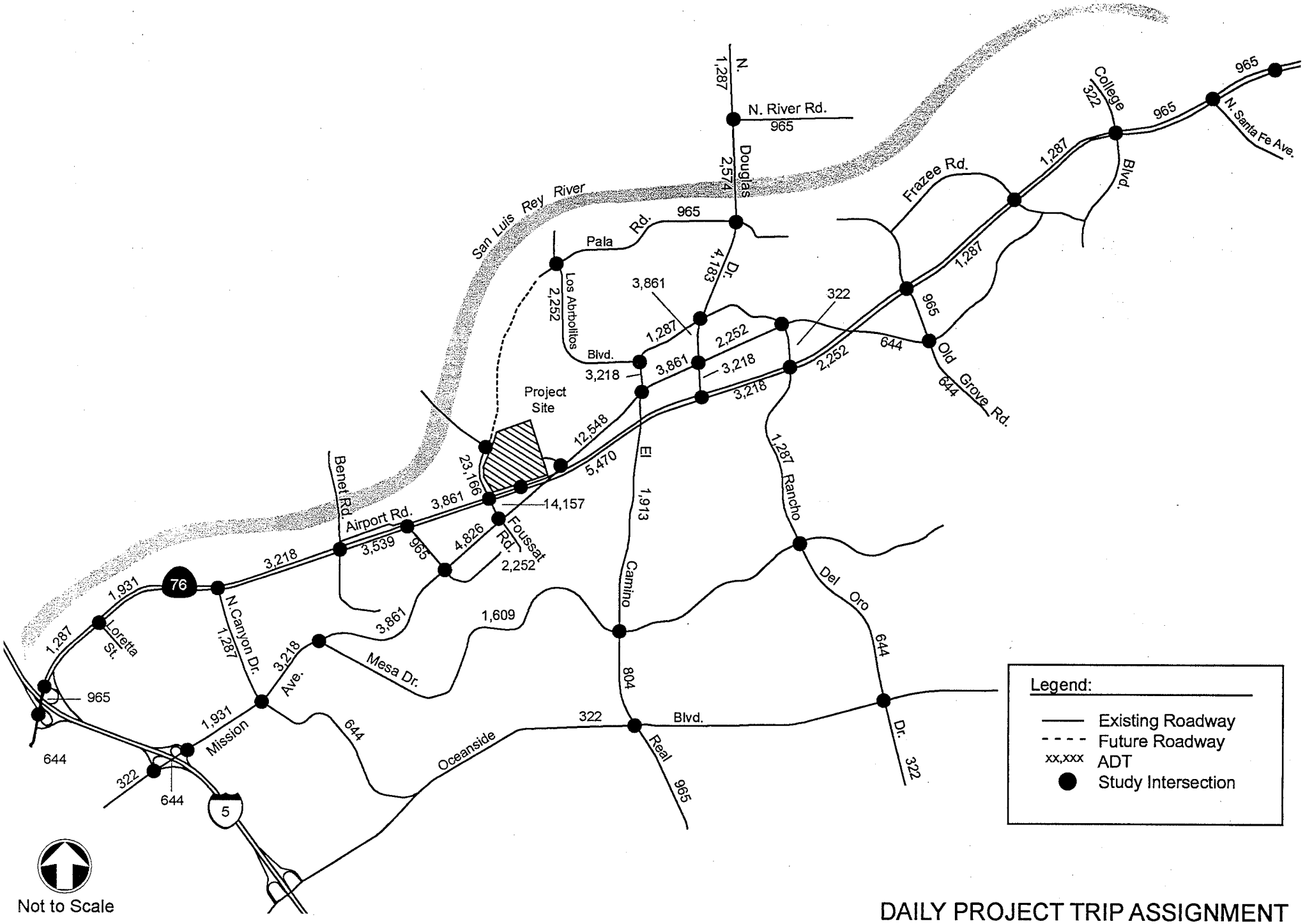
EXHIBIT 8B



PEAK HOUR PROJECT TRIP ASSIGNMENT

(WITHOUT PALA ROAD EXTENSION)

EXHIBIT 8C



DAILY PROJECT TRIP ASSIGNMENT
(WITHOUT PALA ROAD)

EXHIBIT 9

RBF

55-100224.002

EXISTING PLUS PROJECT CONDITIONS

To determine the existing plus project operating conditions at the study intersections, the project-generated trips were added to the existing conditions volumes. Exhibit 10 illustrates the existing plus project a.m. and p.m. peak hour volumes. Existing plus project ADT volumes are illustrated in Exhibit 11.

Table 7 summarizes the existing plus project a.m. and p.m. peak hour intersection LOS. Detailed HCM calculation sheets are contained in Appendix E. As shown in Table 7, all intersections are forecast to continue operating at acceptable levels of service (LOS D or better) with the addition of the proposed project except for SR-76/Rancho Del Oro Drive, which is currently operating at a deficient level of service in both the a.m. and p.m. peak hours.

The addition of peak hour project trips to existing peak hour volumes increases the overall intersection delay by more than the allowable increase (2.0 seconds) for the deficient intersection. Therefore, the project is forecast to result in a significant impact at the intersections of SR-76/Rancho Del Oro Drive.

The results of the existing plus project conditions daily roadway segment analysis is presented in Table 8. As shown in Table 8, the following roadway segments are forecast to operate at deficient levels of service (LOS D or worse) under existing plus project conditions:

- Mission Avenue – Foussat Road to Project Access (LOS D);
- Mission Avenue – Project Access to El Camino Real (LOS E);
- N. Douglas Drive – North River Road to Pala Road (LOS D);
- N. Douglas Drive – Pala Road to El Camino Real (LOS E).

The addition of daily project volumes to existing ADT increases the volume-to-capacity ratio by more than the allowable increase (0.020) for segments operating at deficient levels of service. Therefore, the project is forecast to result in significant impacts at the above-listed roadway segment locations. Mitigation measures will be identified for all significantly impacted roadway segments.

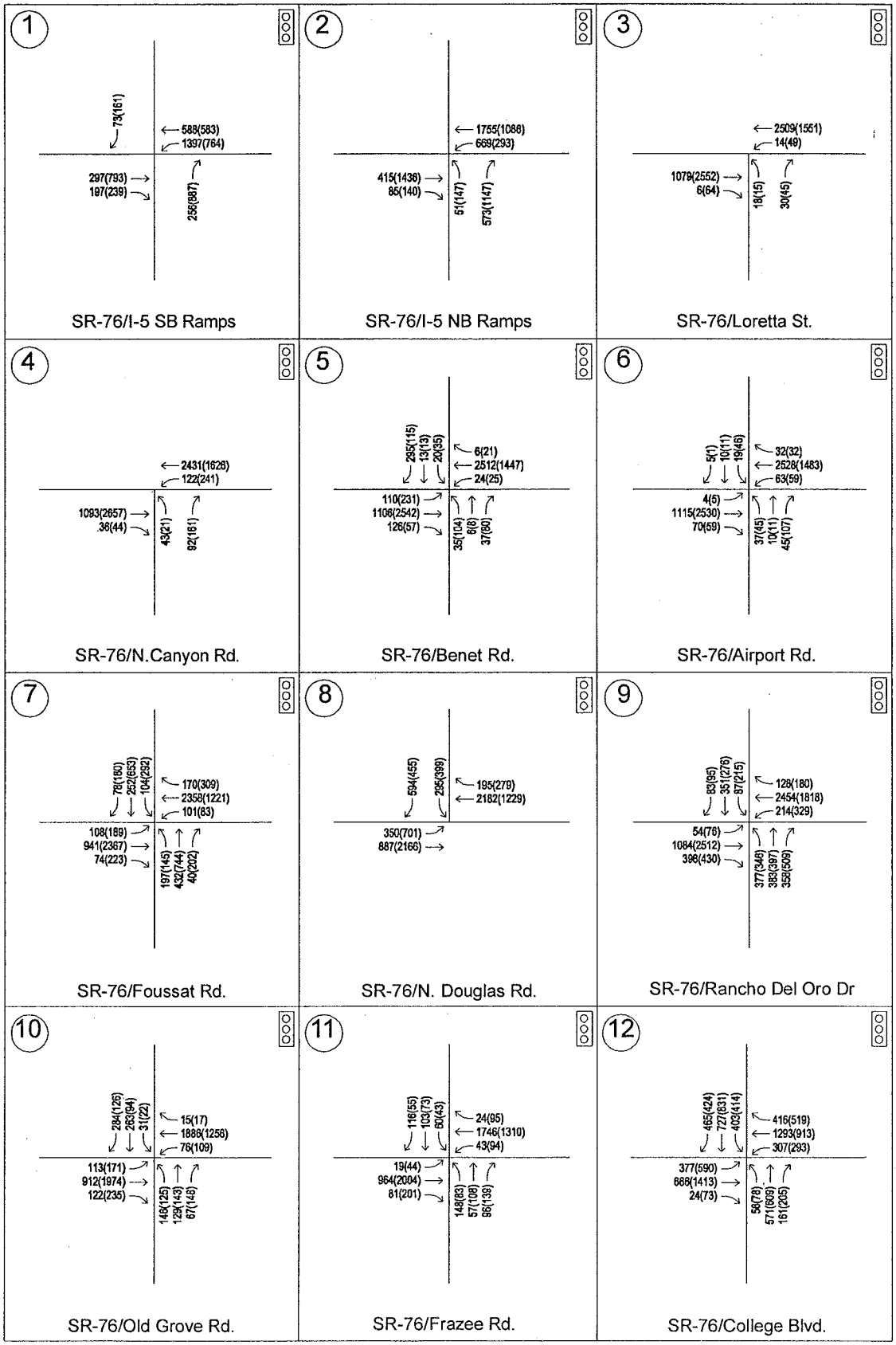
The City of Oceanside requires a peak hour roadway segment analysis to be conducted for roadway segments forecast to operate at deficient levels of service based on ADT volumes and thresholds. The results of the peak hour segment analysis are presented in Table 9. Detailed HCM analysis worksheets are provided in Appendix M.

SR-76 is designated as a CMP System Roadway and has an LOS Standard of F from I-5 to Douglas Drive and an LOS Standard of E from Douglas Drive to Melrose Drive.

Table 7
Existing Plus Project Peak Hour Intersection Conditions

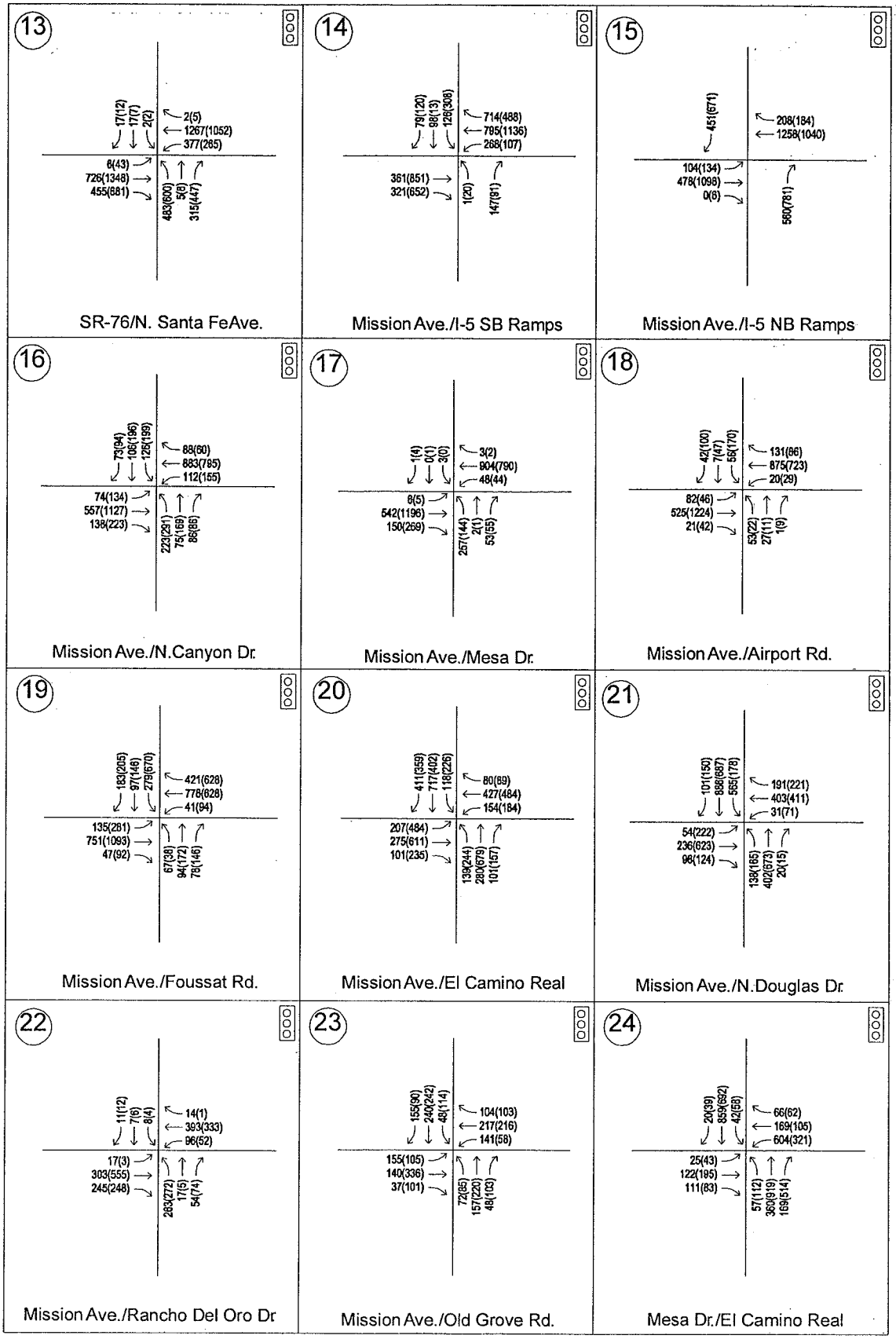
Study Intersection	Without Project		With Project		Change in Delay	
	AM Delay [1] – LOS	PM Delay [1] – LOS	AM Delay [1] – LOS	PM Delay [1] – LOS	AM	PM
SR-76/I-5 SB Ramps	14.1 - B	18.3 - B	14.3 - B	18.3 - B	0.2	0.0
SR-76/I-5 NB Ramps	11.0 - B	15.4 - B	11.2 - B	15.5 - B	0.2	0.1
SR-76/Loretta St.	4.2 - A	5.5 - A	4.6 - A	7.0 - A	0.4	1.5
SR-76/N. Canyon Dr.	6.8 - A	15.2 - B	7.3 - A	20.9 - C	0.5	5.7
SR-76/Benet Rd.	35.1 - D	22.3 - C	36.3 - D	24.1 - C	1.2	1.8
SR-76/Airport Rd.	25.7 - C	16.2 - B	28.1 - C	22.8 - C	2.4	6.6
SR-76/Foussat Rd.	16.6 - B	20.4 - C	24.8 - C	34.1 - C	8.2	13.7
SR-76/N. Douglas Dr.	26.4 - C	20.6 - C	31.0 - C	23.2 - C	4.6	2.6
SR-76/Rancho Del Oro Dr.	**67.8 - E**	**130.2 - F**	**74.1 - E**	**137.2 - F**	**6.3**	**7.0**
SR-76/Old Grove Rd.	26.0 - C	18.7 - B	27.2 - C	19.9 - B	1.2	1.2
SR-76/Frazee Rd.	19.7 - B	20.4 - C	19.6 - B	20.6 - C	-0.1	0.2
SR-76/College Blvd.	47.0 - D	48.1 - D	47.1 - D	48.4 - D	0.1	0.3
SR-76/N. Santa Fe Ave.	23.1 - C	25.3 - C	23.1 - C	25.5 - C	0.0	0.2
Mission Ave./I-5 SB Ramps	22.5 - C	16.8 - B	22.6 - C	17.1 - B	0.1	0.3
Mission Ave./I-5 NB Ramps	16.6 - C	13.4 - B	16.8 - C	13.9 - B	0.2	0.5
Mission Ave./N. Canyon Dr.	24.1 - C	27.6 - C	24.0 - C	27.5 - C	-0.1	-0.1
Mission Ave./Mesa Dr.	20.3 - C	12.8 - B	19.9 - B	11.8 - B	-0.4	-1.0
Mission Ave./Airport Rd.	15.4 - B	16.2 - B	14.9 - B	15.4 - B	-0.5	-0.8
Mission Ave./Foussat Rd.	17.9 - B	21.4 - C	21.2 - C	29.2 - C	3.3	7.8
Mission Ave./El Camino Real	27.7 - C	31.3 - C	28.9 - C	32.7 - C	1.2	1.4
Mission Ave./N. Douglas Dr.	28.8 - C	32.3 - C	29.9 - C	34.7 - C	1.1	2.4
Mission Ave./Rancho Del Oro Dr.	24.2 - C	21.8 - C	24.1 - C	22.0 - C	-0.1	0.2
Mission Ave./Old Grove Rd.	29.3 - C	29.5 - C	29.4 - C	29.5 - C	0.1	0.0
Mesa Dr./El Camino Real	30.1 - C	25.7 - C	30.1 - C	25.7 - C	0.0	0.0
Mesa Dr./Rancho Del Oro Dr.	25.1 - C	26.5 - C	25.2 - C	26.6 - C	0.1	0.1
Oceanside Blvd./El Camino Real	37.1 - D	39.8 - D	37.1 - D	40.0 - D	0.0	0.2
Oceanside Blvd./Rancho Del Oro Dr.	24.0 - C	23.6 - C	24.1 - C	23.8 - C	0.1	0.2
N. River Rd./N. Douglas Dr.	31.7 - C	25.1 - C	31.8 - C	25.6 - C	0.1	0.5
Pala Rd./N. Douglas Dr.	13.9 - B	12.4 - B	15.3 - B	14.0 - B	1.4	1.6
El Camino Real/N. Douglas Dr.	19.2 - B	29.5 - C	20.1 - C	32.0 - C	0.9	2.5
Los Arbolitos Blvd./El Camino Real	14.0 - B	17.8 - B	16.9 - B	21.9 - C	2.9	4.1
Pala Rd./Los Arbolitos Blvd. [2]	10.5 - B	10.2 - B	10.5 - B	10.2 - B	0.0	0.0
Foussat Rd. / Project Access (N)	--	--	6.8 - A	12.3 - B	6.8	12.3
Foussat Rd. / Project Access (S)	14.2 - B	14.9 - B	22.0 - C	29.7 - C	7.8	14.8
Mission Avenue / Project Access	--	--	6.3 - A	12.4 - B	6.3	12.4
SR-76/Melrose Drive	20.1 - C	13.1 - B	20.1 - C	13.1 - B	0.0	0.0

Note: Deficient intersection operation shown in **bold**.
[1] Delay in seconds per vehicle.
[2] Unsignalized intersection, in which the highest approach delay, rather than the average delay, is reported for side-street stop-controlled intersections.



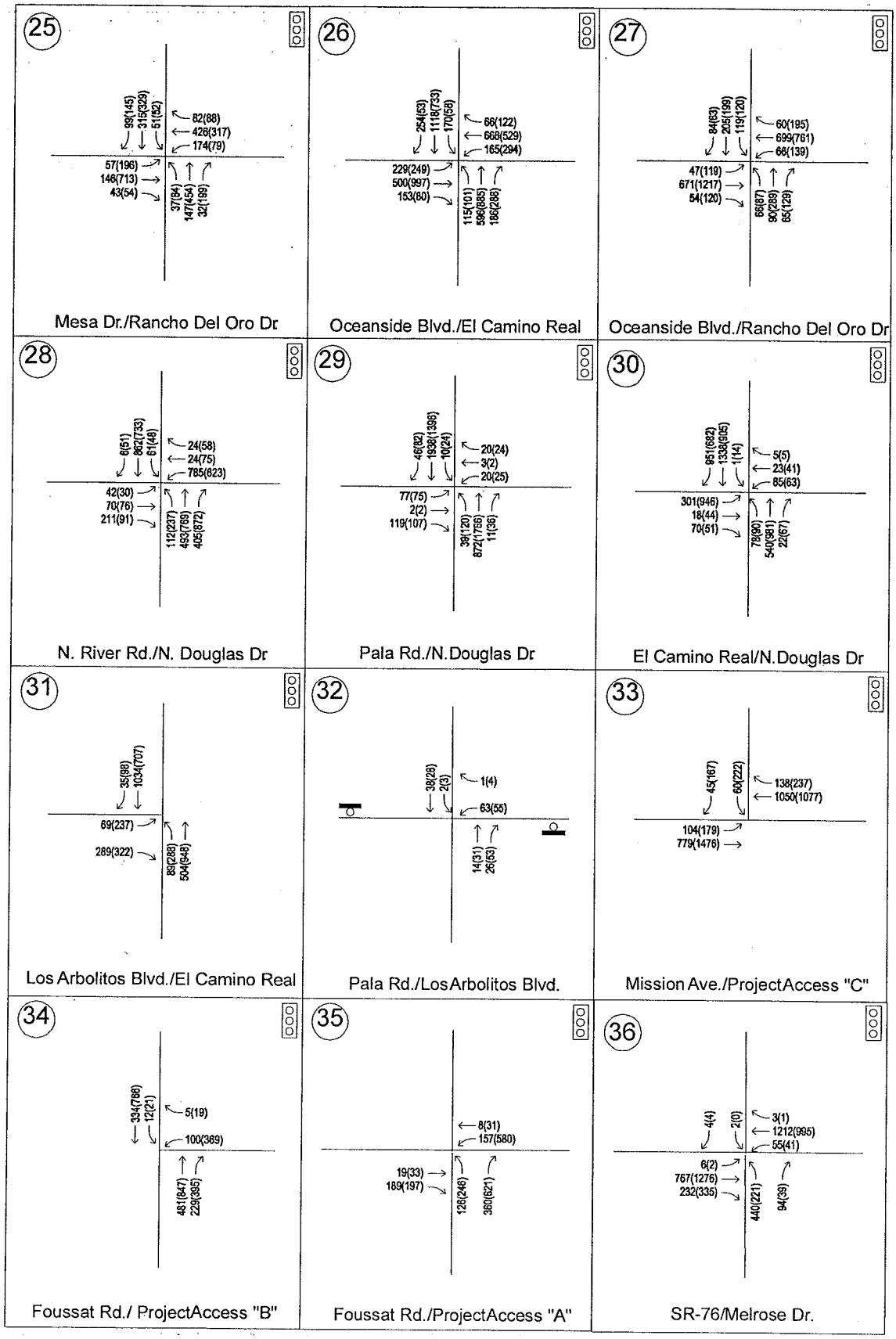
EXISTING PLUS PROJECT INTERSECTION PEAK HOUR VOLUMES

EXHIBIT 10A



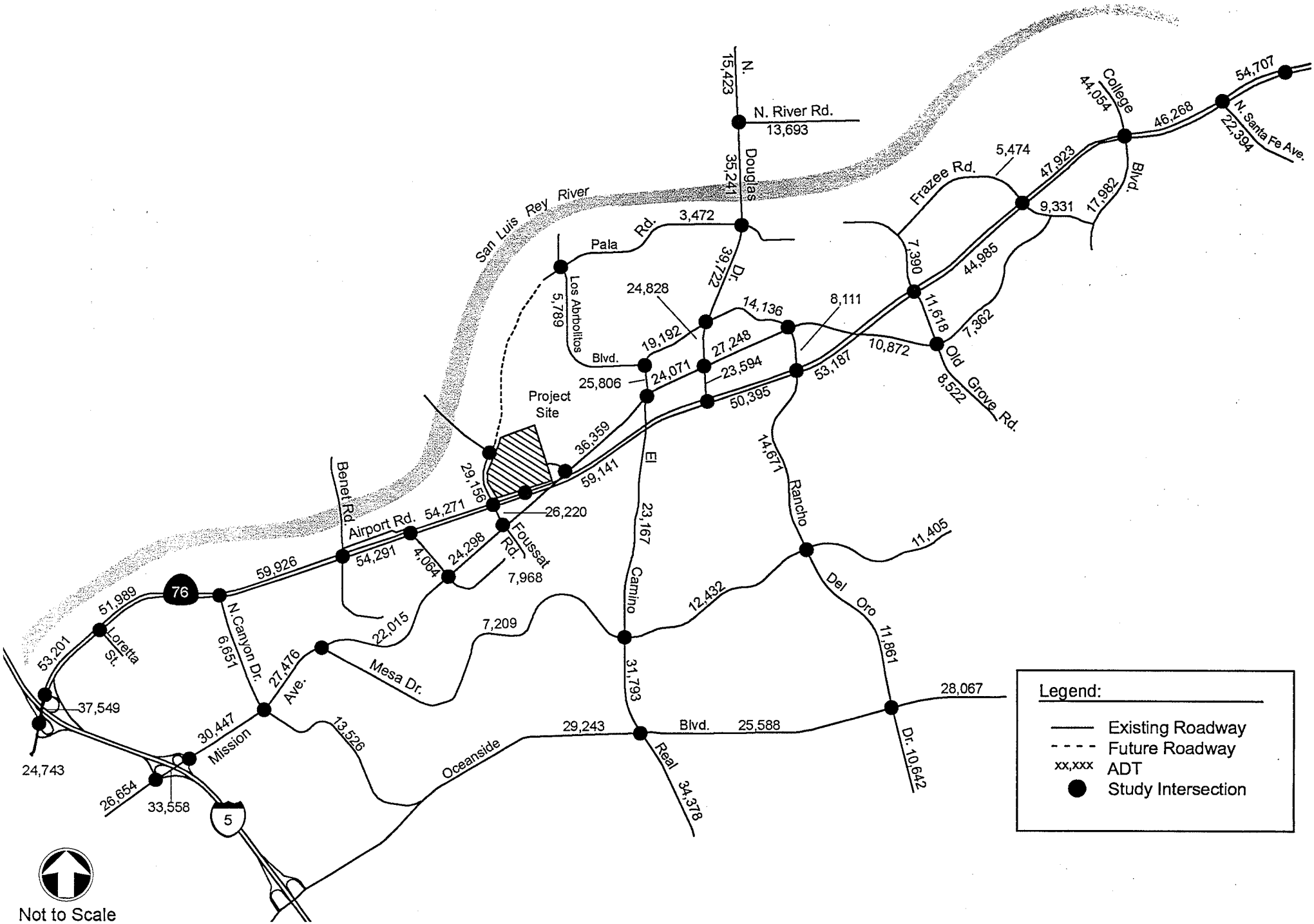
EXISTING PLUS PROJECT INTERSECTION PEAK HOUR VOLUMES

EXHIBIT 10B



EXISTING PLUS PROJECT INTERSECTION PEAK HOUR VOLUMES

EXHIBIT 10C



EXISTING PLUS PROJECT ADT VOLUMES

55-100224.002

EXHIBIT 11

Table 8
Existing Plus Project Daily Roadway Segment Conditions

Street	Location	Class (# Lanes)	Existing			Existing Plus Project			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
SR-76 [1]	West of I-5 SB Ramps	Expressway	24,099	0.377	A	24,743	0.387	A	0.010
	Between I-5 Ramps	Expressway	36,584	0.572	A	37,549	0.587	A	0.015
	Between NB I-5 Ramps and Loretta St.	Expressway	51,914	0.811	D	53,201	0.831	D	0.020
	Between Loretta St. and N. Canyon Rd.	Expressway	50,058	0.782	C	51,989	0.812	D	0.030
	Between N. Canyon Rd. and Benet Rd.	Expressway	56,708	0.886	D	59,926	0.936	E	0.050
	Between Benet Rd. and Airport Rd.	Expressway	50,752	0.793	C	54,291	0.848	D	0.055
	Between Airport Rd. and Foussat Rd.	Expressway	50,410	0.788	C	54,271	0.848	D	0.060
	Between Foussat Rd. and N. Douglas Dr.	Expressway	53,671	0.839	D	59,141	0.924	E	0.085
	Between N. Douglas Dr. and RDO	Expressway	47,177	0.737	C	50,395	0.787	C	0.050
	Between RDO and Old Grove Rd.	Expressway	50,935	0.796	C	53,187	0.831	D	0.035
	Between Old Grove Rd. and Frazee Rd.	Expressway	43,698	0.683	B	44,985	0.703	C	0.020
	Between Frazee Rd. and College Blvd.	Expressway	46,636	0.729	C	47,923	0.749	C	0.020
	Between College Blvd. And N. Santa Fe Ave.	Expressway	45,303	0.708	C	46,268	0.723	C	0.015
	East of N. Santa Fe Ave.	Expressway	53,742	0.840	D	54,707	0.855	D	0.015
Mission Ave.	West of I-5 Ramps	Major (4)	26,332	0.658	B	26,654	0.666	B	0.008
	Between I-5 Ramps and N. Canyon Dr.	Major (4)	28,516	0.713	C	30,447	0.761	C	0.048
	Between N. Canyon Dr. and Mesa Dr.	Major (4)	24,258	0.606	B	27,476	0.687	B	0.080
	Between Mesa Dr. and Airport Rd.	Major (4)	18,154	0.454	A	22,015	0.550	A	0.097
	Between Airport Rd. and Foussat Rd.	Major (4)	19,472	0.487	A	24,298	0.607	B	0.121
	Between Foussat Rd. and El Camino Real	Major (4)	23,811	0.529	A	**36,359**	**0.908**	**E**	**0.379**
	Between El Camino Real and N. Douglas Dr.	Major (4)	20,210	0.505	A	24,071	0.602	B	0.097
	Between N. Douglas Dr. and RDO	Major (4)	24,996	0.625	B	27,248	0.681	B	0.056
	Between RDO and Old Grove Rd.	Major (4)	10,228	0.256	A	10,872	0.272	A	0.016
	East of Old Grove Rd.	Major (4)	7,362	0.184	A	7,362	0.184	A	0.000
N. Canyon Dr.	Between SR-76 and Mission Ave.	Secondary	5,364	0.215	A	6,651	0.266	A	0.051

Table 8
Existing Plus Project Daily Roadway Segment Conditions

Street	Location	Class (# Lanes)	Existing			Existing Plus Project			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
	South of Mission Ave.	Secondary	12,882	0.515	A	13,526	0.541	A	0.026
Mesa Dr.	Between Mission Ave. and El Camino Real	Secondary	5,600	0.224	A	7,209	0.288	A	0.064
	Between El Camino Real and RDO	Secondary	12,432	0.497	A	12,432	0.497	A	0.000
	East of RDO	Secondary	11,405	0.456	A	11,405	0.456	A	0.000
Airport Rd.	Between SR-76 and Mission Ave.	Industrial	3,099	0.310	A	4,064	0.406	A	0.097
Foussat Rd.	North of SR-76 [2]	Secondary (5)	5,990	0.159	A	29,156	0.777	C	0.618
	Between SR-76 and Mission Ave.	Secondary (5)	12,063	0.322	A	26,220	0.699	B	0.378
	Between Mission and Mesa Dr.	Collector (2)	5,716	0.572	A	7,968	0.797	C	0.225
El Camino Real	Between N. Douglas Dr. and Los Arbolitos Blvd.	Major (4)	17,905	0.448	A	19,192	0.480	A	0.032
	Between Los Arbolitos Blvd. And Mission Ave.	Major (4)	22,588	0.565	A	25,806	0.645	B	0.080
	Between Mission Ave. and Mesa Dr.	Major (4)	21,236	0.531	A	23,167	0.579	A	0.048
	Between Mesa Dr. and Oceanside Blvd.	Major (4)	30,989	0.775	C	31,793	0.795	C	0.020
	South of Oceanside Blvd.	Prime (6)	33,413	0.557	A	34,378	0.573	A	0.016
Rancho Del Oro Dr.	Between N. Douglas Dr. and Mission Ave.	Major (4)	14,136	0.353	A	14,136	0.353	A	0.000
	Between Mission Ave. and SR-76	Major (4)	7,789	0.195	A	8,111	0.203	A	0.008
	Between SR-76 and Mesa Dr.	Major (4)	13,384	0.335	A	14,671	0.367	A	0.032
	Between Mesa Dr. and Oceanside Blvd.	Major (4)	11,217	0.280	A	11,861	0.297	A	0.016
	South of Oceanside Blvd.	Major (4)	10,320	0.258	A	10,642	0.266	A	0.008
Frazee Rd.	North of SR-76	Secondary	5,474	0.219	A	5,474	0.219	A	0.000
	Between SR-76 and Mission Ave.	Secondary	9,331	0.373	A	9,331	0.373	A	0.000
Old Grove Rd.	North of SR-76	Major (4)	7,390	0.185	A	7,390	0.185	A	0.000
	South of SR-76	Major (4)	10,653	0.266	A	11,618	0.290	A	0.024
	Between SR-76 and Mission Ave.	Major (4)	7,878	0.197	A	8,522	0.213	A	0.016
College Blvd.	North of SR-76	Prime (6)	43,732	0.729	C	44,054	0.734	C	0.005
	South of SR-76	Major (5)	17,982	0.400	A	17,982	0.400	A	0.000

Table 8
Existing Plus Project Daily Roadway Segment Conditions

Street	Location	Class (# Lanes)	Existing			Existing Plus Project			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
N. Santa Fe Ave.	South of SR-76	Major (4)	22,394	0.560	A	22,394	0.560	A	0.000
N. Douglas Dr.	North of N. River Rd.	Major (4)	14,136	0.353	A	15,423	0.386	A	0.032
	Between N. River Rd. and Pala Rd.	Major (4)	**32,667**	**0.817**	**D**	**35,241**	**0.881**	**D**	**0.064**
	Between Pala Rd. and El Camino Real	Major (4)	**35,539**	**0.888**	**D**	**39,722**	**0.993**	**E**	**0.105**
	Between El Camino Real and Mission Ave.	Major (4)	20,967	0.524	A	24,828	0.621	B	0.097
	Between Mission Ave. and SR-76	Major (4)	20,376	0.509	A	23,594	0.590	A	0.080
N. River Rd.	East of N. Douglas Dr.	Major (4)	12,728	0.318	A	13,693	0.342	A	0.024
Los Arbolitos	Between Pala Rd. and El Camino Real	Collector	3,537	0.236	A	5,789	0.386	A	0.150
Oceanside Blvd.	West of El Camino Real	Major (4)	28,921	0.723	C	29,243	0.731	C	0.008
	Between El Camino Real and RDO	Prime (6)	25,588	0.426	A	25,588	0.426	A	0.000
	East of Rancho Del Oro Dr.	Prime (6)	28,067	0.468	A	28,067	0.468	A	0.000
Pala Rd.	Between N. Douglas Dr. and Los Arbolitos Blvd.	Secondary	2,507	0.100	A	3,472	0.139	A	0.039

Note: Deficient City of Oceanside roadway segment operation shown in **bold.**

(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

(2) **Project will improve Foussat Rd. along the project frontage to a five lane secondary arterial, with a daily segment capacity (LOSE) of 37,500 vpd.**

Table 9
Existing Plus Project Peak Hour Segment Analysis

Segment	From / To		AM Peak Hour		PM Peak Hour	
			Speed (mph)	LOS	Speed (mph)	LOS
Mission Ave.	Foussat Rd. to El Camino Real	EB	32.0	B	30.5	B
		WB	30.1	B	25.5	C
Douglas Dr.	N. River Rd. to Pala Rd.	NB	26.7	C	27.5	C
		SB	21.5	D	25.3	C
	Pala Rd. to El Camino Real	NB	28.7	B	24.5	C
		SB	27.4	C	27.6	C

Note: Deficient roadway segment operation shown in **bold**.

As shown in Table 9, all of the roadway segments are forecast to operate at acceptable levels of service (LOS D or better).

In all cases in which a roadway segment is projected to operate at LOS D or worse based on ADT volumes and thresholds, the City of Oceanside requires the development of creative measures for each deficient segment, regardless of whether the project is forecast to result in a significant impact based on the v/c ratio increase. A list of creative measures for all deficient segments is provided later in the report.

CUMULATIVE CONDITIONS

To determine the project related impacts when the project opens, cumulative project traffic (assumed to be constructed and occupied at project buildout) was added to the existing conditions to forecast the assumed baseline conditions in the project opening year.

The City of Oceanside provided a list of 32 cumulative projects, summarized in Table 10. City staff provided cumulative project traffic data through the study area based on information from traffic impact studies prepared for each of the cumulative projects. Exhibit 12 shows the location of the cumulative projects. Exhibit 13 shows the peak hour cumulative project volumes at the study intersections, and Exhibit 14 illustrates the daily cumulative project volumes on the study roadway segments.

As presented in Table 10, the cumulative projects are forecast to generate approximately 98,920 trips per day, which includes approximately 11,281 a.m. peak hour trips and approximately 12,593 p.m. peak hour trips. Peak hour and daily cumulative project volumes were added to the existing conditions to determine the baseline cumulative conditions traffic volumes anticipated to occur at the buildout of the Pavilion project site. Exhibit 15 shows the existing plus cumulative a.m. and p.m. peak hour study intersection volumes. Exhibit 16 illustrates the existing plus cumulative ADT volumes.

To determine the forecast project impacts under the cumulative conditions, project generated traffic volumes were added to the existing plus cumulative conditions traffic volumes. Exhibit 17 illustrates the existing plus cumulative plus project peak hour intersection volumes. Existing plus cumulative plus project ADT volumes are illustrated in Exhibit 18.

Cumulative Intersection Operations

Using the HCM methodology as required by City of Oceanside, intersection operating conditions were calculated for the without and with project conditions. Results of the analysis are summarized in Table 11. HCM worksheets are provided in Appendix F for existing plus cumulative conditions and Appendix G for existing plus cumulative plus project conditions.

As shown in Table 11, the following intersections are forecast to operate at deficient levels of service (LOS E or worse) under existing plus cumulative conditions without and with the proposed project:

- SR-76/Rancho Del Oro Drive (AM/PM: LOS F);
- SR-76/College Boulevard (PM: LOS E).

The addition of traffic generated by the proposed project will result in a significant impact (Indirect/Cumulative Impact) at the intersection of SR-76/Rancho Del Oro Drive. Mitigation measures are required.

Table 10
Cumulative Projects Trip Generation

Project	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1) Ocean Ranch [1]	23,597	2,329	279	2,608	559	2,204	2,763
2) Monarch Del Oro	2,461	74	121	195	148	100	248
3) Pacific Coast Business Park	16,800	1,877	211	2,088	417	1,679	2,096
4) Seagate Corporate Center	4,697	575	77	652	139	481	620
5) Oceanpointe Multi-Family	1,600	26	102	128	112	48	160
6) Ocean Creek	2,521	333	237	571	838	828	1,666
7) The Belvedere Mixed-Use	1,730	78	63	141	81	95	176
8) Oceanside Harbor Residential	582	10	37	47	37	16	53
9) Oceanside Pier Resort	2,440	80	65	145	90	95	185
10) South Coast Baptist Church	-554	0	0	0	-33	-19	-52
11) NCTD Mixed-Use	1,838	42	81	123	103	67	170
12) Casitas @Spring Creek	464	8	30	38	32	14	46
13) Hi Hope Ranch	1,000	24	56	80	70	30	100
14) VUSD Magnet School	3,600	605	259	864	130	302	432
15) Wilmont Ranch [2]	1,100	18	71	89	77	33	110
16) Morro Hills [3]	9,954	252	533	785	675	316	990
17) Wannis View Estates [4]	1,550	37	86	123	108	46	154
18) Benet Industrial Center	583	268	210	478	286	273	559
19) Mission San Luis Rey Exp.	981	21	25	46	39	36	75
20) Deutsch Industrial Addition	321	36	9	45	13	35	48
21) Z- Market and Deli	711	26	25	51	29	29	58
22) Airport Auto Center	570	29	15	44	28	35	63
23) Mission Ave. Afford. Housing	634	21	35	56	36	25	61
24) Ocean Terrace	4,444	245	54	299	144	353	497
25) Murray Bridge Middle School	2,760	370	252	622	121	155	276
26) Terraza	2,712	43	174	217	190	81	271
27) Carmelo Street Hotel	1,010	37	24	61	49	32	81
28) Oceanside Marketplace	1,686	95	62	33	174	91	83
29) Harbor View Townhome Project	1,776	142	28	114	178	125	53
30) Pelican Homes	648	52	10	42	65	46	19
31) Prescott Industrial Park	4,180	412	50	462	99	390	489
32) Equestrian Facility/Condos	424	7	27	34	30	13	43
TOTAL	**98,820**	**8,172**	**3,308**	**11,281**	**5,064**	**8,054**	**12,593**

Note: [1] Ocean Ranch is approximately 33 percent built; therefore 66 percent of the 35,754 project daily trips were included in this study per City direction.

[2] Wilmont Ranch is approximately 50 percent built out, therefore 50 percent of the 2,200 project daily trips were included in the is study, per City direction.

[3] Morro Hills is approximately 29 percent built out, therefore 71 percent of the 12,100 project daily trips were included in this study, per City direction.

[4] Wannis View Estates is approximately 51% built out, therefore 49 percent of the 3,160 project daily trips were included in this study, per City direction.

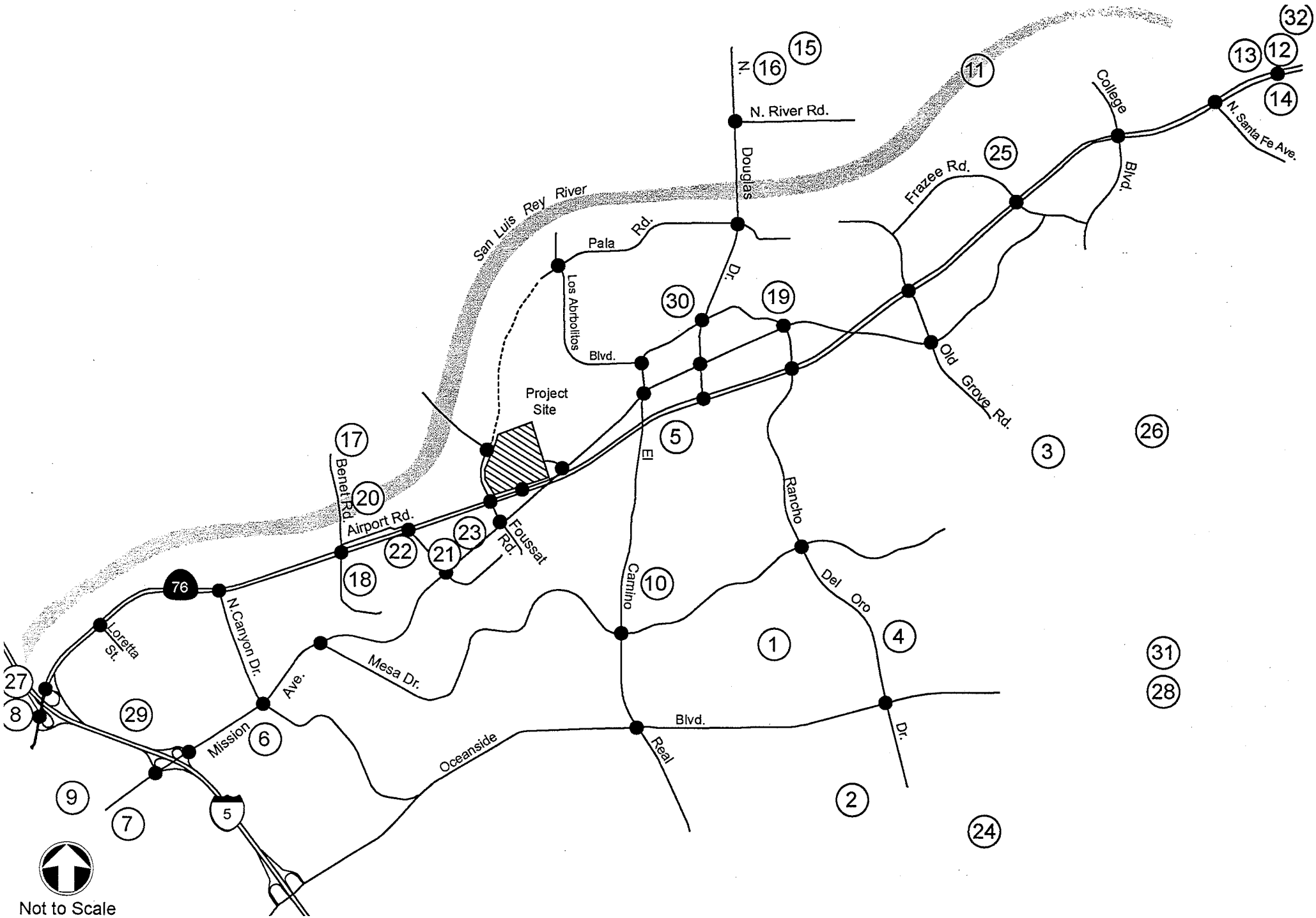
Table 11
Cumulative Conditions Peak Hour Intersection Operating Conditions

Study Intersection	Without Project		With Project		Change in Delay	
	AM Delay [1] – LOS	PM Delay [1] – LOS	AM Delay [1] – LOS	PM Delay [1] – LOS	AM	PM
SR-76/I-5 SB Ramps	15.2 - B	18.3 - B	15.4 - B	18.3 - B	0.2	0.0
SR-76/I-5 NB Ramps	13.1 - B	18.4 - B	13.3 - B	18.7 - B	0.2	0.3
SR-76/Loretta St.	5.4 - A	8.3 - A	5.8 - A	10.9 - B	0.4	2.6
SR-76/N. Canyon Dr.	8.1 - A	23.1 - C	8.7 - A	33.2 - C	0.6	10.1
SR-76/Benet Rd.	48.3 - D	29.8 - C	49.9 - D	34.7 - C	1.6	4.9
SR-76/Airport Rd.	39.0 - D	25.5 - C	42.0 - D	37.1 - D	3.0	11.6
SR-76/Foussat Rd.	16.7 - B	20.7 - C	24.8 - C	34.5 - C	8.1	13.8
SR-76/N. Douglas Dr.	45.9 - D	25.1 - C	54.3 - D	30.6 - C	8.4	5.5
SR-76/Rancho Del Oro Dr.	**85.8 - F**	**133.8 - F**	**91.8 - F**	**141.3 - F**	**6.0**	**7.5**
SR-76/Old Grove Rd.	28.5 - C	24.4 - C	30.6 - C	25.8 - C	2.1	1.4
SR-76/Frazee Rd.	21.2 - C	21.8 - C	21.2 - C	22.1 - C	0.0	0.3
SR-76/College Blvd.	53.4 - D	**74.6 - E**	53.7 - D	**76.1 - E**	0.3	1.5
SR-76/N. Santa Fe Ave.	31.0 - C	39.0 - D	31.3 - C	40.8 - D	0.3	1.8
Mission Ave./I-5 SB Ramps	22.5 - C	18.5 - B	22.7 - C	18.9 - B	0.2	0.4
Mission Ave./I-5 NB Ramps	18.4 - C	15.6 - C	18.6 - C	16.2 - C	0.2	0.6
Mission Ave./N. Canyon Dr.	22.7 - C	26.4 - C	22.6 - C	26.6 - C	-0.1	0.2
Mission Ave./Mesa Dr.	20.3 - C	13.3 - B	20.0 - B	12.6 - B	-0.3	-0.7
Mission Ave./Airport Rd.	15.8 - B	16.3 - B	15.4 - B	16.1 - B	-0.4	-0.2
Mission Ave./Foussat Rd.	16.1 - B	20.7 - C	19.6 - B	29.8 - C	3.5	9.1
Mission Ave./El Camino Real	28.6 - C	32.6 - C	29.6 - C	34.5 - C	1.0	1.9
Mission Ave./N. Douglas Dr.	30.8 - C	34.4 - C	32.2 - C	38.8 - D	1.4	4.4
Mission Ave./Rancho Del Oro Dr.	24.8 - C	23.8 - C	24.7 - C	24.1 - C	-0.1	0.3
Mission Ave./Old Grove Rd.	27.4 - C	28.0 - C	27.5 - C	27.8 - C	0.1	-0.2
Mesa Dr./El Camino Real	33.6 - C	29.5 - C	33.6 - C	29.6 - C	0.0	0.1
Mesa Dr./Rancho Del Oro Dr.	31.0 - C	33.1 - C	31.2 - C	33.3 - C	0.2	0.2
Oceanside Blvd./El Camino Real	41.2 - D	48.8 - D	41.3 - D	49.8 - D	0.1	1.0
Oceanside Blvd./Rancho Del Oro Dr.	28.5 - C	34.2 - C	28.6 - C	34.7 - C	0.1	0.5
N. River Rd./N. Douglas Dr.	33.4 - C	26.4 - C	33.8 - C	27.2 - C	0.4	0.8
Pala Rd./N. Douglas Dr.	14.9 - B	13.1 - B	16.5 - B	15.1 - B	1.6	2.0
El Camino Real/N. Douglas Dr.	24.4 - C	33.7 - C	26.4 - C	38.6 - D	2.0	4.9
Los Arbolitos Blvd./El Camino Real	14.0 - B	17.7 - B	16.8 - B	21.8 - C	2.8	4.1
Pala Rd./Los Arbolitos Blvd. [2]	10.7 - B	10.3 - B	10.7 - B	10.3 - B	0.0	0.0
Foussat Rd. / Project Access (N)	--	--	6.8 - A	12.3 - B	6.8	12.3
Foussat Rd. / Project Access (S)	13.6 - B	14.8 - B	22.7 - C	28.0 - C	9.1	13.2
Mission Avenue / Project Access	--	--	6.3 A	12.4 B	6.3	12.4
SR-76/Melrose Drive	21.7 - C	13.6 - B	21.7 - C	13.6 - B	0.0	0.0

Note: Deficient intersection operation shown in **bold.**

[1] Indicates an unsignalized intersection.

[2] The highest approach delay, rather than the average delay, is reported for side-street stop-controlled intersections.

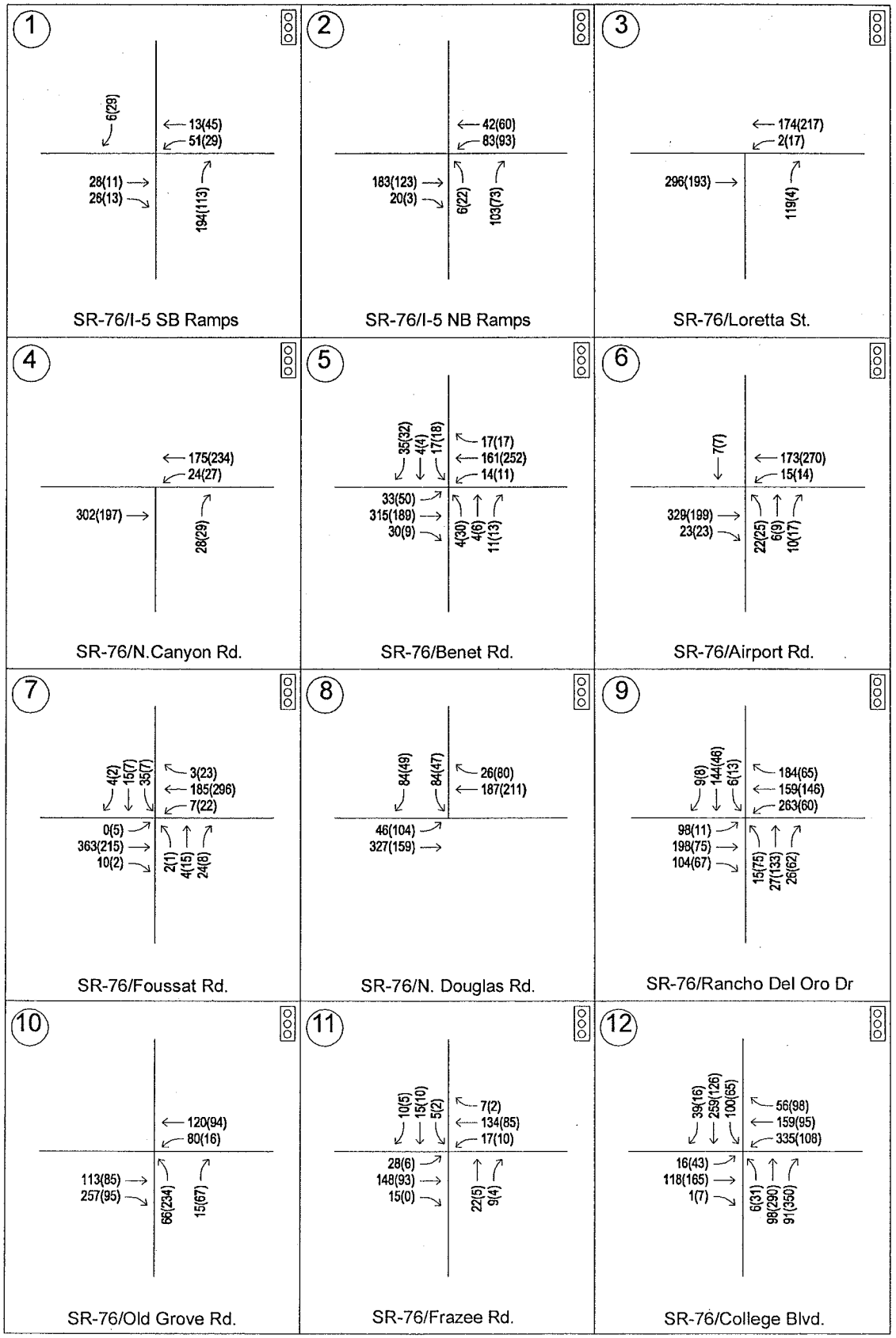


CUMULATIVE PROJECT LOCATIONS

EXHIBIT 12

RBF

55-100224.002



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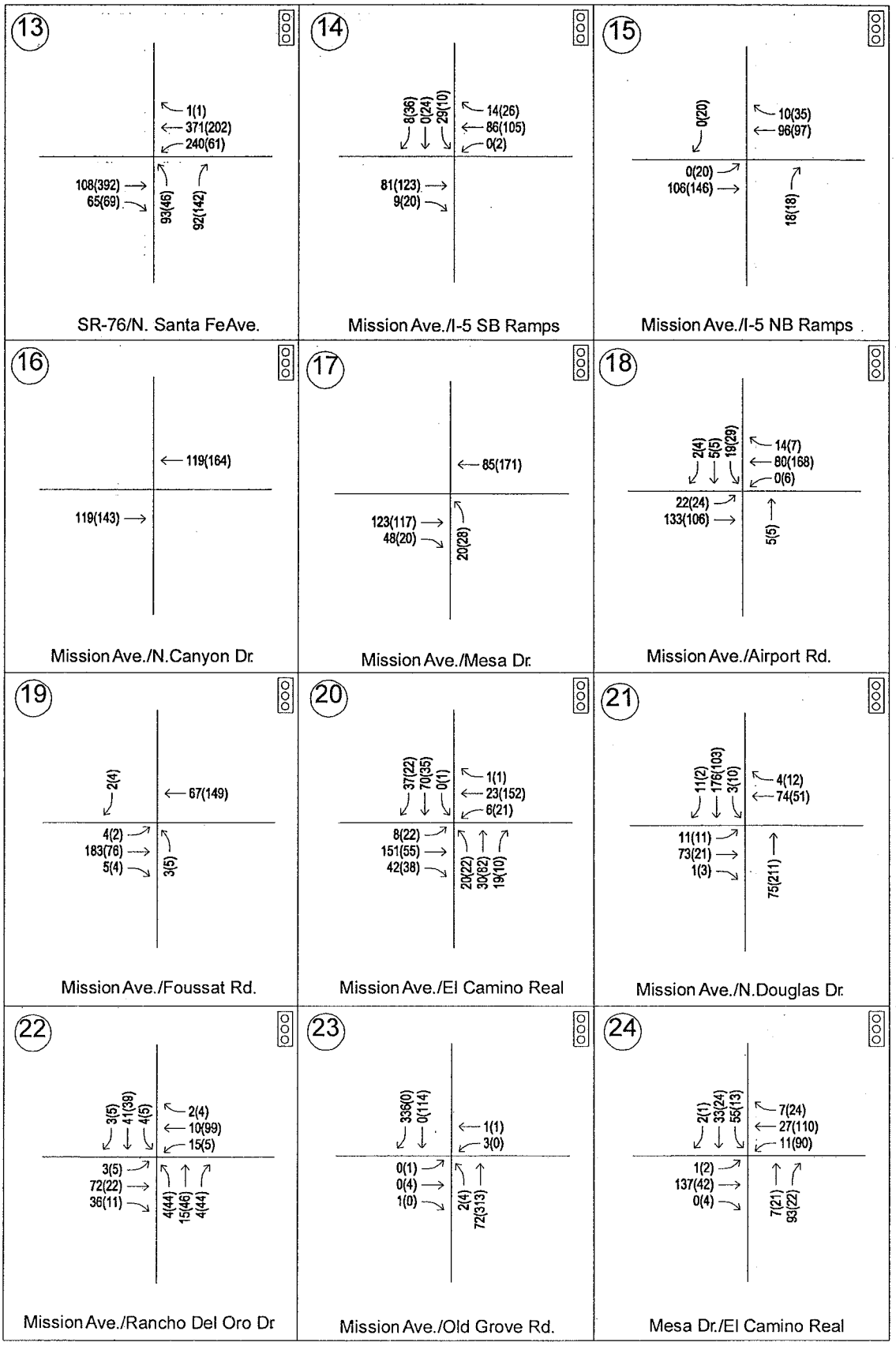
CUMULATIVE PROJECT PEAK HOUR VOLUMES

EXHIBIT 13A



CUMULATIVE PROJECT PEAK HOUR VOLUMES

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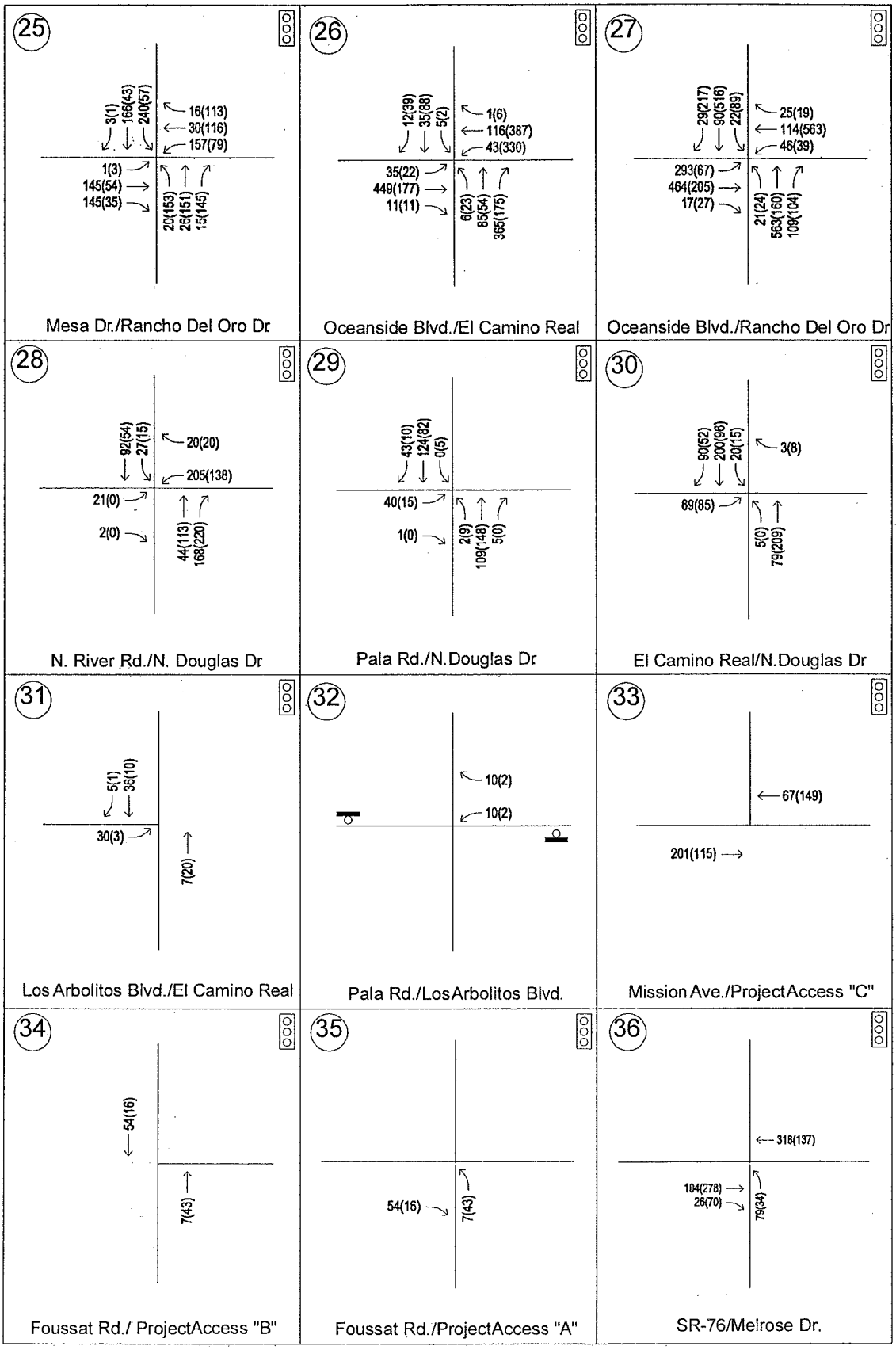

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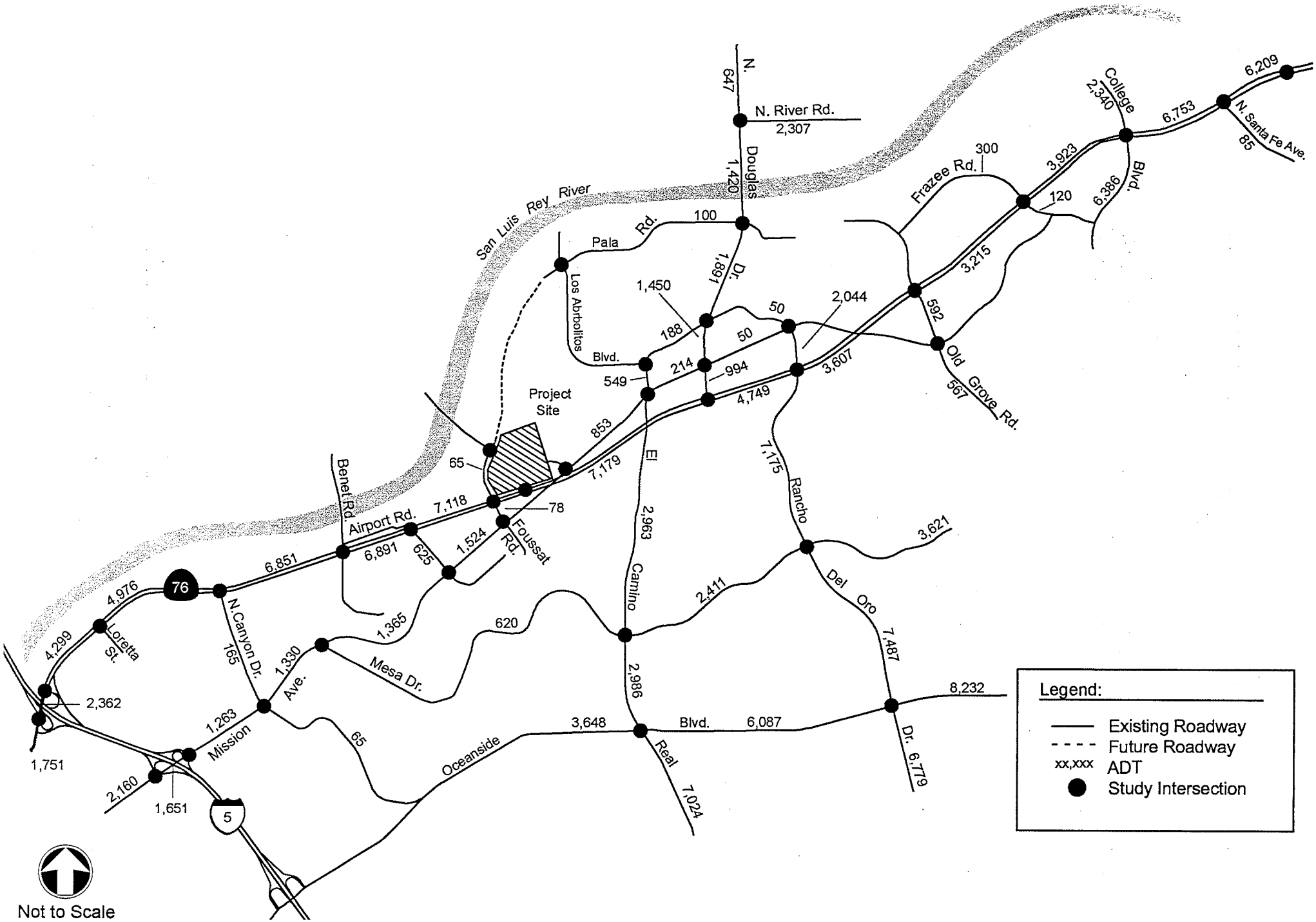
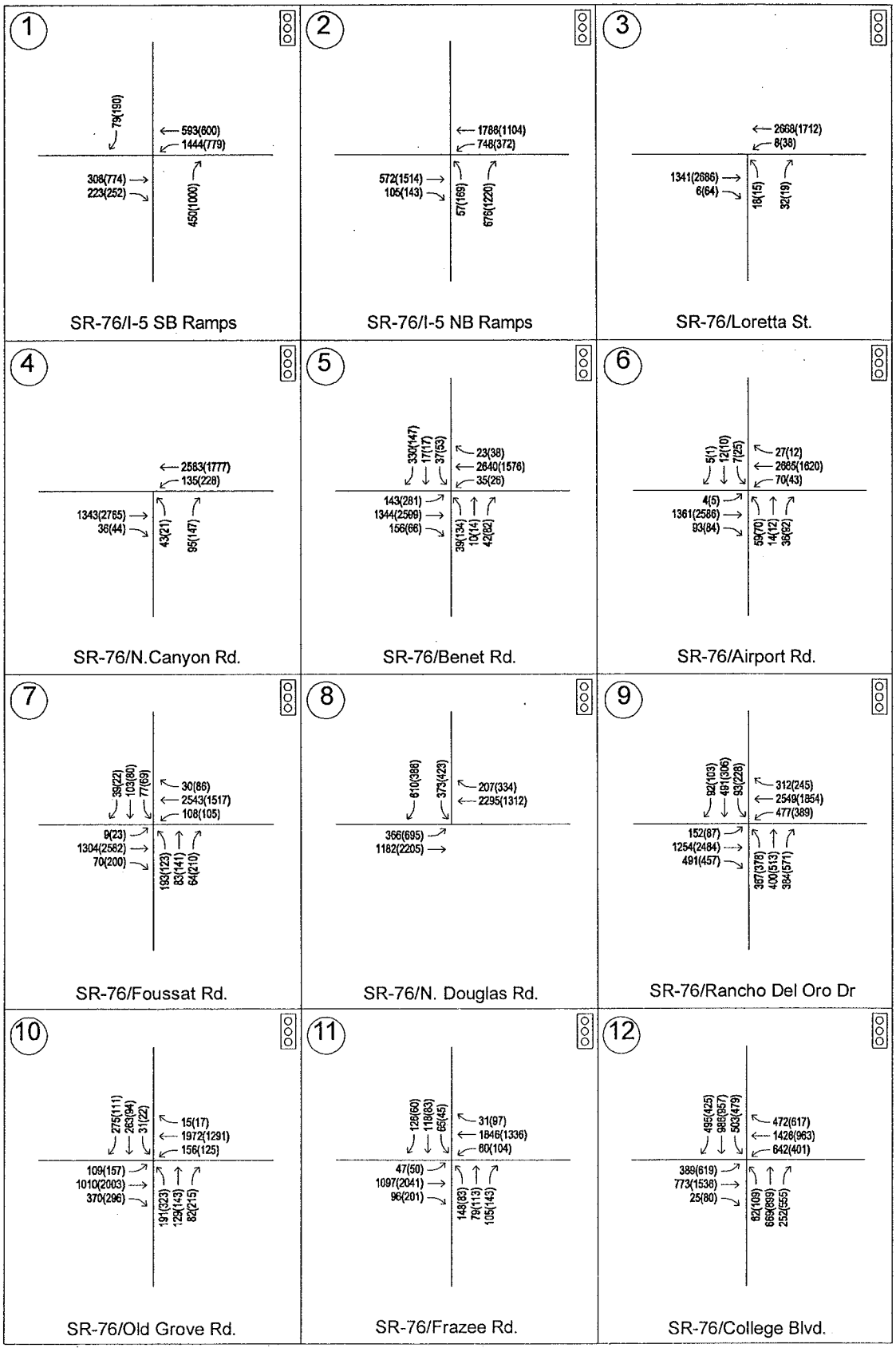


CUMULATIVE PROJECT DAILY VOLUMES

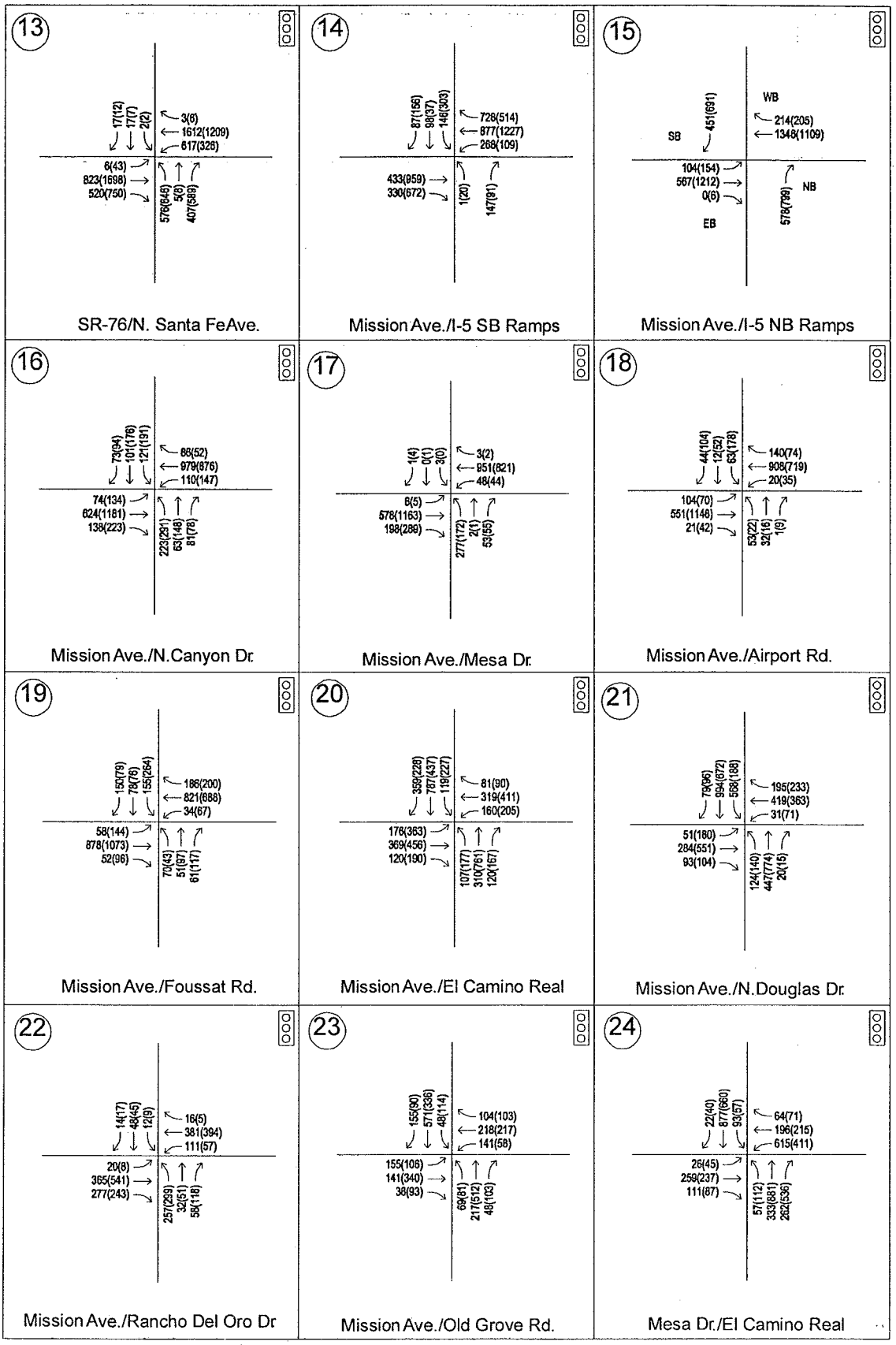
55-100224.002

EXHIBIT 14



EXISTING PLUS CUMULATIVE PEAK HOUR VOLUMES

EXHIBIT 15A



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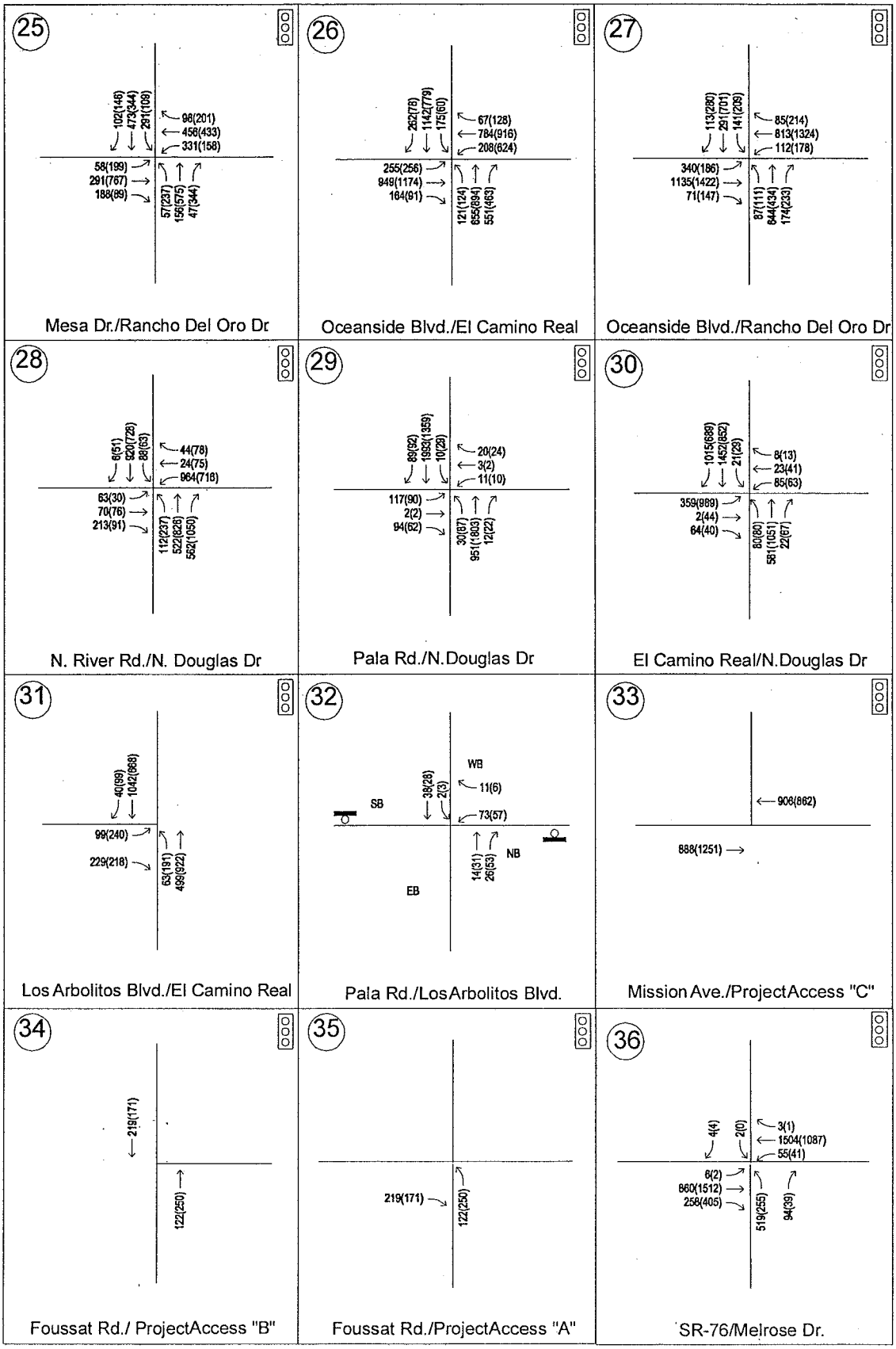

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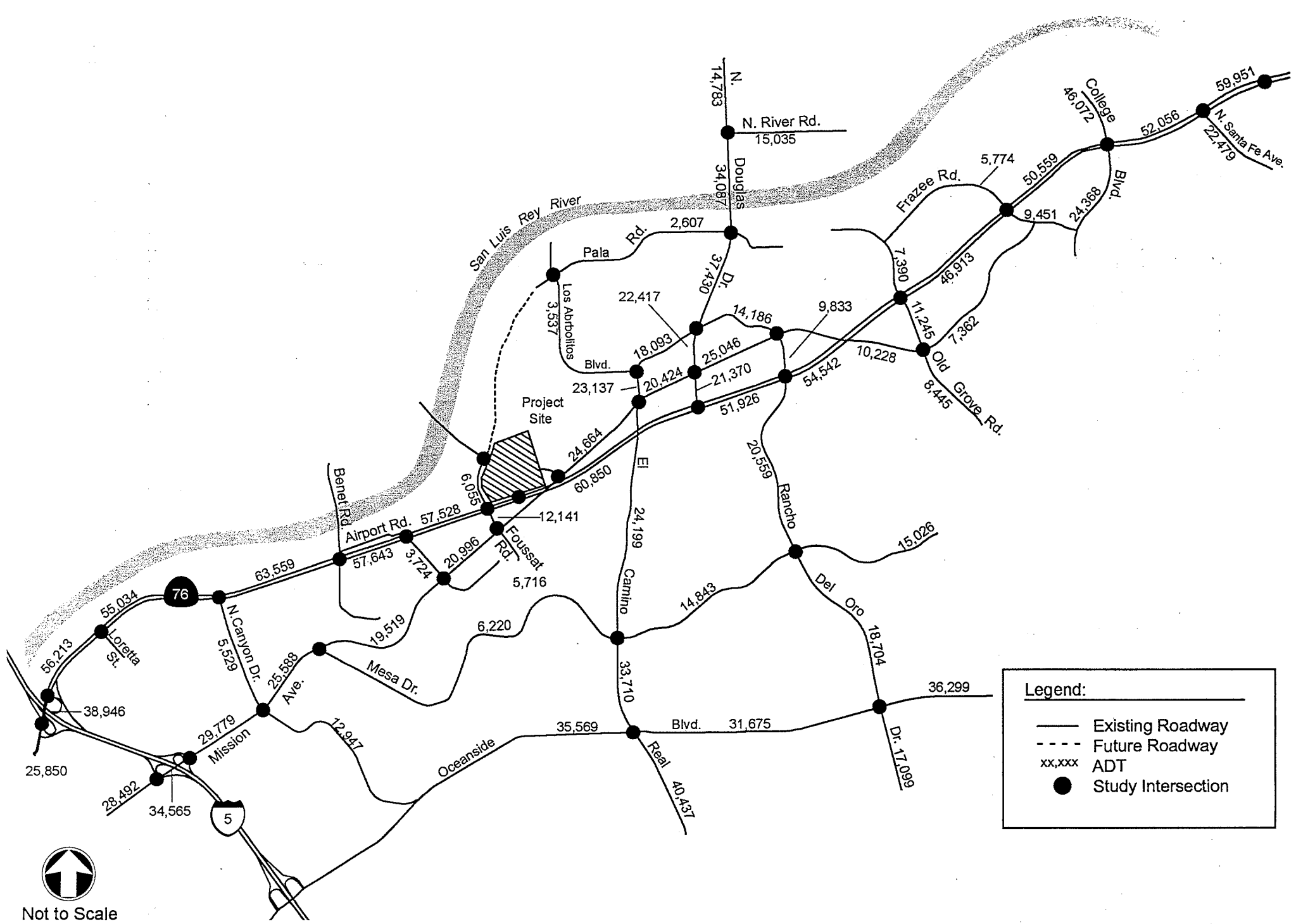
EXHIBIT 15C



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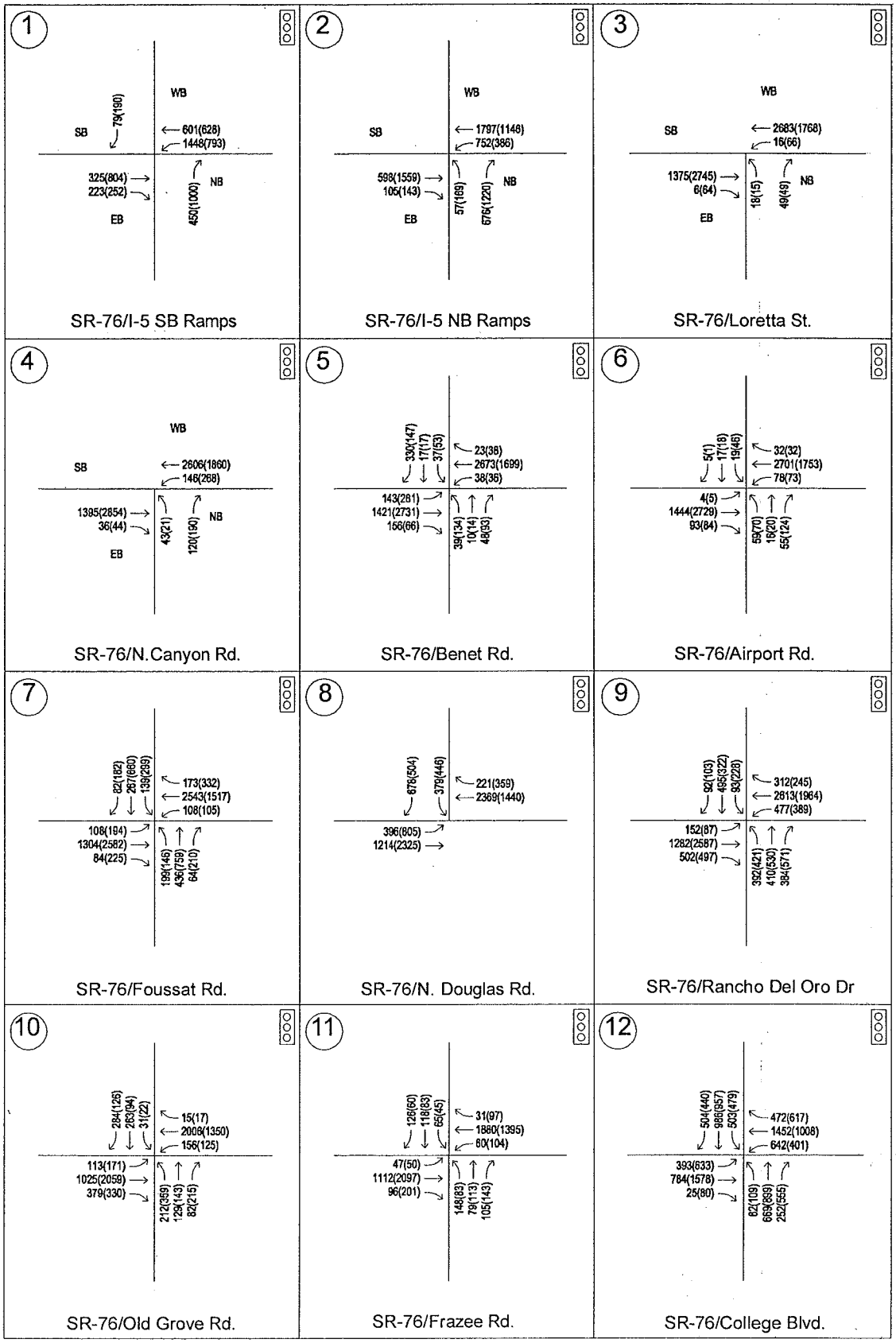
EXISTING PLUS CUMULATIVE ADT VOLUMES

EXHIBIT 16



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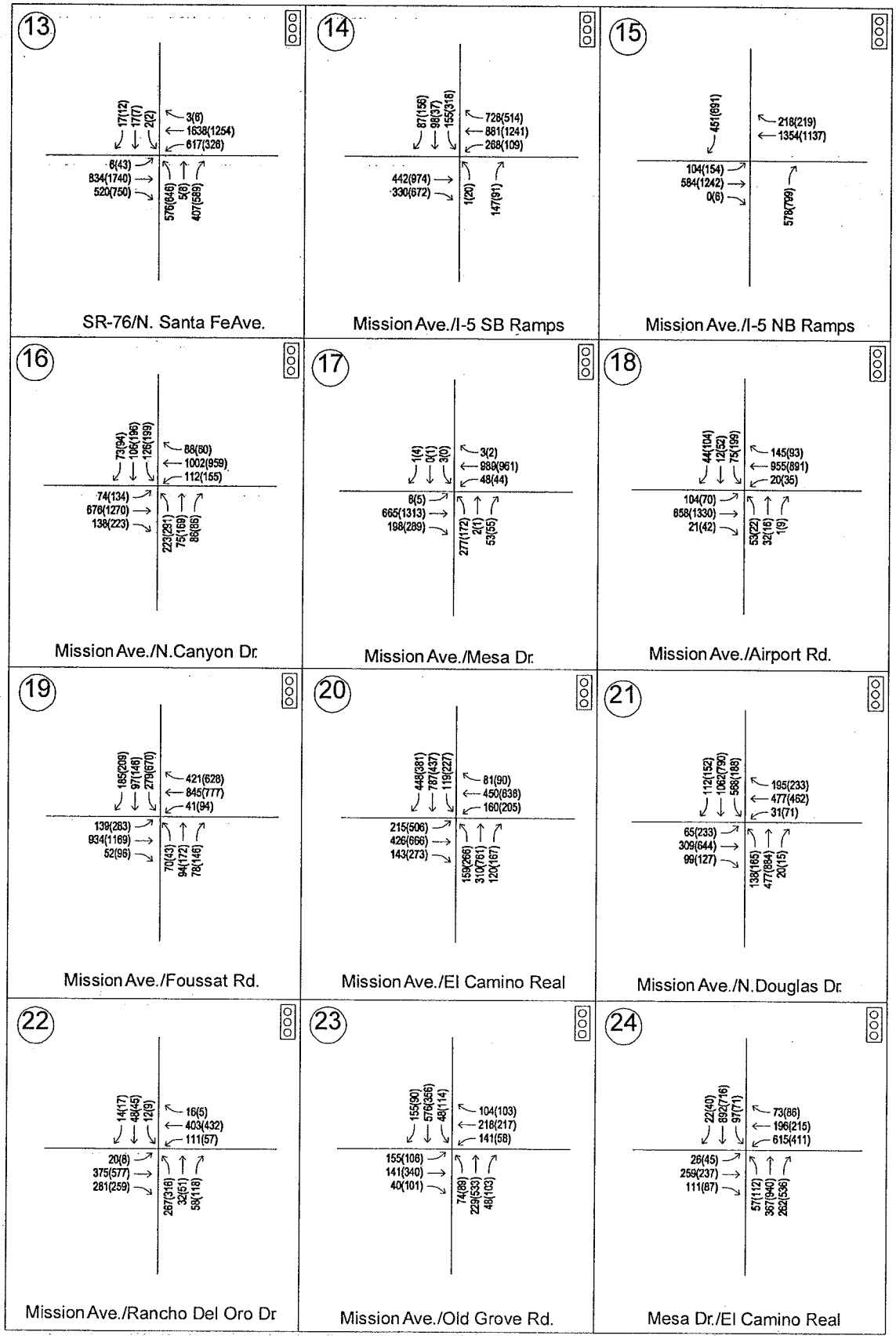
EXISTING PLUS CUMULATIVE PLUS PROJECT PEAK HOUR VOLUMES

EXHIBIT 17A



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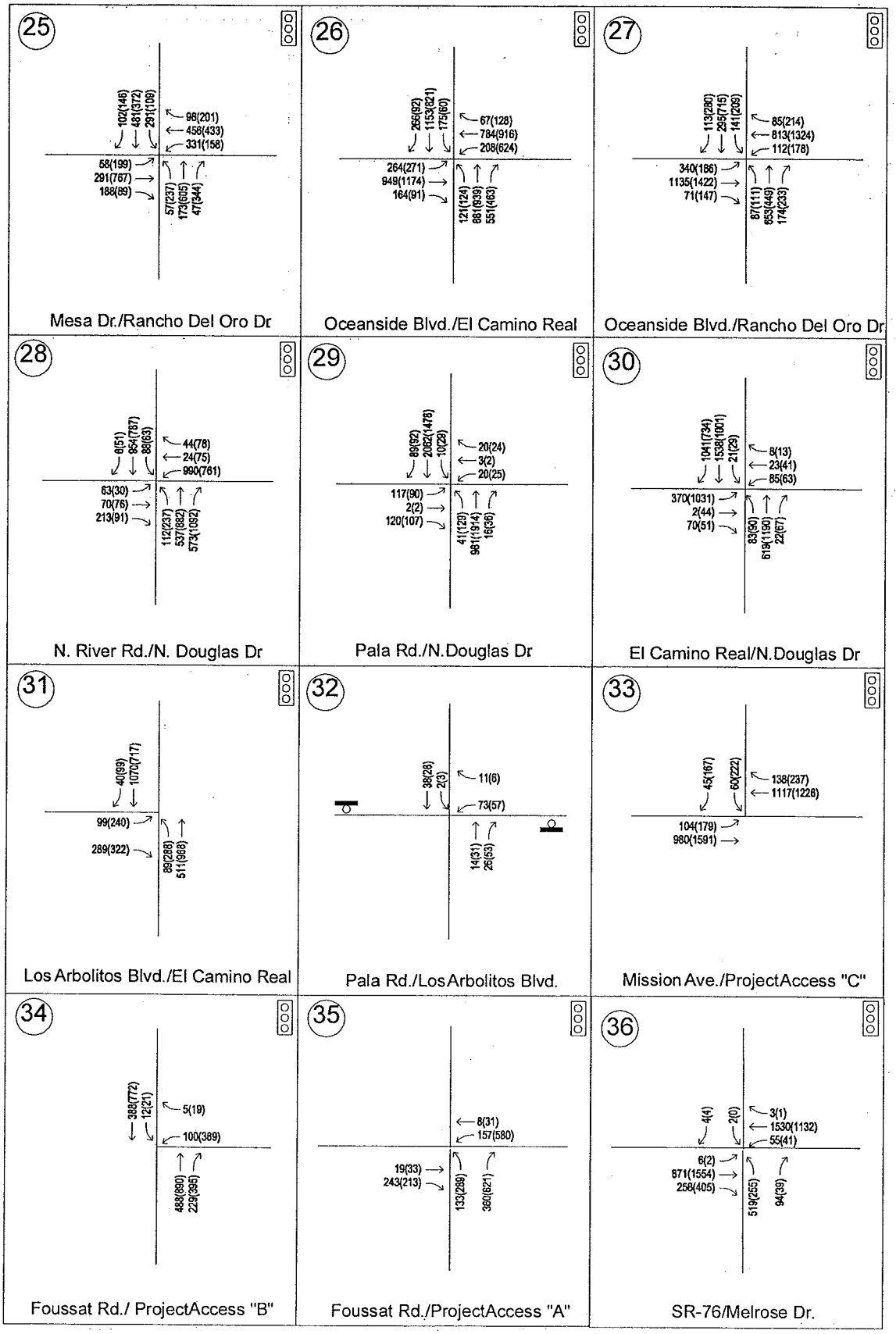
EXISTING PLUS CUMULATIVE PLUS PROJECT PEAK HOUR VOLUMES

EXHIBIT 17B



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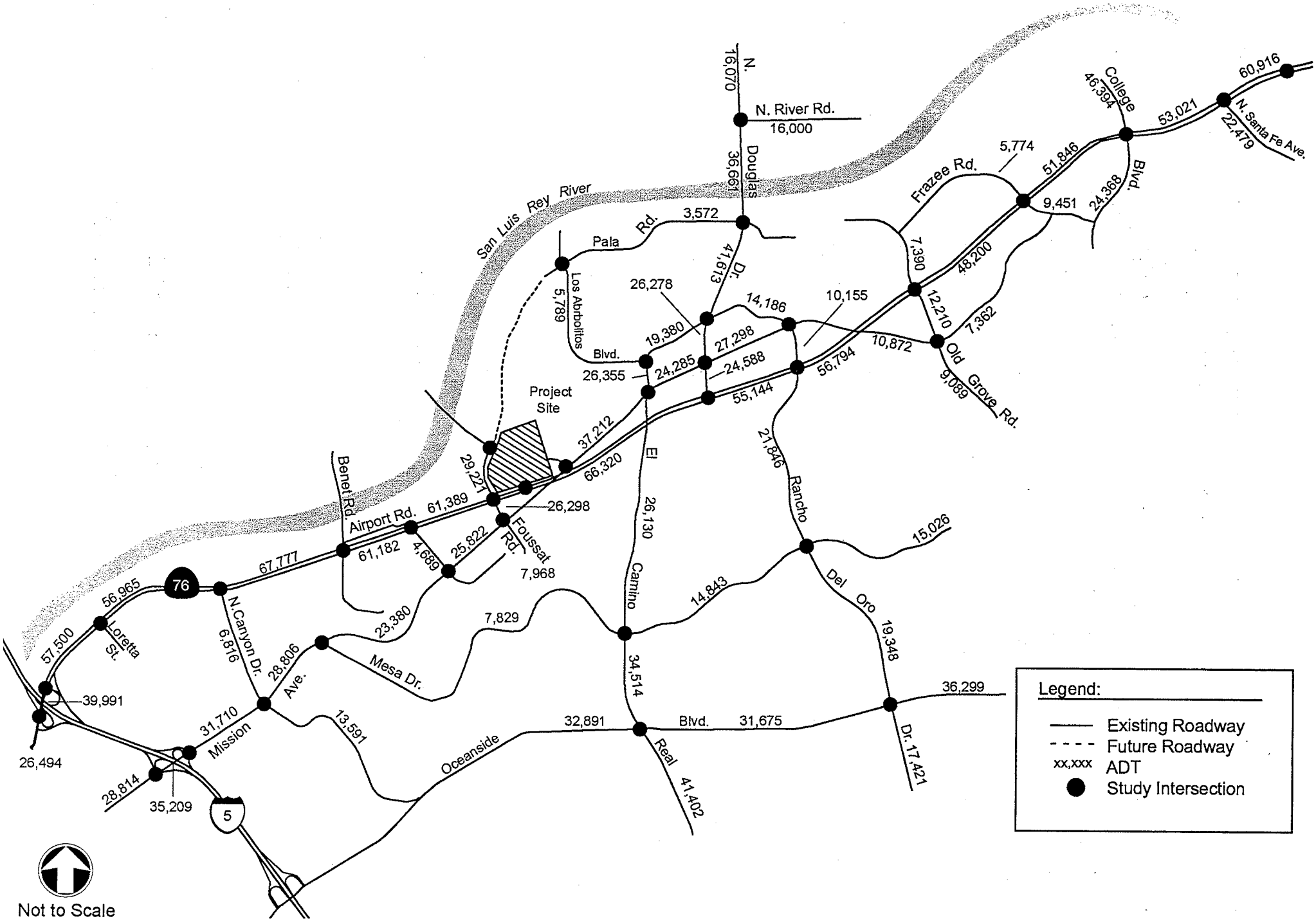


EXISTING PLUS CUMULATIVE PLUS PROJECT ADT VOLUMES

EXHIBIT 18

RBF

55-100224.002

Cumulative Roadway Segment Operations

Daily roadway segment levels of service were calculated based on the capacity of the roadways by classification and ADT volumes. Table 12 presents the results of the existing plus cumulative conditions roadway segment level of service analysis without and with the proposed project.

As shown in Table 12, the following City of Oceanside roadway segments are forecast to operate at deficient levels of service (LOS D or worse) without the proposed project:

- El Camino Real – Mesa Drive to Oceanside Boulevard (LOS D);
- N. Douglas Drive – North River Road to Pala Road (LOS D);
- N. Douglas Drive – Pala Road to El Camino Real (LOS E);
- Oceanside Boulevard – West of El Camino Real (LOS D).

The addition of daily project generated trips to existing plus cumulative ADT volumes is forecast to result in a significant impact along the following segments:

- Mission Avenue – Between Foussat and El Camino Real (LOS D) - Direct;
- N. Douglas Drive – North River Road to Pala Road (LOS E) - Indirect; and
- N. Douglas Drive – Pala Road to El Camino Real (LOS F) - Indirect.

A peak hour roadway segment analysis was conducted for the segments forecast to operate at deficient levels of service based on ADT volumes and thresholds. The results of the peak hour segment analysis are presented in Table 13. Detailed HCM analysis worksheets are provided in Appendix M.

Table 12
Cumulative Conditions Daily Roadway Segment Conditions

Street	Location	Class	Without Project			With Project			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
SR-76 [1]	West of I-5 SB Ramps	Expressway	25,850	0.404	A	26,494	0.414	A	0.010
	Between I-5 Ramps	Expressway	38,946	0.609	B	39,911	0.624	B	0.015
	Between NB I-5 Ramps and Loretta St.	Expressway	56,513	0.883	D	57,500	0.898	D	0.020
	Between Loretta and N. Canyon Rd.	Expressway	55,034	0.860	D	56,965	0.890	D	0.030
	Between N. Canyon Rd. and Benet	Expressway	63,559	0.993	E	66,777	1.043	F	0.050
	Between Benet and Airport	Expressway	57,643	0.901	E	61,182	0.956	E	0.055
	Between Airport and Foussat	Expressway	57,528	0.899	D	61,389	0.959	E	0.060
	Between Foussat and N. Douglas Rd.	Expressway	60,850	0.951	E	66,320	1.036	F	0.085
	Between N. Douglas Rd. and RDO	Expressway	51,926	0.811	D	55,144	0.862	D	0.050
	Between RDO and Old Grove Rd.	Expressway	54,542	0.852	D	56,794	0.887	D	0.035
	Between Old Grove Rd. and Frazee	Expressway	46,913	0.733	C	48,200	0.753	C	0.020
	Between Frazee and College Blvd.	Expressway	50,559	0.790	C	51,846	0.810	D	0.020
	Between College Blvd and N. Santa Fe	Expressway	52,056	0.813	D	53,021	0.828	D	0.015
	East of N. Santa Fe Ave.	Expressway	59,951	0.937	E	60,916	0.952	E	0.015
Mission Ave.	West of I-5 SB Ramps	Major (4)	28,492	0.712	C	28,814	0.720	C	0.008
	Between I-5 Ramps and N. Canyon	Major (4)	29,779	0.744	C	31,710	0.793	C	0.048
	Between N. Canyon and Mesa	Major (4)	25,588	0.640	B	28,806	0.720	C	0.080
	Between Mesa and Airport	Major (4)	19,519	0.488	A	23,380	0.585	A	0.097
	Between Airport and Foussat	Major (4)	20,996	0.525	A	25,822	0.646	B	0.121
	Between Foussat and El Camino Real	Major (4)	24,664	0.616	B	**37,212**	**0.930**	**E**	**0.314**
	Between El Camino Real and N. Douglas	Major (4)	20,424	0.511	A	24,285	0.607	B	0.096
	Between N. Douglas Rd. and RDO	Major (4)	25,046	0.626	B	27,298	0.682	B	0.056
	Between RDO and Old Grove Rd.	Major (4)	10,228	0.256	A	10,872	0.272	A	0.016
	East of Old Grove Rd.	Major (4)	7,362	0.184	A	7,362	0.184	A	0.000
N. Canyon Dr.	Between SR-76 and Mission Ave.	Secondary	5,529	0.221	A	6,816	0.273	A	0.052

Table 12
Cumulative Conditions Daily Roadway Segment Conditions

Street	Location	Class	Without Project			With Project			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
	South of Mission Ave.	Secondary	12,947	0.518	A	13,591	0.544	A	0.026
Mesa Dr.	Between Mission and El Camino Real	Secondary	6,220	0.249	A	7,829	0.313	A	0.064
	Between El Camino Real and RDO	Secondary	14,843	0.594	A	14,843	0.594	A	0.000
	East of RDO	Secondary	15,026	0.601	B	15,026	0.601	B	0.000
Airport Rd.	Between SR-76 and Mission Ave.	Industrial	3,724	0.372	A	4,689	0.469	A	0.097
Foussat Rd.	North of SR-76 [2]	Secondary (5)	6,055	0.161	A	29,221	0.779	C	0618
	Between SR-76 and Mission Ave.	Secondary (5)	12,141	0.324	A	26,298	0.701	C	0.377
	Between Mission and Mesa Dr.	Collector (2)	5,716	0.572	A	7,968	0.797	C	0.225
El Camino Real	Between N. Douglas Rd. and Los Arbol.	Major (4)	18,093	0.452	A	19,380	0.485	A	0.032
	Between Los Arbol. And Mission Ave.	Major (4)	23,137	0.578	A	26,355	0.659	B	0.080
	Between Mission and Mesa Dr.	Major (4)	24,199	0.605	B	26,130	0.653	B	0.048
	Between Mesa and Oceanside Blvd	Major (4)	**33,710**	**0.844**	**D**	**34,514**	**0.863**	**D**	0.019
	South of Oceanside Blvd.	Prime (6)	40,437	0.674	B	41,402	0.690	B	0.016
RDO	Between N. Douglas and Mission Ave	Major (4)	14,186	0.355	A	14,186	0.355	A	0.000
	Between Mission and SR-76	Major (4)	9,833	0.246	A	10,155	0.254	A	0.008
	Between SR-76 and Mesa Dr.	Major (4)	20,559	0.514	A	21,846	0.546	A	0.032
	Between Mesa Dr. and Oceanside Blvd	Major (4)	18,704	0.468	A	19,348	0.484	A	0.016
	South of Oceanside Blvd.	Secondary	17,099	0.427	A	17,421	0.436	A	0.008
Frazee Rd.	North of SR-76	Secondary	5,774	0.231	A	5,774	0.231	A	0.000
	Between SR-76 and Mission Ave.	Major (4)	9,451	0.378	A	9,451	0.378	A	0.000
Old Grove Rd.	North of SR-76	Major (4)	7,390	0.185	A	7,390	0.185	A	0.000
	South of SR-76	Major (4)	11,245	0.281	A	12,210	0.305	A	0.024
	South of Mission Ave.	Major (4)	8,445	0.211	A	9,089	0.227	A	0.016
College Blvd.	North of SR-76	Prime (6)	46,072	0.768	C	46,394	0.773	C	0.005
	South of SR-76	Major (5)	24,368	0.542	A	24,368	0.542	A	0.000

Table 12
Cumulative Conditions Daily Roadway Segment Conditions

Street	Location	Class	Without Project			With Project			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
N. Santa Fe Ave.	South of SR-76	Major (4)	22,479	0.562	A	22,479	0.562	A	0.000
N. Douglas Dr.	North of N. River Rd.	Major (4)	14,783	0.370	A	16,070	0.402	A	0.032
	Between N. River Rd. and Pala Drive	Major (4)	34,087	0.852	**D**	36,661	0.917	**E**	**0.064**
	Between Pala Dr. and El Camino Real	Major (4)	37,430	0.936	**E**	41,613	1.040	**F**	**0.105**
	Between El Camino Real and Mission	Major (4)	22,417	0.560	A	26,278	0.657	B	0.097
	Between Mission and SR-76	Major (4)	21,370	0.534	A	24,588	0.615	B	0.080
N. River Rd.	East of N. Douglas Dr.	Major (4)	15,035	0.376	A	16,000	0.400	A	0.024
Los Arbolitos	Between Pala Dr. and El Camino Real	Collector	3,537	0.236	A	5,789	0.386	A	0.150
Oceanside Blvd.	West of El Camino Real	Major (4)	32,569	0.814	**D**	32,891	0.822	**D**	0.008
	Between El Camino Real and RDO	Prime (6)	31,675	0.528	A	31,675	0.528	A	0.000
	East of RDO	Prime (6)	36,299	0.605	B	36,299	0.605	B	0.000
Pala Rd.	Between N. Douglas Dr and Los Arbolitos	Secondary	2,607	0.104	A	3,572	0.143	A	0.039

Note: Deficient City of Oceanside roadway segment operation shown in **bold**.

(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

(2) Project will improve Foussat Rd. along the project frontage to a five lane secondary arterial, with a daily segment capacity (LOSE) of 37,500 vpd.

Table 13
Existing Plus Cumulative Plus Project Peak Hour Segment Analysis

Segment	From / To		AM Peak Hour		PM Peak Hour	
			Speed (mph)	LOS	Speed (mph)	LOS
Mission Ave.	Foussat Rd. to El Camino Real	EB	32.0	B	30.6	B
		WB	30.7	B	25.5	C
El Camino Real	Mesa Dr. to Oceanside Blvd	NB	23.3	D	**18.6**	**E**
		SB	26.2	D	28.9	C
N. Douglas Dr.	N. River Rd. to Pala Rd.	NB	25.9	C	27.3	C
		SB	21.7	D	25.2	C
	Pala Rd. to El Camino Real	NB	28.0	B	24.2	C
		SB	27.5	C	26.9	C
Oceanside Blvd	West of El Camino Real	EB	46.9	A	46.9	A
		WB	24.0	D	22.9	D

Note: Deficient roadway segment operation shown in **bold**.

As shown in Table 13, the following roadway segment operates at a deficient level of service (LOS E or worse) during the peak hours under the existing plus cumulative plus project conditions:

- El Camino Real – Mesa Dr. to Oceanside Blvd. (Northbound – PM).

As required by the City of Oceanside, creative measures were developed for all deficient segments that are not significantly impacted by the proposed project. A list of creative measures for all deficient segments is provided later in the report.

HORIZON YEAR 2020 CONDITIONS

Horizon Year 2020 volumes were derived from the SANDAG Series 10 North San Diego County subarea traffic model. The Horizon Year 2020 traffic model assumes the build-out of the City of Oceanside Circulation and Land Use Elements based on the current General Plan, which includes the following changes within the project study area:

- SR-76 improved to a six-lane expressway from I-5 to Melrose Drive.
- Pala Road extended as a four-lane secondary arterial from Foussat Road to Los Arbolitos Boulevard.

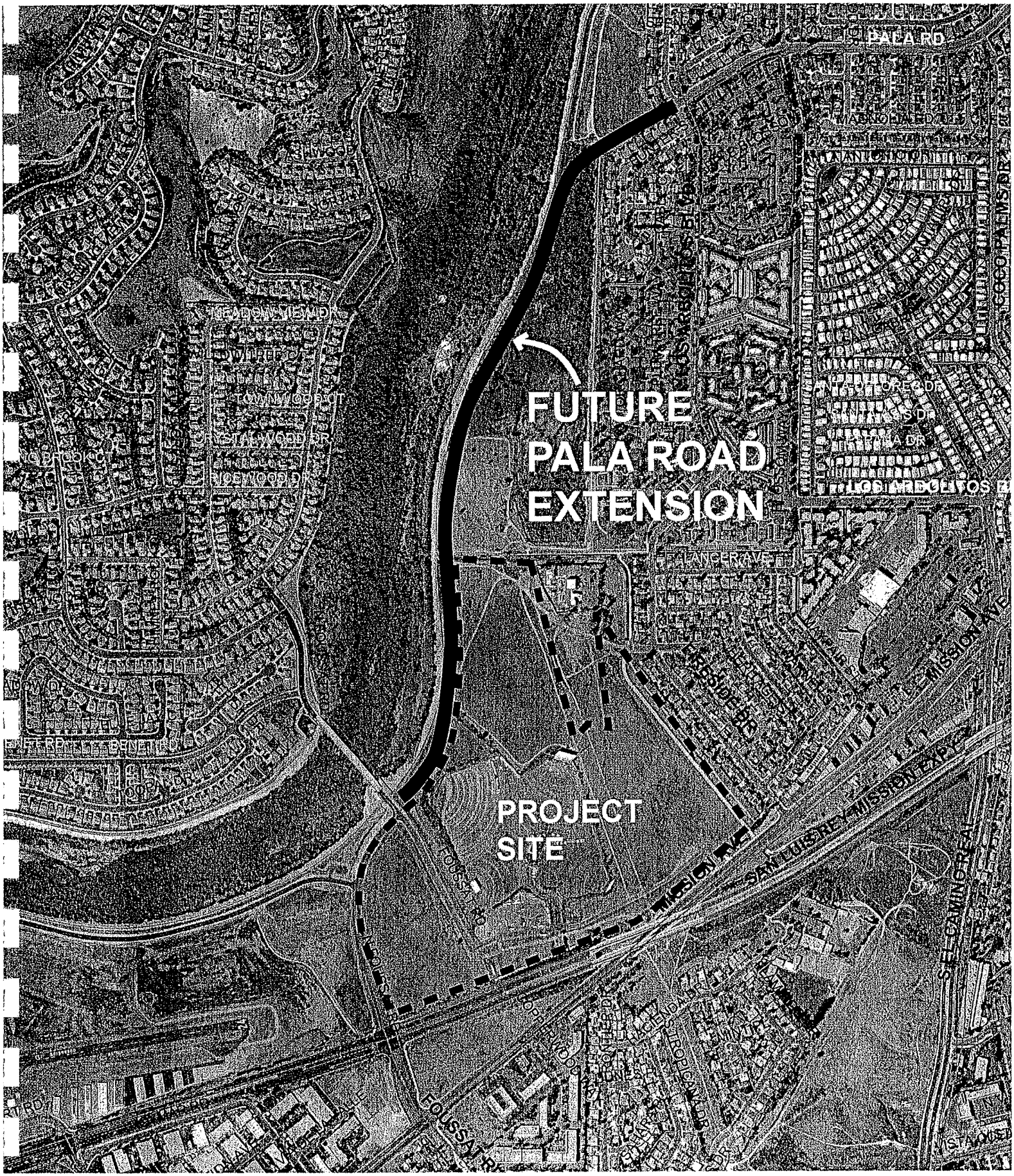
Exhibit 19 illustrates the location of the Pala Road extension. As shown, the offsite extension would connect Foussat Road south of the San Luis Rey River crossing to the existing Pala Road approximately two miles north of the project boundary. At the time this report was prepared, funding for the offsite extension of this roadway was undetermined and the environmental feasibility of the offsite roadway segment was uncertain. Therefore, analysis of the Horizon Year 2020 analysis was conducted without the Pala Road offsite extension.

To evaluate the conditions without the Pala Road offsite extension, a SANDAG select link and daily traffic volume forecast model run were conducted for the Horizon Year 2020 conditions without Pala Road. This model run was used to determine traffic patterns in the year 2020 without the Pala Road offsite extension.

The Horizon Year 2020 volumes without the Pala Road offsite extension were post-processed for the peak hours based on the forecast daily volumes in the traffic model provided by SANDAG. The trips generated by the proposed project were included in the model data. Therefore, the project generated trips were extracted from the ADT and post-processed intersection volumes using the data produced from the select zone model run for the "without Pala Road" condition.

In addition to the roadway improvements identified above, the following intersection improvements are assumed to be in place by the Horizon Year 2020 and are included in the Horizon Year 2020 analysis without and with the proposed project:

- *SR-76 Intersections from east of I-5 to North Santa Fe* – Provide three through lanes in each direction on SR-76 (College Boulevard and Foussat Road intersections currently have three through lanes on each SR-76 approach).
- *El Camino Real/Oceanside Boulevard* – Widen south leg to include three northbound through lanes.



RBF

FUTURE ALIGNMENT OF PALA ROAD

EXHIBIT 19

Horizon Year 2020 Intersection Operational Analysis (Without Pala Road Extension)

As funding and environmental feasibility of the offsite extension of Pala Road were undetermined at the time this report was prepared, assessment of the project impacts for the Horizon Year 2020 exclude the extension of Pala Road beyond the project frontage. The Horizon Year 2020 without Pala Road extension peak hour intersection volumes are presented in Exhibit 20 and Exhibit 21 for the without and with the project conditions, respectively.

The results of the intersection level of service analysis without and with the project are summarized in Table 14. Detailed HCM calculation worksheets are contained in Appendix H. For the without Pala Road conditions, the following intersections are forecast to operate at a deficient level of service (LOS E) without and with the project:

- SR-76/College Blvd. (PM: LOS E);
- Mesa Dr./El Camino Real (PM: LOS E);
- Oceanside Blvd./El Camino Real (PM: LOS E).

For those intersections forecast to operate at deficient LOS without the project, the increase in traffic associated with the project does not result in a significant impact at these intersections. Therefore, mitigation measures are not required for any of these three intersections.

The addition of traffic generated by the proposed project is forecast to result in a change in LOS from acceptable to deficient at two study intersections:

- Pala Rd./Douglas Dr. – Direct Impact

Mitigation measures are required for these two intersections to reduce the project impact to less than significant.

Horizon Year 2020 Roadway Segment Operational Analysis (Without Pala Road Extension)

The Horizon Year 2020 daily roadway segment volumes without the Pala Road extension without and with the project are presented in Exhibits 22 and 23, respectively.

Results of the Horizon Year 2020 roadway segment level of service analysis for the Without Pala Road conditions are summarized in Table 15. Without the Pala Road extension, the following City of Oceanside segments are forecast to operate at a deficient LOS (LOS D or worse) without or with the project based on daily capacity thresholds:

- Mission Avenue – West of I-5 Ramps (LOS D);
- ***El Camino Real – Mesa Drive to Oceanside Boulevard (LOS D) – Direct Impact;***
- Rancho Del Oro – South of Oceanside Boulevard (LOS D);
- ***N. Douglas Drive – North River Road to Pala Road (LOS E) – Indirect Impact;***

- ***N. Douglas Drive – Pala Road to El Camino Real (LOS F) – Indirect Impact; and***
- Oceanside Boulevard – West of El Camino Real (LOS D).

Based on the change in V/C ratio for these seven segments, the three segments highlighted in both bold and italics are forecast to be significantly impacted by the proposed project. Fair share contributions toward mitigation measures to reduce these indirect impacts are required to reduce the project related significant impacts to less than significant on these three segments.

In addition, the following three segments are forecast to result in a change in operating conditions from acceptable without the project to deficient with the project:

- Mission Avenue – Foussat Road to Project Access (LOS F) – Direct Impact;
- Mission Avenue – Project Access to El Camino real (LOS F) – Direct Impact;
- El Camino Real – Los Arbolitos to Mission Avenue – Indirect Cumulative Impact (LOS D)

Mitigation measures are required for these three segments that reduce the direct project impact to less than significant.

A peak hour roadway segment analysis was conducted for the segments forecast to operate at deficient levels of service based on ADT volumes and thresholds. The results of the peak hour segment analysis are presented in Table 16. Detailed HCM analysis worksheets are provided in Appendix M.

Table 14
Horizon Year 2020 – Without Pala Road Extension
Peak Hour Intersection Operating Conditions

Study Intersection	Without Project		With Project		Change in Delay	
	AM Delay [1] – LOS	PM Delay [1] – LOS	AM Delay [1] – LOS	PM Delay [1] – LOS	AM	PM
SR-76/I-5 SB Ramps	15.1 - B	18.9 - B	15.3 - B	18.9 - B	0.2	0.0
SR-76/I-5 NB Ramps	11.3 - B	16.0 - B	11.5 - B	16.2 - B	0.2	0.2
SR-76/Loretta St.	5.7 - A	3.0 - A	5.9 - A	4.1 - A	0.2	1.1
SR-76/N. Canyon Dr.	5.6 - A	12.2 - B	5.9 - A	14.3 - B	0.3	2.1
SR-76/Benet Rd.	12.6 - B	16.6 - B	12.6 - B	16.9 - B	0.0	0.3
SR-76/Airport Rd.	12.3 - B	15.3 - B	13.1 - B	19.6 - B	0.8	4.3
SR-76/Foussat Rd.	19.8 - B	24.2 - C	26.3 - C	38.1 - D	6.5	13.9
SR-76/N. Douglas Dr.	29.7 - C	30.5 - C	31.2 - C	32.0 - C	1.5	1.5
SR-76/Rancho Del Oro Dr.	45.6 - D	36.3 - D	46.4 - D	37.3 - D	0.8	1.0
SR-76/Old Grove Rd.	42.2 - D	30.5 - C	43.8 - D	31.1 - C	1.6	0.6
SR-76/Frazee Rd.	19.9 - B	19.8 - B	19.8 - B	19.7 - B	-0.1	-0.1
SR-76/College Blvd.	43.5 - D	**56.9 - E**	43.7 - D	**58.5 - E**	0.2	1.6
SR-76/N. Santa Fe Ave.	30.2 - C	42.7 - D	30.2 - C	43.6 - D	0.0	0.9
Mission Ave./I-5 SB Ramps	23.2 - C	19.9 - B	23.3 - C	20.3 - C	0.1	0.4
Mission Ave./I-5 NB Ramps	18.8 - C	15.2 - C	19.0 - C	15.8 - C	0.2	0.6
Mission Ave./N. Canyon Dr.	23.5 - C	26.6 - C	23.4 - C	26.9 - C	-0.1	0.3
Mission Ave./Mesa Dr.	21.2 - C	16.6 - B	20.8 - C	15.7 - B	-0.4	-0.9
Mission Ave./Airport Rd.	16.2 - B	17.0 - B	15.7 - B	16.5 - B	-0.5	-0.5
Mission Ave./Foussat Rd.	16.3 - B	20.4 - C	20.0 - C	28.7 - C	3.7	8.3
Mission Ave./El Camino Real	26.8 - C	33.9 - D	29.9 - C	37.6 - D	3.1	3.7
Mission Ave./N. Douglas Dr.	30.6 - C	34.0 - C	31.8 - C	38.0 - D	1.2	4.0
Mission Ave./Rancho Del Oro Dr.	26.2 - C	23.7 - C	25.8 - C	24.2 - C	-0.4	0.5
Mission Ave./Old Grove Rd.	30.5 - C	30.1 - C	30.5 - C	30.2 - C	0.0	0.1
Mesa Dr./El Camino Real	35.6 - D	**58.1 - E**	35.7 - D	**59.2 - E**	0.1	1.1
Mesa Dr./Rancho Del Oro Dr.	30.7 - C	27.6 - C	30.8 - C	27.5 - C	0.1	-0.1
Oceanside Blvd./El Camino Real	39.3 - D	**59.6 - E**	39.4 - D	**59.6 - E**	0.1	0.0
Oceanside Blvd./Rancho Del Oro Dr.	28.9 - C	34.6 - C	28.9 - C	34.9 - C	0.0	0.3
N. River Rd./N. Douglas Dr.	33.7 - C	31.8 - C	34.1 - C	32.7 - C	0.4	0.9
Pala Rd./N. Douglas Dr.	48.2 - D	21.6 - C	**58.3 - E**	27.1 - C	**10.1**	5.5
El Camino Real/N. Douglas Dr.	22.4 - C	46.7 - D	23.7 - C	54.3 - D	1.3	7.6
Los Arbolitos Blvd./El Camino Real	18.6 - B	19.7 - B	21.7 - C	25.6 - C	3.1	5.9
Pala Rd./Los Arbolitos Blvd. [2]	11.2 - B	10.8 - B	11.2 - B	10.8 - B	0.0	0.0
Foussat Rd. / Project Access (N)	13.7 - B	14.1 - B	19.3 - B	27.2 - C	5.6	13.1
Foussat Rd. / Project Access (S)	14.5 - B	15.2 - A	22.2 - C	29.8 - C	7.7	14.6
Mission Avenue / Project Access	0.1 - A	0.1 - A	6.5 - A	12.2 - B	6.5	12.2
SR-76/Melrose Drive	31.4 - C	30.9 - C	31.4 - C	30.9 - C	0.0	0.0

Note: Deficient intersection operation shown in **bold**.

[1] Delay in seconds per vehicle.

[2] Unsignalized intersection, in which the highest approach delay, rather than the average delay, is reported for side-street stop-controlled intersections.

Table 15
Horizon Year 2020 without Pala Extension
Roadway Segment Operational Analysis

Street	Location	Class (# Lanes)	2020 No Project (Without Pala)			2020 With Project (Without Pala)			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
SR-76 [1]	West of I-5 SB Ramps	Expressway	27,714	0.433	A	28,358	0.443	A	0.010
	Between I-5 Ramps	Expressway	40,242	0.629	B	41,207	0.644	B	0.015
	Between NB I-5 Ramps and Loretta St.	Expressway	59,701	0.746	C	60,988	0.762	C	0.016
	Between Loretta and N.. Canyon Rd.	Expressway	57,567	0.720	C	59,498	0.744	C	0.024
	Between N. Canyon Rd. and Benet	Expressway	66,050	0.826	D	69,268	0.866	D	0.040
	Between Benet and Airport	Expressway	63,440	0.793	C	66,979	0.837	D	0.044
	Between Airport and Foussat	Expressway	62,273	0.778	C	66,134	0.827	D	0.048
	Between Foussat and N. Douglas Rd.	Expressway	66,539	0.832	D	72,009	0.900	E	0.068
	Between N. Douglas Rd. and RDO	Expressway	54,262	0.678	B	57,480	0.718	C	0.040
	Between RDO and Old Grove Rd.	Expressway	57,575	0.720	C	59,827	0.748	C	0.028
	Between Old Grove Rd. and Frazee	Expressway	53,185	0.665	B	54,472	0.681	B	0.016
	Between Frazee and College Blvd.	Expressway	53,631	0.670	B	54,918	0.686	B	0.016
	Between College Blvd and N. Santa Fe	Expressway	58,527	0.732	C	59,492	0.744	C	0.012
	East of N. Santa Fe Ave.	Expressway	61,803	0.773	C	62,768	0.785	C	0.012
Mission Ave.	West of I-5 SB Ramps	Major (4)	**33,276**	**0.832**	**D**	**33,598**	**0.840**	**D**	0.008
	Between I-5 Ramps and N. Canyon	Major (4)	28,408	0.710	C	30,339	0.758	C	0.048
	Between N. Canyon and Mesa	Major (4)	25,588	0.640	B	28,806	0.720	C	0.080
	Between Mesa and Airport	Major (4)	21,470	0.537	A	25,331	0.633	B	0.097
	Between Airport and Foussat	Major (4)	23,095	0.577	A	27,921	0.698	B	0.121
	Between Foussat and El Camino Real	Major (4)	31,950	0.799	C	**44,498**	**1.112**	**F**	**0.314**
	Between El Camino Real and N. Douglas	Major (4)	26,163	0.654	B	30,024	0.751	C	0.097
	Between N. Douglas Rd. and RDO	Major (4)	27,496	0.687	B	29,748	0.744	C	0.056

Table 15
Horizon Year 2020 without Pala Extension
Roadway Segment Operational Analysis

Street	Location	Class (# Lanes)	2020 No Project (Without Pala)			2020 With Project (Without Pala)			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
	Between RDO and Old Grove Rd.	Major (4)	15,936	0.398	A	16,580	0.414	A	0.016
	East of Old Grove Rd.	Major (4)	7,510	0.188	A	7,510	0.188	A	0.000
N. Canyon Dr.	Between SR-76 and Mission Ave.	Secondary	12,655	0.506	A	13,942	0.558	A	0.051
	South of Mission Ave.	Secondary	15,086	0.603	C	15,730	0.629	B	0.026
Mesa Dr.	Between Mission and El Camino Real	Secondary	10,327	0.413	A	11,936	0.477	A	0.064
	Between El Camino Real and RDO	Secondary	15,717	0.629	B	15,717	0.629	B	0.000
	East of RDO	Secondary	16,528	0.661	B	16,528	0.661	B	0.000
Airport Rd.	Between SR-76 and Mission Ave.	Industrial	5,232	0.523	A	6,197	0.620	B	0.097
Foussat Rd.	North of SR-76	Secondary (5)	5,990	0.159	A	29,156	0.777	C	0.618
	Between SR-76 and Mission Ave.	Secondary (5)	14,300	0.381	A	28,457	0.759	C	0.378
	Between Mission and Mesa Dr.	Collector (2)	8,939	0.715	C	9,500	0.760	C	0.045
El Camino Real	Between N. Douglas Rd. and Los Arbol.	Major (4)	23,572	0.589	A	24,859	0.621	B	0.032
	Between Los Arbol. And Mission Ave.	Major (4)	30,350	0.759	C	**33,568**	**0.839**	**D**	**0.080**
	Between Mission and Mesa Dr.	Major (4)	26,545	0.664	B	28,476	0.712	C	0.048
	Between Mesa and Oceanside Blvd	Major (4)	35,637	0.892	D	**36,441**	**0.911**	**E**	0.019
	South of Oceanside Blvd.	Prime (6)	45,976	0.766	C	46,941	0.782	C	0.016
Rancho Del Oro Dr.	Between N. Douglas and Mission Ave	Major (4)	15,550	0.389	A	15,550	0.389	A	0.000
	Between Mission and SR-76	Major (4)	11,194	0.280	A	11,516	0.288	A	0.008
	Between SR-76 and Mesa Dr.	Major (4)	24,127	0.603	B	25,414	0.635	B	0.032
	Between Mesa Dr. and Oceanside Blvd	Major (4)	21,332	0.533	A	21,976	0.549	A	0.016
	South of Oceanside Blvd.	Major (4)	**33,427**	**0.836**	**D**	**33,749**	**0.844**	**D**	0.008
Frazee Rd.	North of SR-76	Secondary	6,021	0.241	A	6,021	0.241	A	0.000

Table 15
Horizon Year 2020 without Pala Extension
Roadway Segment Operational Analysis

Street	Location	Class (# Lanes)	2020 No Project (Without Pala)			2020 With Project (Without Pala)			Change in V/C
			ADT	V/C	LOS	ADT	V/C	LOS	
	Between SR-76 and Mission Ave.	Secondary	10,264	0.411	A	10,264	0.411	A	0.000
Old Grove Rd.	North of SR-76	Major (4)	8,129	0.203	A	8,129	0.203	A	0.000
	South of SR-76	Major (4)	13,513	0.338	A	14,478	0.362	A	0.024
	South of Mission Ave.	Major (4)	15,188	0.380	A	15,832	0.396	A	0.016
College Blvd.	North of SR-76	Prime (6)	39,226	0.654	B	39,548	0.659	B	0.005
	South of SR-76	Major (5)	26,547	0.590	A	26,547	0.590	A	0.000
N. Santa Fe Ave.	South of SR-76	Major (4)	24,633	0.616	B	24,633	0.616	B	0.000
N. Douglas Dr.	North of N. River Rd.	Major (4)	16,256	0.406	A	17,543	0.439	A	0.032
	Between N. River Rd. and Pala Drive	Major (4)	**36,567**	**0.914**	**E**	**39,141**	**0.979**	**E**	**0.064**
	Between Pala Dr. and El Camino Real	Major (4)	**41,897**	**1.047**	**F**	**46,080**	**1.152**	**F**	**0.105**
	Between El Camino Real and Mission	Major (4)	25,008	0.625	B	28,869	0.722	C	0.097
	Between Mission and SR-76	Major (4)	24,920	0.623	B	28,138	0.703	C	0.080
N. River Rd.	East of N. Douglas Dr.	Major (4)	18,724	0.468	A	19,689	0.492	A	0.024
Los Arbolitos	Between Pala Dr. and El Camino Real	Collector	8,200	0.547	A	10,452	0.697	B	0.150
Oceanside Blvd.	West of El Camino Real	Major (4)	**34,870**	**0.872**	**D**	**35,192**	**0.880**	**D**	**0.008**
	Between El Camino Real and RDO	Prime (6)	44,632	0.744	C	44,632	0.744	C	0.000
	East of RDO	Prime (6)	42,285	0.705	C	42,285	0.705	C	0.000
Pala Rd.	Between N. Douglas Dr. and Los Arbolitos.	Secondary	9,400	0.376	A	10,365	0.415	A	0.039

Note: Deficient City of Oceanside roadway segment operation shown in **bold**.

(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

(2) Project will improve Foussat Rd. along the project frontage to a five lane secondary arterial, with a daily segment capacity (LOSE) of 37,500 vpd

Table 16
Horizon Year (2020) Without Pala Road
With Project Peak Hour Segment Analysis

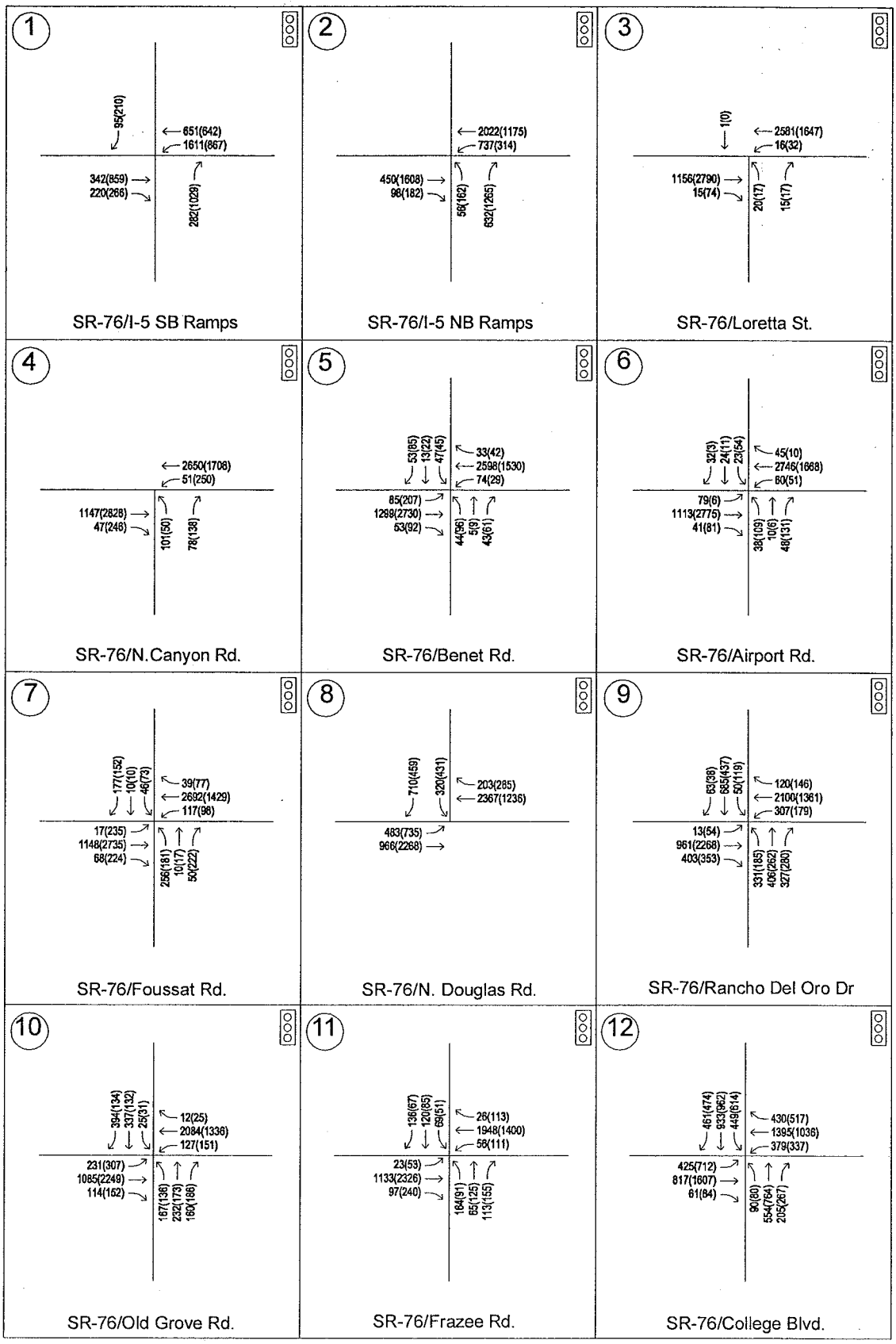
Segment	From / To		AM Peak Hour		PM Peak Hour	
			Speed (mph)	LOS	Speed (mph)	LOS
Mission Ave.	West of I-5 Ramps	EB	31.3	B	31.3	B
		WB	**12.7**	**F**	**16.9**	**E**
	Foussat Rd. to El Camino Real	EB	32.0	B	30.3	B
		WB	31.4	B	27.3	C
El Camino Real	Los Arbolitos Blvd. to Mission Ave.	NB	**19.2**	**E**	**13.5**	**F**
		SB	36.0	B	36.0	B
	Mesa Dr. to Oceanside Blvd	NB	21.5	D	**20.1**	**E**
		SB	23.8	D	23.2	D
Rancho Del Oro Dr.	South of Oceanside Blvd.	NB	31.3	B	31.3	B
		SB	**13.8**	**E**	**11.9**	**F**
N. Douglas Dr.	N. River Rd. to Pala Rd.	NB	**15.2**	**E**	23.6	C
		SB	21.7	D	24.0	C
	Pala Rd. to El Camino Real	NB	27.5	C	24.7	C
		SB	24.6	C	23.8	C
Oceanside Blvd	West of El Camino Real	EB	46.9	A	46.9	A
		WB	26.3	D	**19.1**	**E**

Note: Deficient roadway segment operation shown in **bold**.

As shown in Table 16, the following roadway segments operate at deficient levels of service (LOS E or worse) during the peak hours under the Horizon Year (2020) conditions:

- Mission Ave. – West of I-5 Ramps (Westbound - AM/PM).
- El Camino Real – Between Los Arbolitos Blvd. and Mission Ave. (Northbound – AM/PM).
- El Camino Real – Between Mesa Dr. and Oceanside Blvd. (Northbound - PM).
- Rancho Del Oro Dr. – South of Oceanside Blvd. (Southbound – AM/PM).
- N.Douglas Dr. – N. River Rd. to Pala Rd. (Northbound – AM).
- Oceanside Blvd. – West of El Camino Real (Westbound –PM).

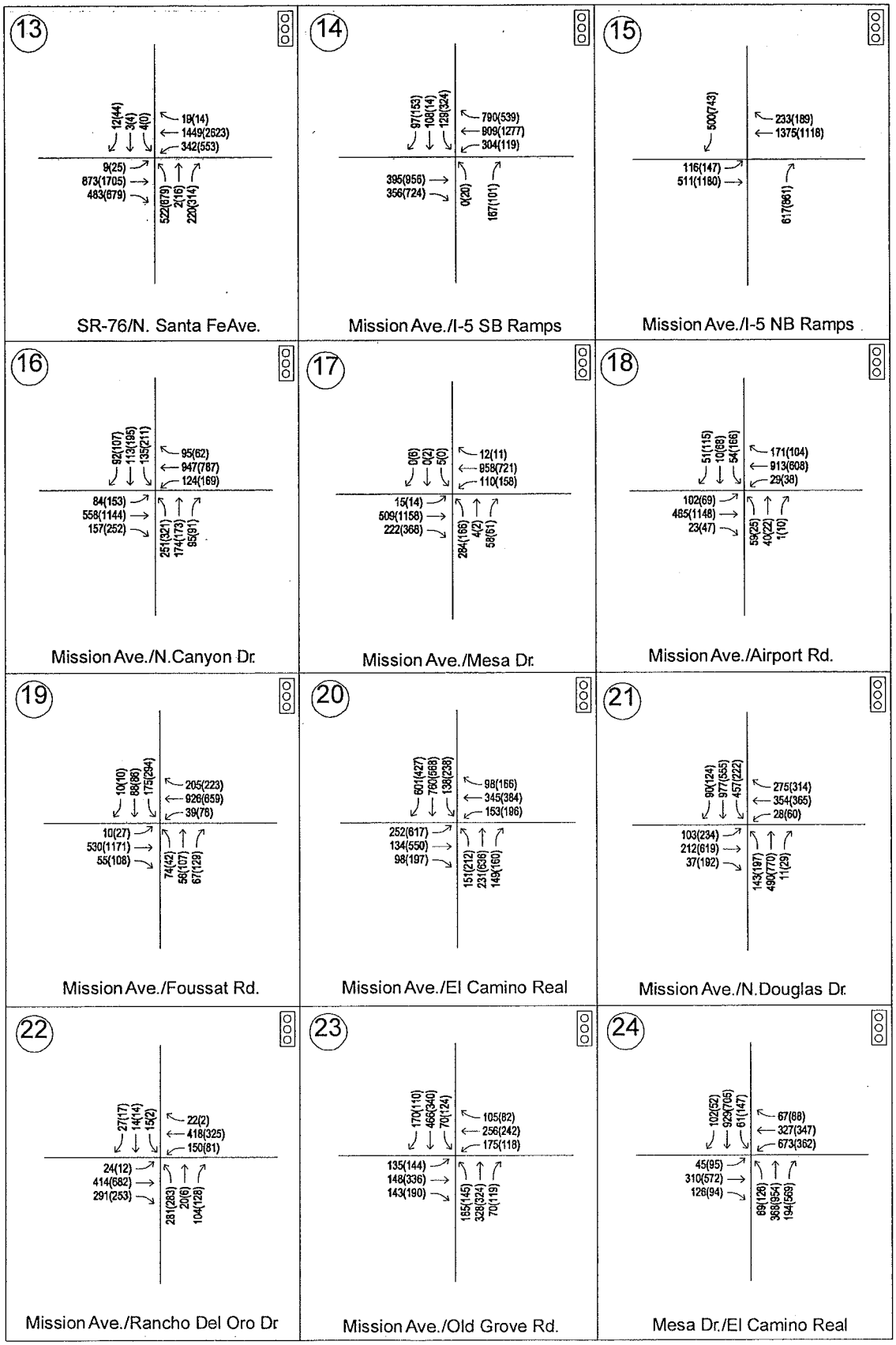
As required by the City of Oceanside, creative measures were developed for all deficient segments that are not significantly impacted by the proposed project. A list of creative measures for all deficient segments is provided later in the report.



HORIZON YEAR 2020 WITHOUT PROJECT PEAK HOUR VOLUMES

(NO PALA ROAD)

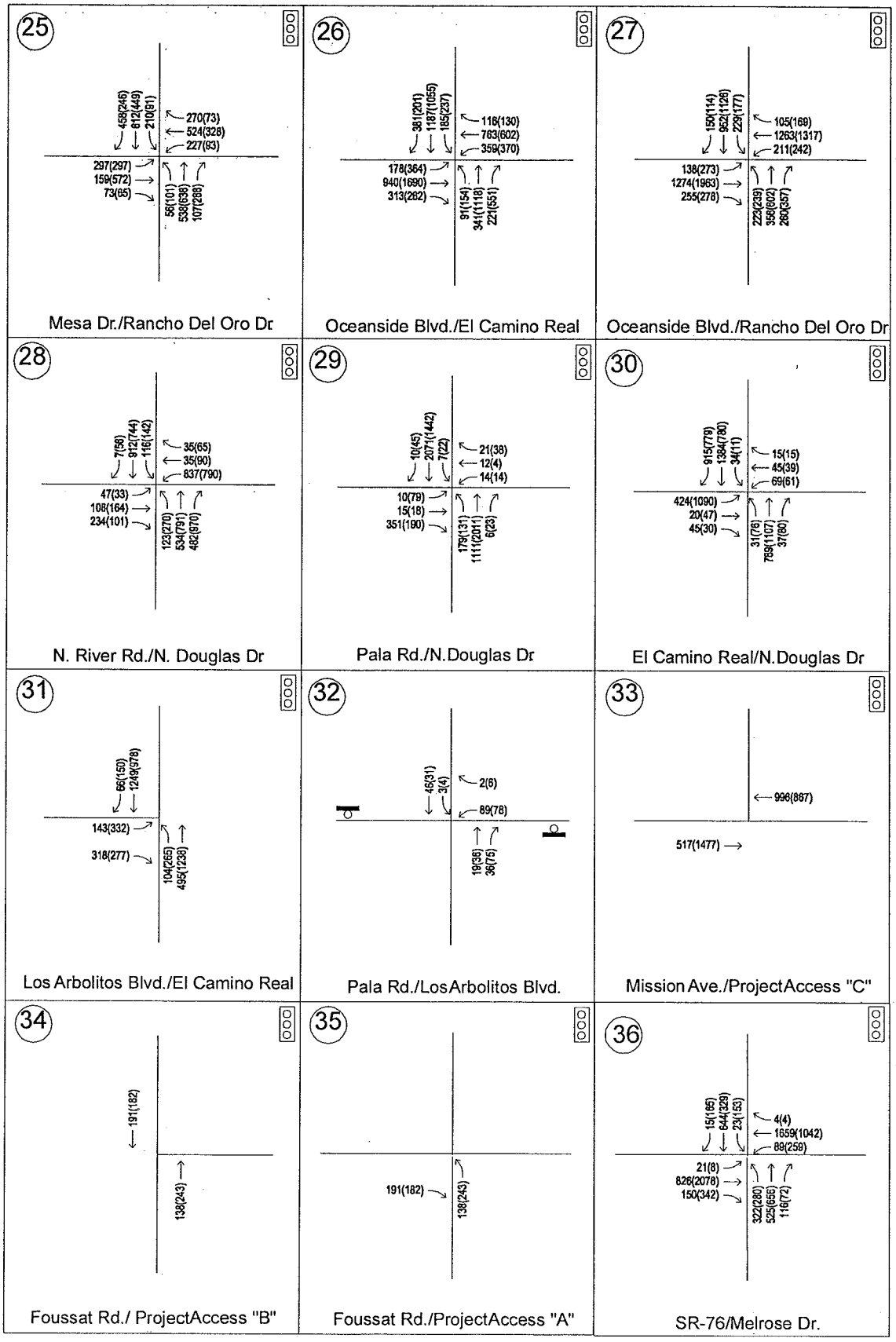
EXHIBIT 20A



HORIZON YEAR 2020 WITHOUT PROJECT PEAK HOUR VOLUMES

(NO PALA ROAD)

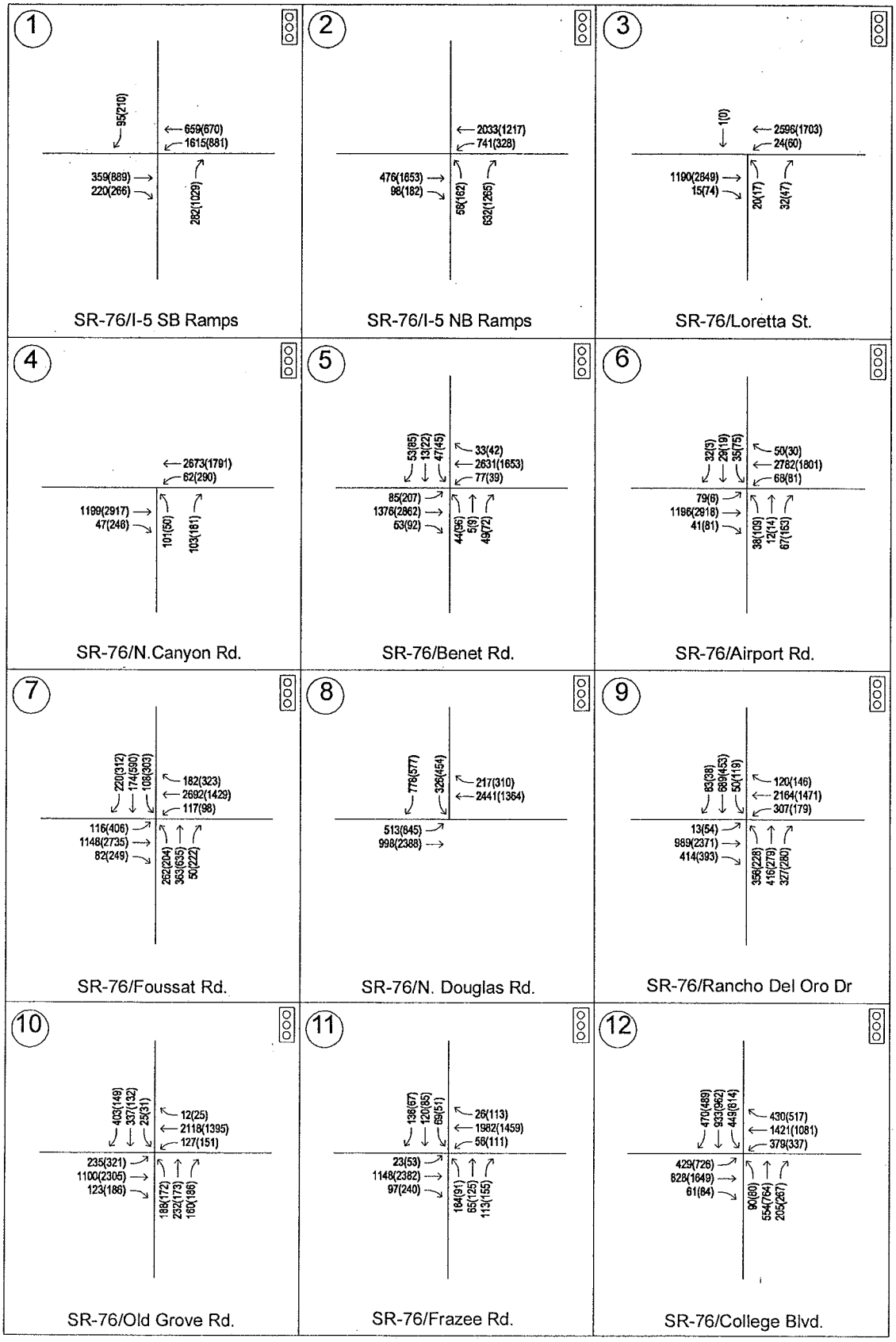
EXHIBIT 20B



HORIZON YEAR 2020 WITHOUT PROJECT PEAK HOUR VOLUMES

(NO PALA ROAD)

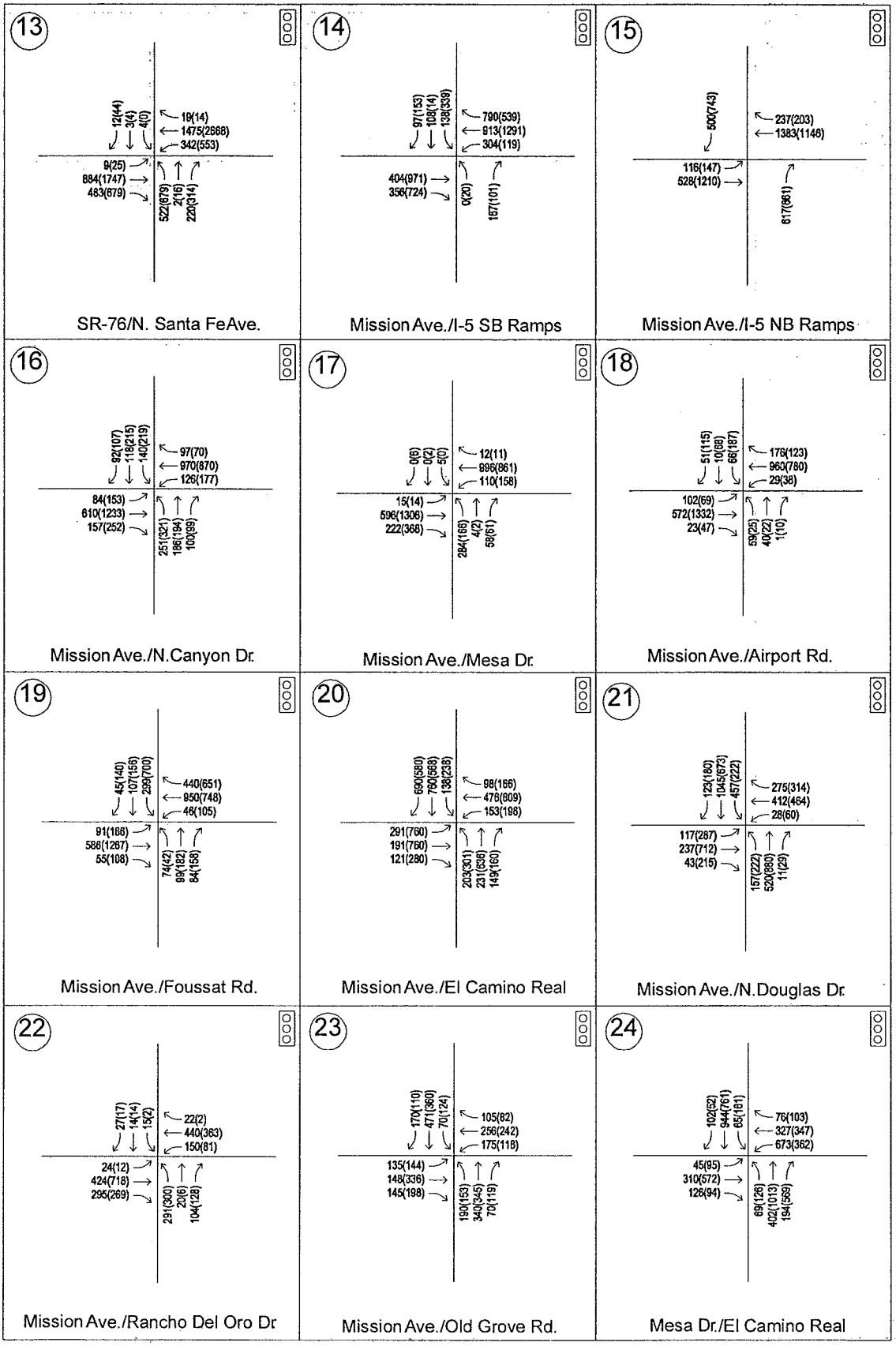
EXHIBIT 20C



HORIZON YEAR 2020 WITH PROJECT PEAK HOUR VOLUMES

(NO PALA ROAD)

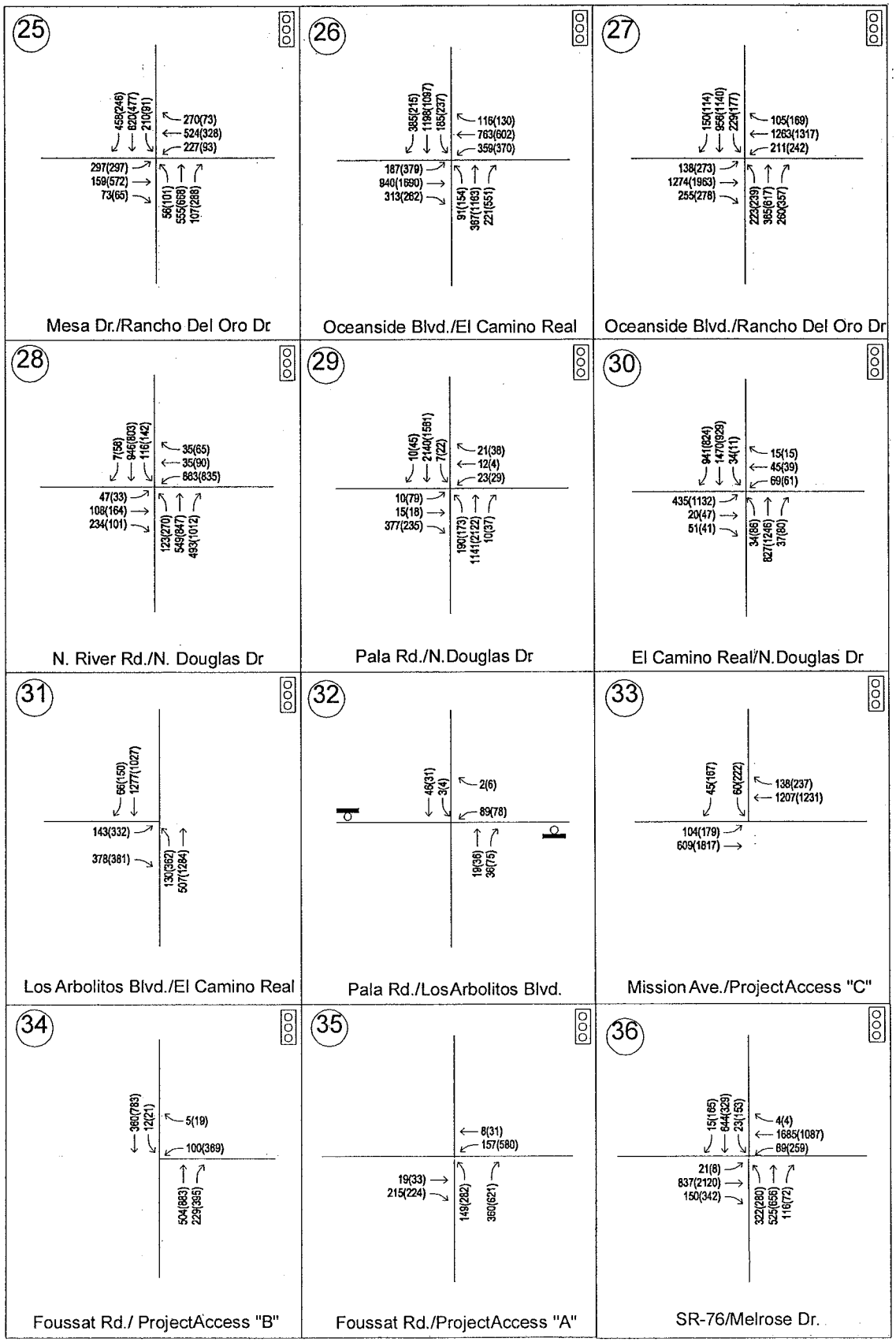
EXHIBIT 21A



HORIZON YEAR 2020 WITH PROJECT PEAK HOUR VOLUMES

(NO PALA ROAD)

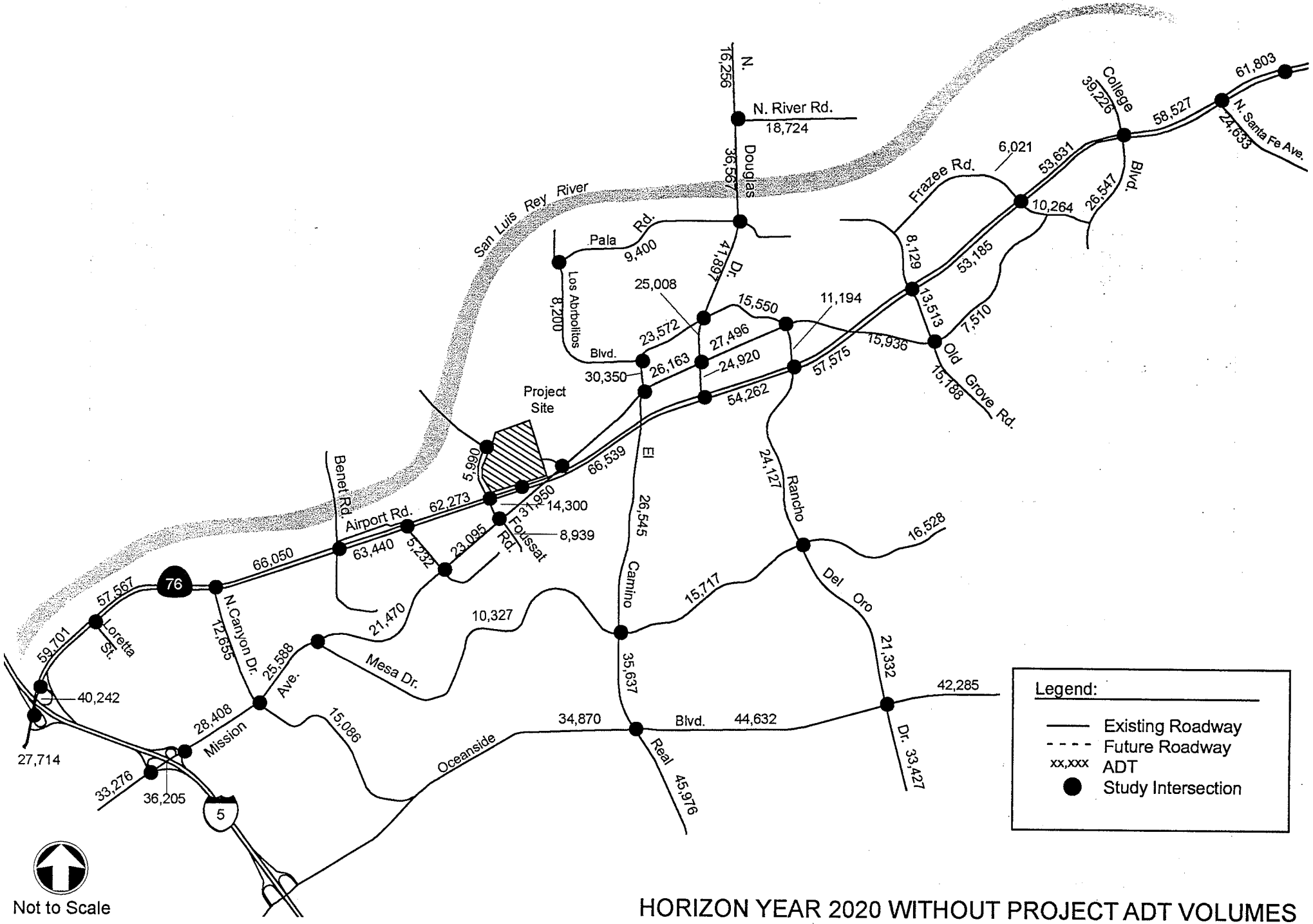
EXHIBIT 21B



HORIZON YEAR 2020 WITH PROJECT PEAK HOUR VOLUMES

(NO PALA ROAD)

EXHIBIT 21C

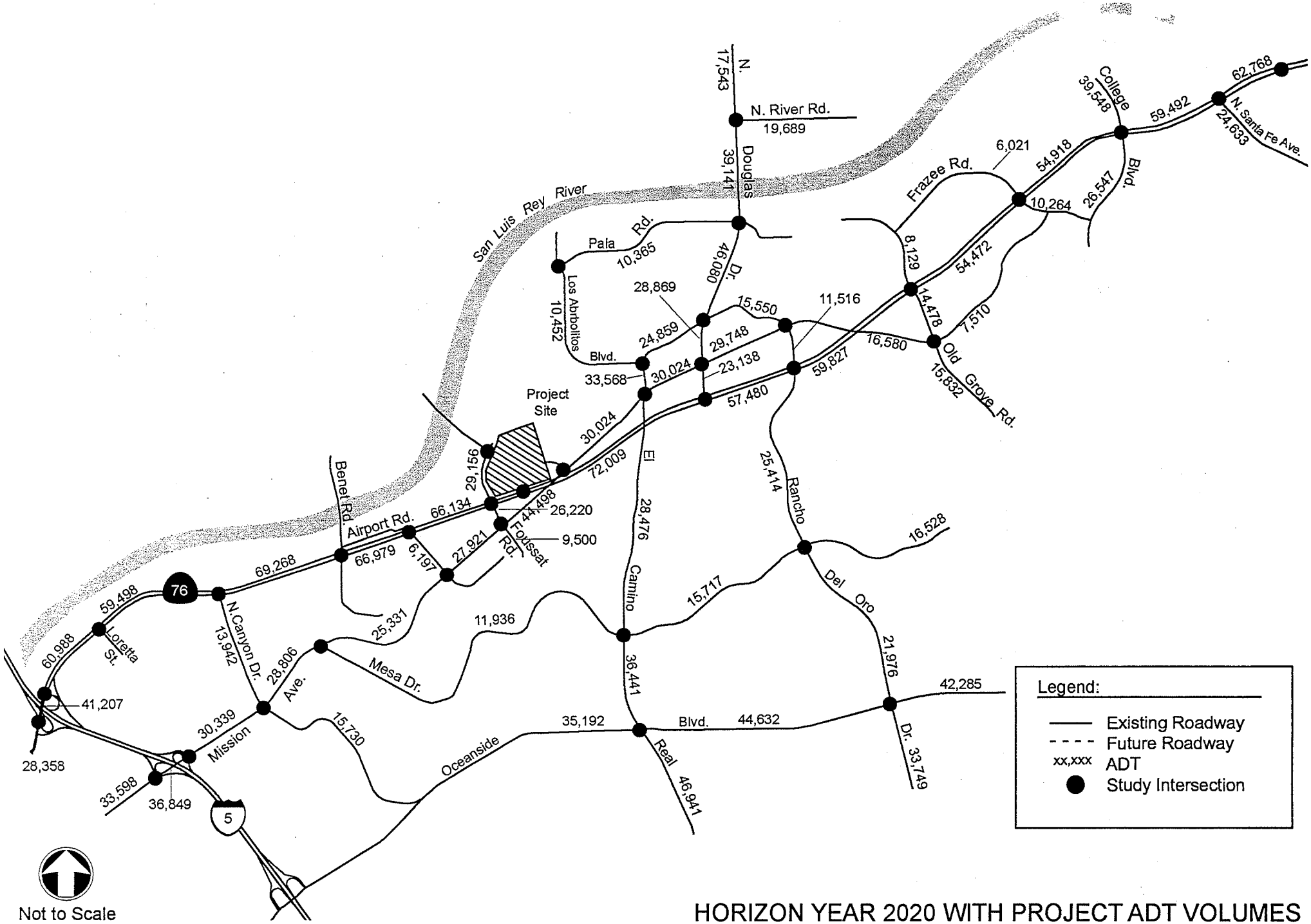


HORIZON YEAR 2020 WITHOUT PROJECT ADT VOLUMES
(WITHOUT PALA ROAD)

EXHIBIT 22

RBF

55-100224.002



Not to Scale

HORIZON YEAR 2020 WITH PROJECT ADT VOLUMES
(WITHOUT PALA ROAD)

RBF

55-100224.002

EXHIBIT 23

PALA ROAD EXTENSION ASSESSMENT

Pala Road is included in the City of Oceanside Circulation Element as a four-lane secondary arterial. A traffic report has been prepared by City of Oceanside, but not finalized, that assesses the City-wide need for this roadway. The City study shows that the extension of Pala Road will have the greatest effect on the roadways and intersections in the immediate vicinity of the roadway extension: El Camino Real, N. Douglas Drive, Foussat Road/Pala Road and Mission Avenue. Preliminary findings of the City traffic report indicate that conditions on these roadways would benefit from the extension of Pala Road.

This report includes an assessment of the need for Pala Road as it relates to the Oceanside Pavilion project. The SANDAG traffic model was used to assign traffic without and with the Pala Road extension. Exhibit 24 illustrates the forecast shift in Horizon Year 2020 traffic volumes that is anticipated to occur if the Pala Road extension is constructed. These volumes were developed using the 2020 traffic model and in coordination with city staff. The exhibit shows that approximately 11,300 vehicles per day would utilize the Pala Road extension by 2020. Of those 11,300 trips, approximately 5,300 vehicles per day would be trips associated with the proposed Oceanside Pavilion project. Due to existing traffic conditions on Douglas Drive between Pala Road and El Camino Real (LOS E), the traffic shift is likely to occur when the road opens. Therefore, this study looks at the short-term (project opening year) and long term (2020) affects of Pala Road on traffic operations without and with the project.

Distribution of project-generated traffic with the Pala Road extension is illustrated in Exhibit 25. Using this distribution, project-generated traffic was assigned to the modified roadway network for both short term and horizon year 2020 conditions.

Short Term with Pala Road Analysis

Exhibit 26 illustrates the short term daily traffic volumes with the Pala Road extension without the proposed project. Short term with project conditions with the Pala Road extension daily traffic volumes are illustrated in Exhibit 27. Short term peak hour intersection volumes without and with the proposed project are illustrated in Exhibits 28 and 29, respectively. Peak hour volumes are illustrated in Exhibits 28 & 29 for the without and with project conditions with the Pala Road extension. Table 17 compares the short term intersection operating conditions without and with the Pala Road extension. The roadway segment analysis is summarized in Table 18.

In the short term, without the project, the Pala Road extension is forecast to result in a decrease in traffic on Douglas Drive by 3,600 vehicles per day between Pala Road and El Camino Real, which would result in a change in LOS on this segment from LOS E (short term no project condition) to LOS D (short term, no project, with Pala). With the addition of project-generated trips, this same segment operates at LOS F without Pala Road and LOS D with Pala Road. The existing deficient condition on Douglas Drive is a result of traffic generated by previously constructed projects and recently approved projects in the study area. The deficient condition currently exists and is not a result of traffic generated by the Oceanside Pavilion project. Further widening of Douglas Drive

through this section is likely infeasible due to existing development. Therefore, roadway operation improvements will likely result from improved intersection operations and capacity enhancements such as turn lanes. This is demonstrated in the peak hour analysis presented previously in this traffic report. That analysis (Table 13) shows that in the short term, Douglas Drive operates at LOS D or better in both the am & pm peak hours without Pala Road extension, with the Oceanside Pavilion project.

The City Circulation Element states that "This policy shall acknowledge that the [LOS C] standards may not be attainable on some existing facilities where abutting development or environmental constraints precluded acquisition of additional right-of-way needed for changes in facility classification. This policy acknowledges that the facility may not attain a LOS C in a practical manner...Where various and creative measures to the problem have been prepared and will be implemented...then LOS D during peak hour periods is considered acceptable". As creative measures such as additional turn lanes and intersection improvements are feasible and would be completed by this project, and the segment of Douglas Drive operates at LOS D or better in the peak hour, the Pala Road extension is not necessary to address short-term project impacts for Douglas Drive.

On Mission Road, the Pala Road extension is forecast to result in a decrease in ADT of 4,200 vehicles per day. In the short term, without the Oceanside Pavilion project, the Pala Road extension would result in LOS A conditions on Mission Road, which is consistent with the existing LOS on this segment.

Without the Pala Road extension, Mission Avenue is forecast to operate at LOS E with the Oceanside Pavilion project. The Pala Road extension may reduce the background traffic on this segment such that the LOS with the Oceanside Pavilion project and Pala Road is LOS B.

The project will add a westbound right turn pocket on Mission Avenue which will help increase the capacity and reduce impacts on Mission Avenue without the Pala Road extension. The addition of project generated trips to Mission Avenue coupled with the proposed road improvement will result in LOS C operating conditions on Mission Avenue without Pala Road extension. Therefore, Pala Road is not necessary to offset project impacts on Mission Avenue.

Although Pala Road may provide a new route for existing traffic from Douglas Drive / Pala Road to Mission Avenue, the need for this extension in the short term is not directly related to the Oceanside Pavilion project. The analysis shows that all intersections in the area that would be affected by the Pala Road extension operate at acceptable LOS at project opening year. Douglas Drive from North River Road to El Camino Real operates at deficient LOS. This is an existing condition, not directly related to the Oceanside Pavilion project. Mission Avenue will be directly impacted by the project in the short term. However, capacity enhancements along the project frontage should address project related impacts. The Pala Road extension is not necessary to offset impacts on Mission Avenue in the short term.

2020 With Pala Road Analysis

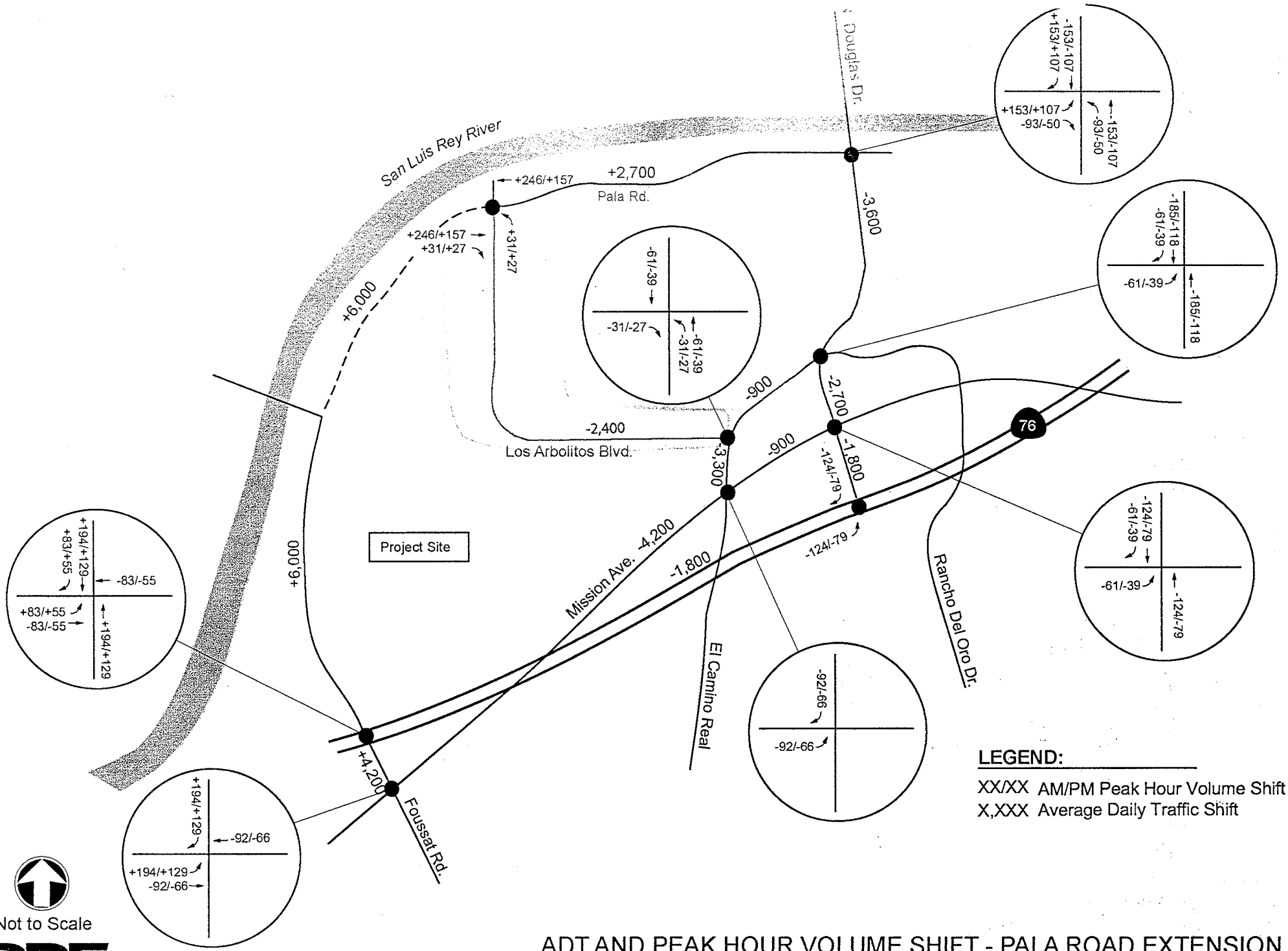
Exhibit 30 illustrates the 2020 Horizon Year daily traffic volumes with the Pala Road extension without the proposed project. Horizon Year with project with the Pala Road extension daily traffic volumes are illustrated in Exhibit 31. Peak hour intersection volumes without and with the proposed project are illustrated in Exhibits 32 and 33, respectively.

Table 19 compares the Horizon Year intersection operating conditions with and without the Pala Road extension for those intersections most likely impacted by the change. Traffic operations at intersections evaluated without Pala Road extension, but not included in this table are not forecast to be affected by the extension of Pala Road.

As shown in Table 19 all intersections are forecast to operate at an acceptable level of service with the Pala Road Extension. Therefore, the extension of Pala Road would not result in a direct project impact at Mission Avenue/El Camino Real, which was identified for the "without Pala Road" with project condition.

Table 20 compares the Horizon Year LOS of the affected roadway segments with and without the Pala Road extension and with and without the proposed project. As shown in Table 20, construction of Pala Road would generally improve operating conditions on streets within the project vicinity. However, there would still be project related impacts on three segments forecast to operate at deficient LOS with the extension and with the project. Construction of Pala Road would improve operating conditions along Mission Avenue from the project access road to El Camino Real and along El Camino Real from Los Arbolitos Boulevard to Mission Avenue, so that there would not be project impacts identified on these segments, which were identified to operate at deficient levels without the Pala Road extension.

As will be discussed in the following section of this report, the identified Horizon Year 2020 project related impacts can be mitigated through other roadway or intersection improvements, therefore the Pala Road extension is not necessary to support the development of this site.



LEGEND:

XX/XX AM/PM Peak Hour Volume Shift

X,XXX Average Daily Traffic Shift

Not to Scale

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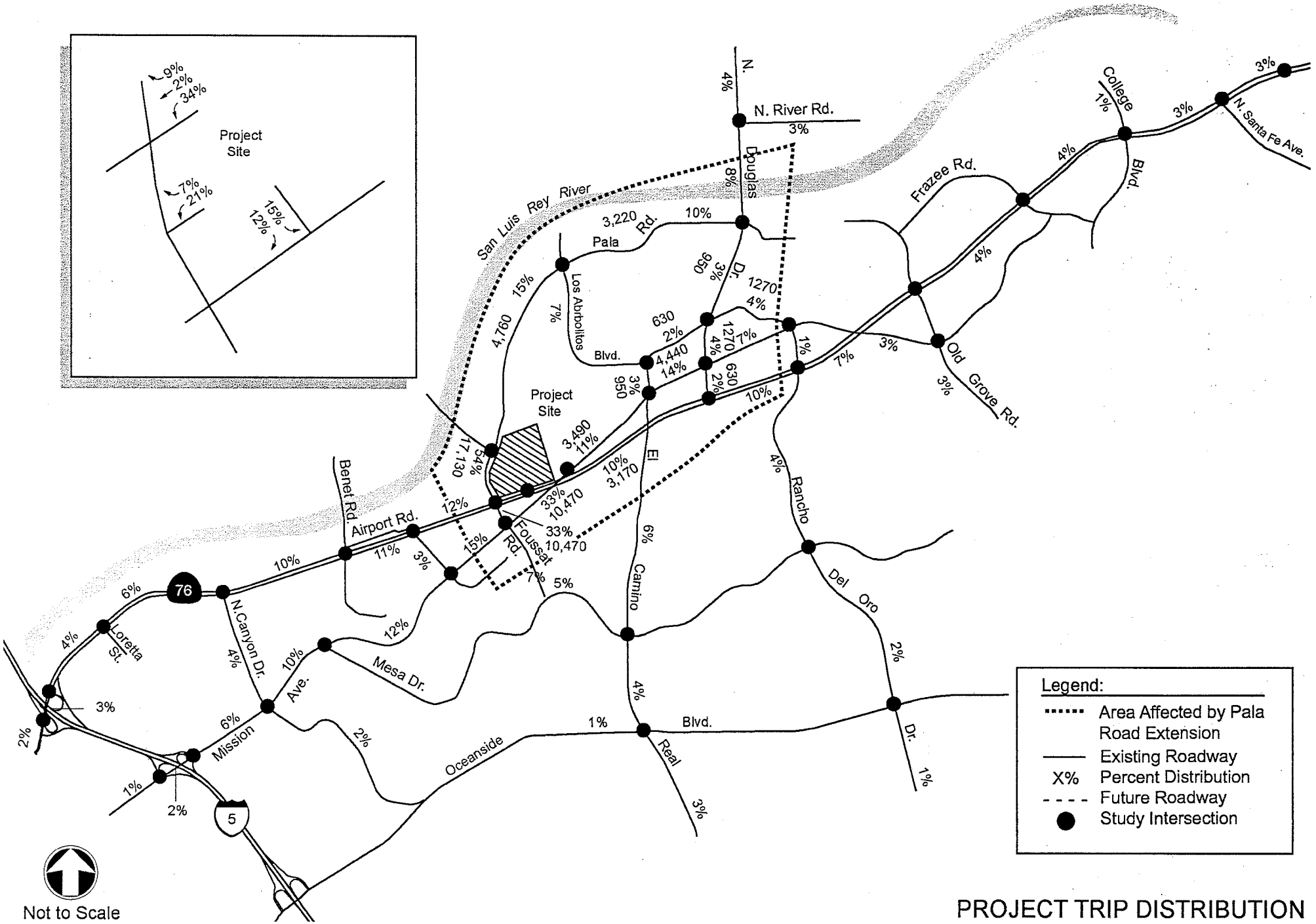
55-100224.002

ADT AND PEAK HOUR VOLUME SHIFT - PALA ROAD EXTENSION

EXHIBIT 24



Not to Scale

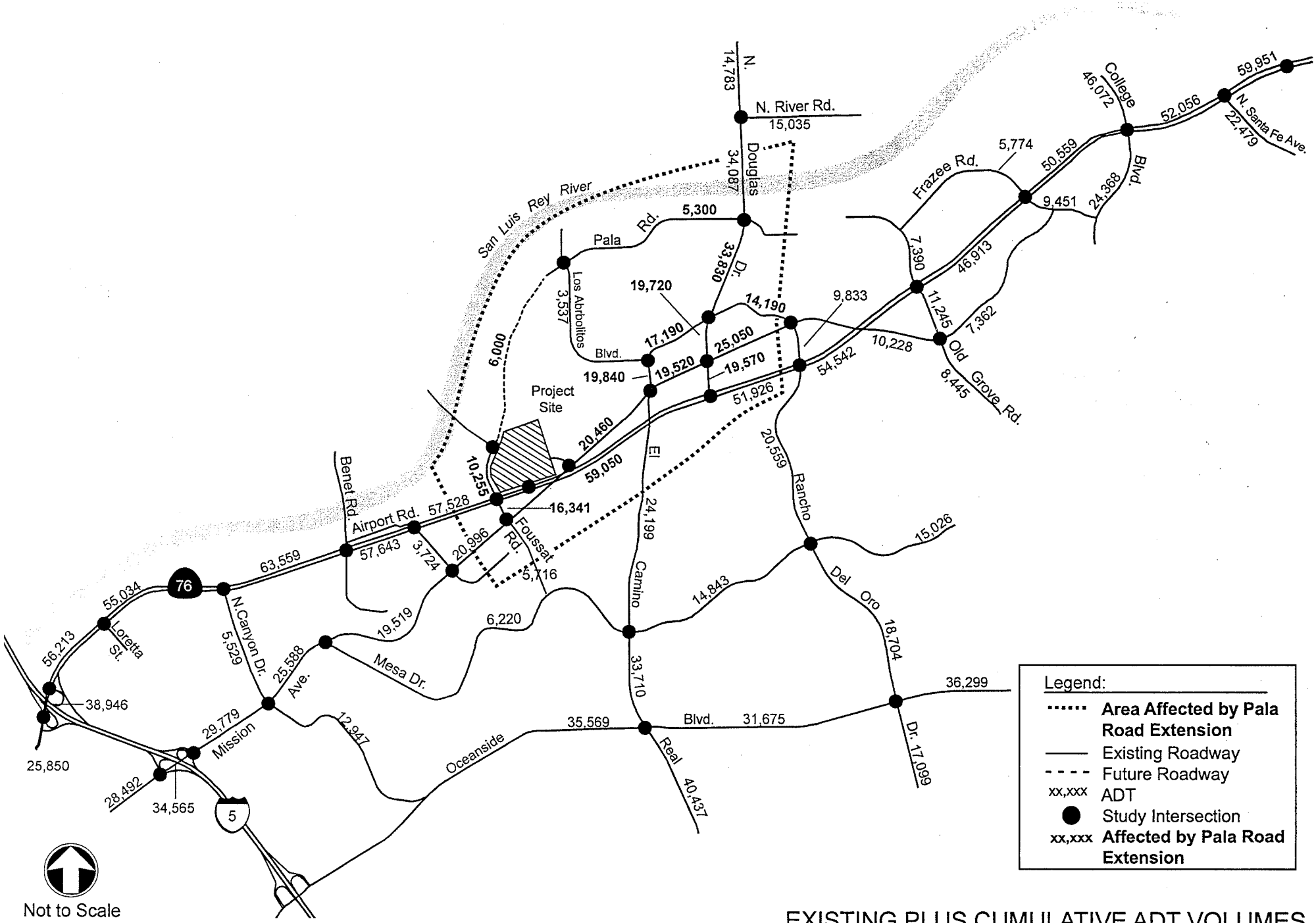
PROJECT TRIP DISTRIBUTION

(WITH PALA ROAD)

EXHIBIT 25

RBF

55-100224.002

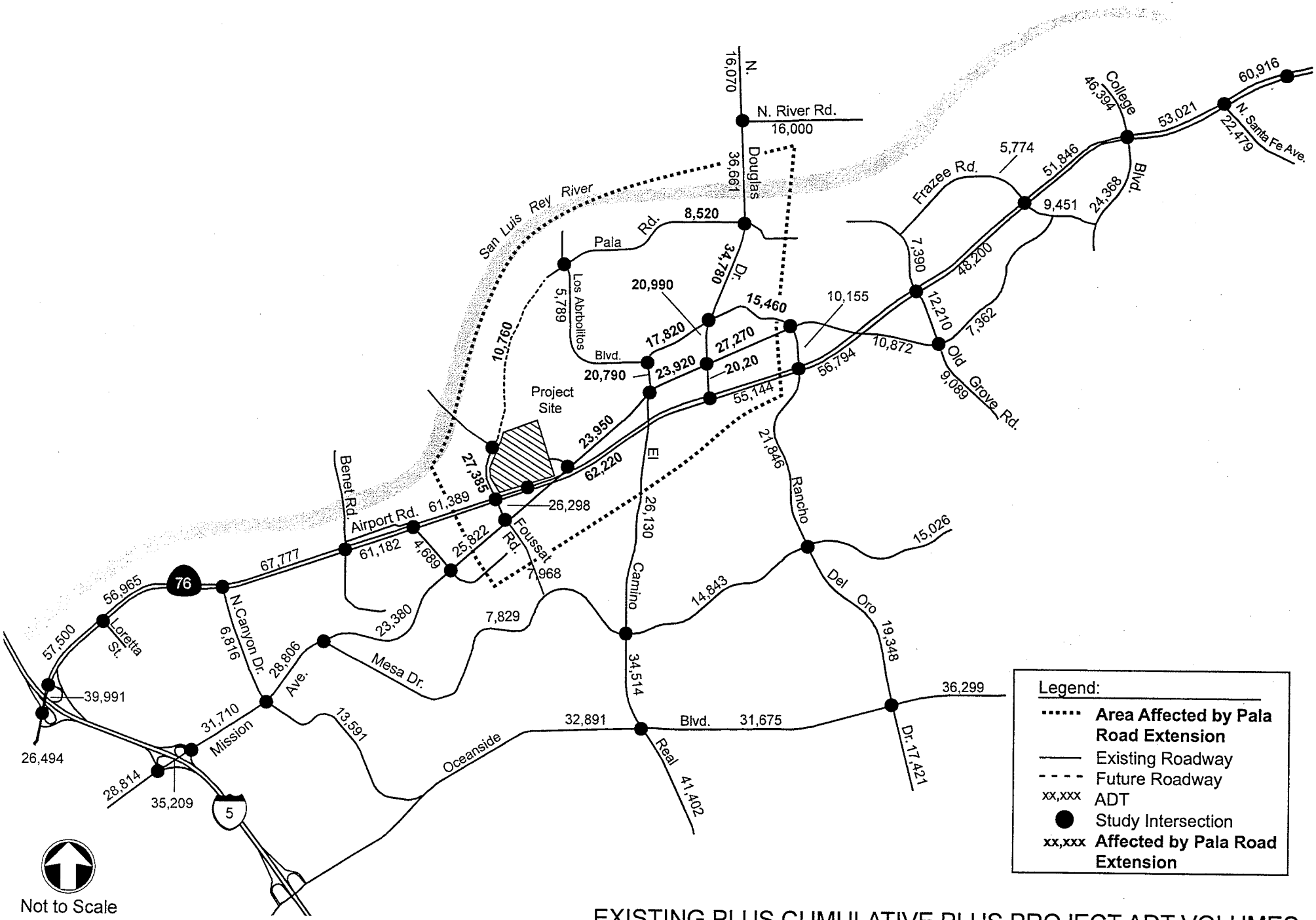


EXISTING PLUS CUMULATIVE ADT VOLUMES
(WITH PALA ROAD)

RBF

55-100224.002

EXHIBIT 26

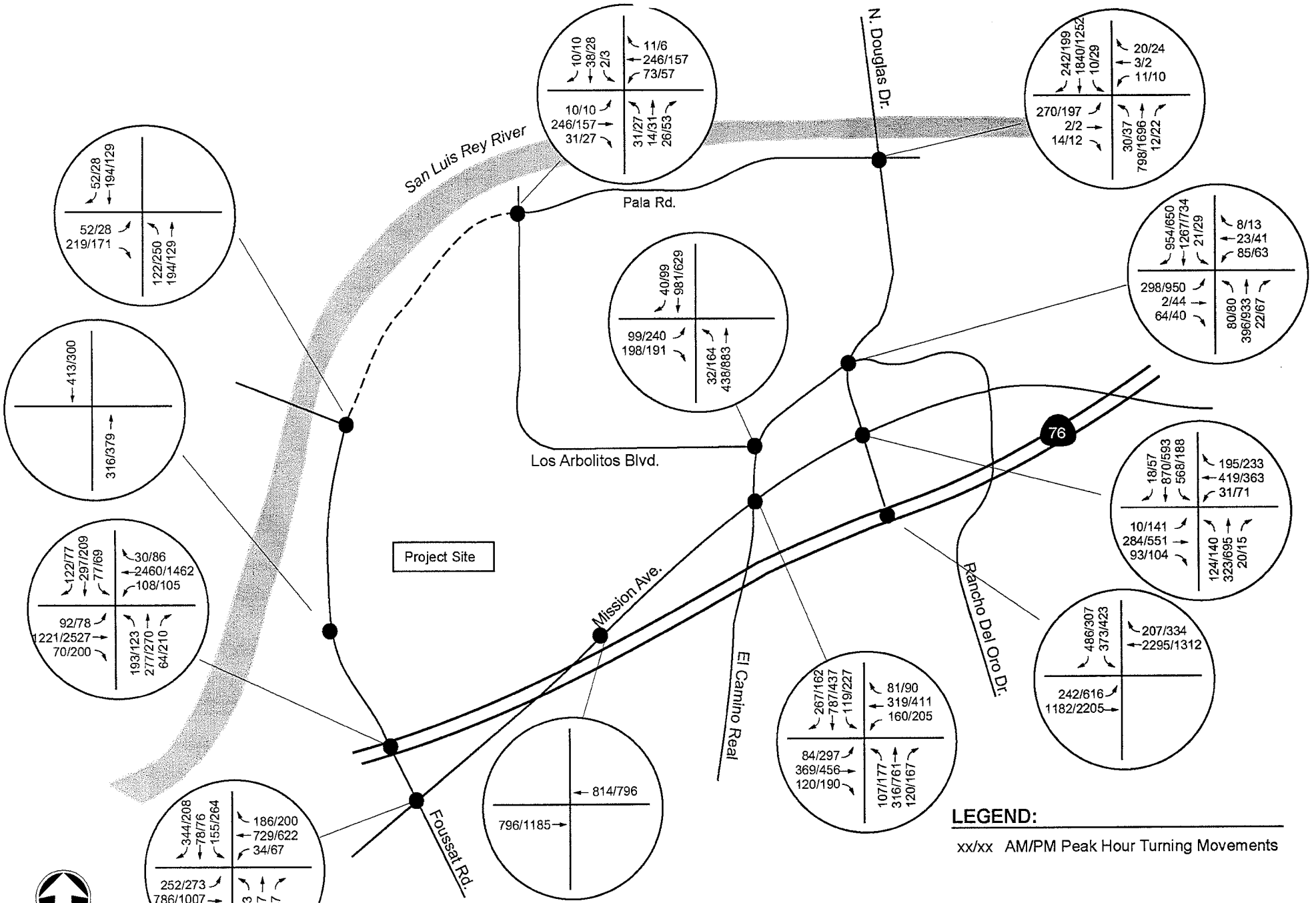


EXISTING PLUS CUMULATIVE PLUS PROJECT ADT VOLUMES
(WITH PALA ROAD)

RBF

55-100224.002

EXHIBIT 27

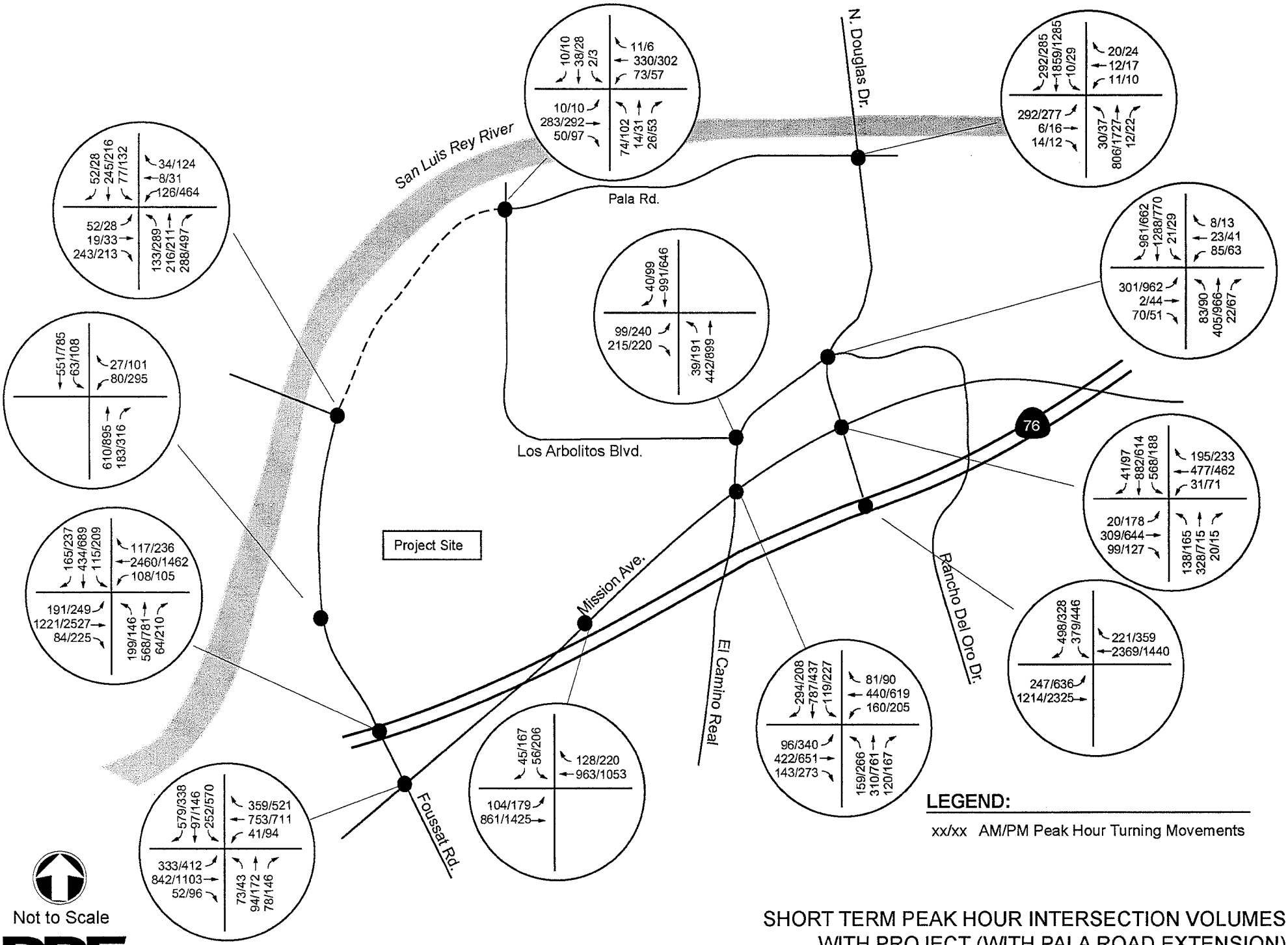


SHORT TERM PEAK HOUR INTERSECTION VOLUMES
WITHOUT PROJECT (WITH PALA ROAD EXTENSION)

EXHIBIT 28

RBF

55-100224.002



LEGEND:

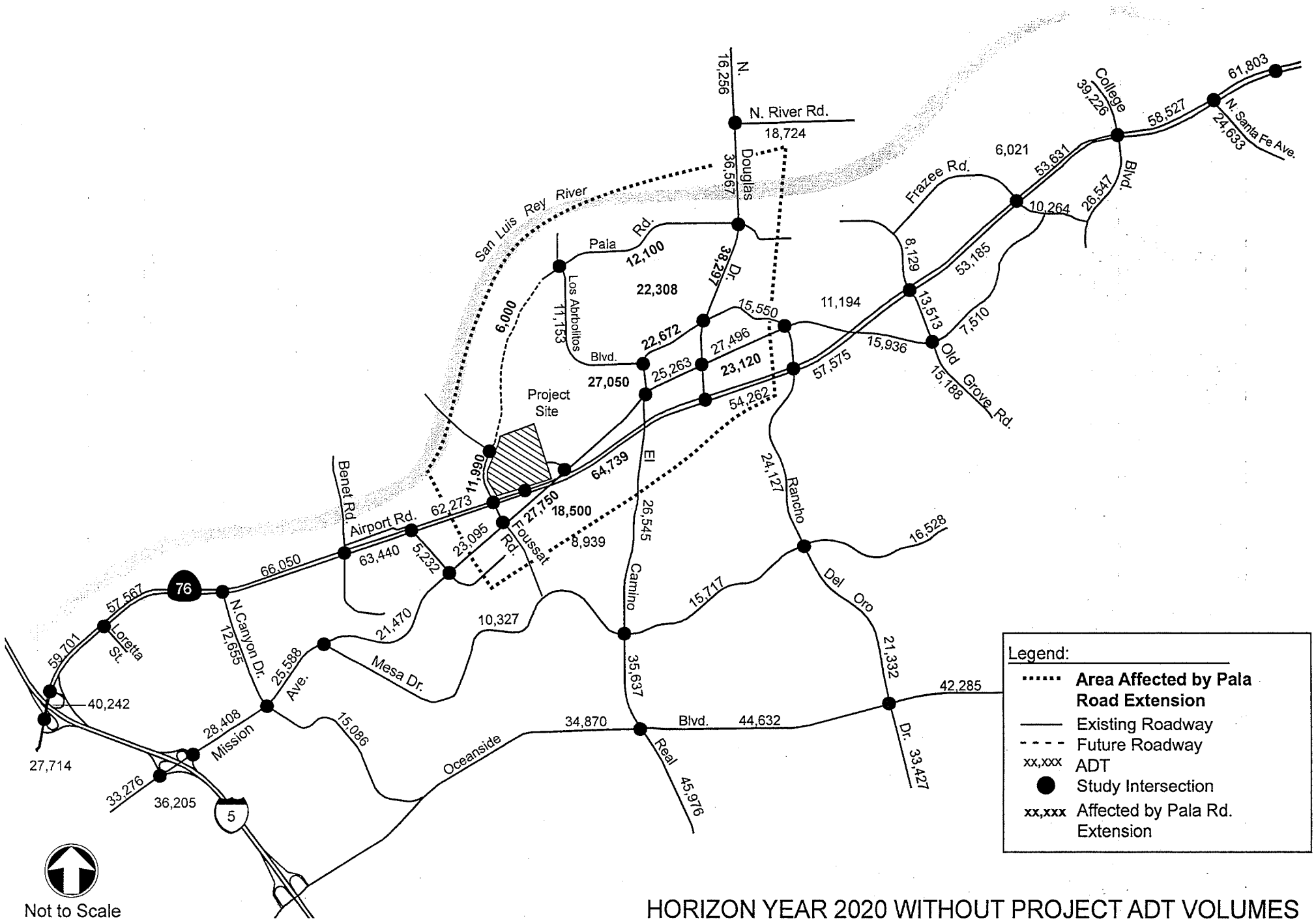
xx/xx AM/PM Peak Hour Turning Movements

Not to Scale

SHORT TERM PEAK HOUR INTERSECTION VOLUMES
WITH PROJECT (WITH PALA ROAD EXTENSION)
EXHIBIT 29

RBF

55-100224.002



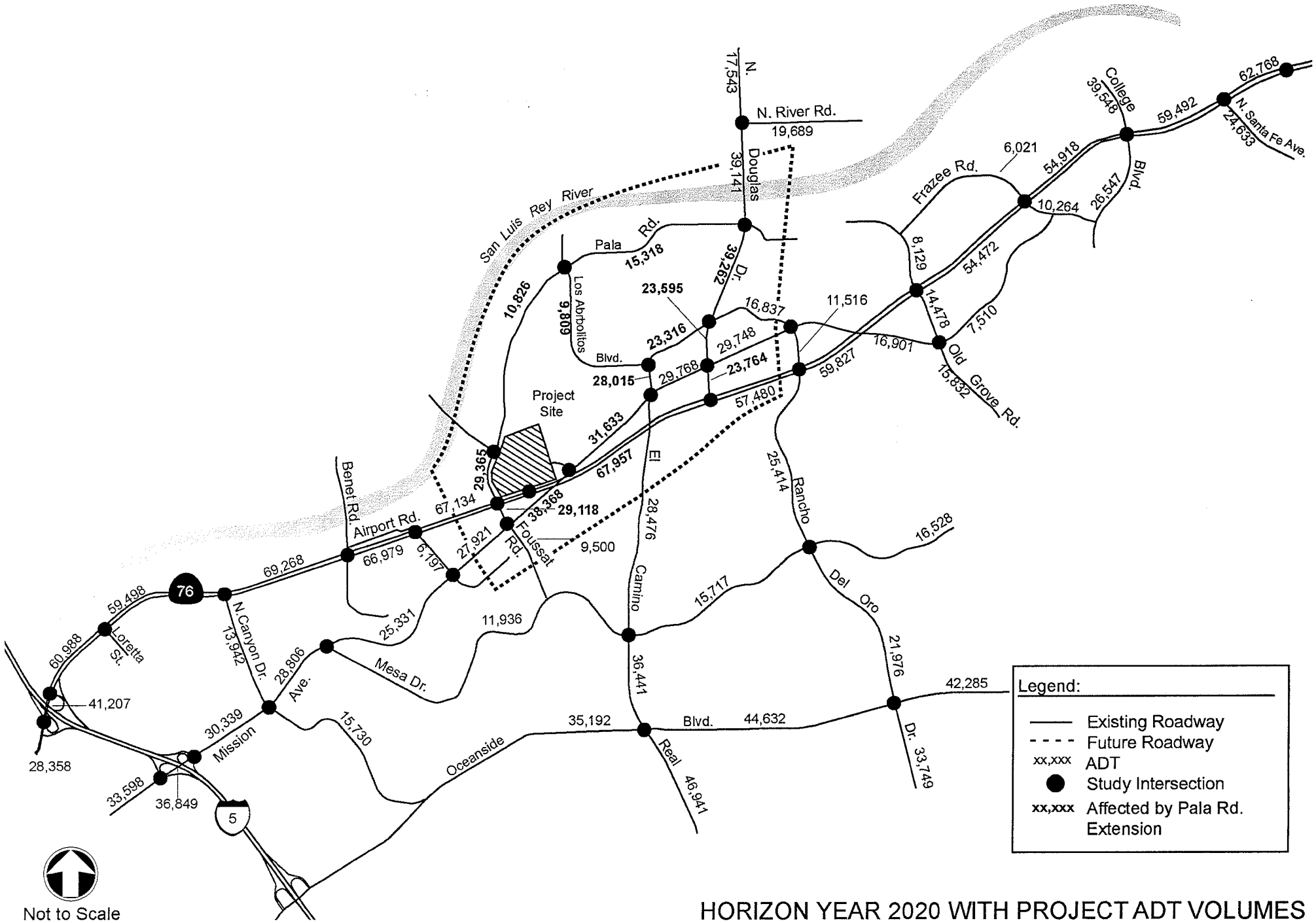
Not to Scale

HORIZON YEAR 2020 WITHOUT PROJECT ADT VOLUMES
(WITH PALA ROAD)

RBF

55-100224.002

EXHIBIT 30



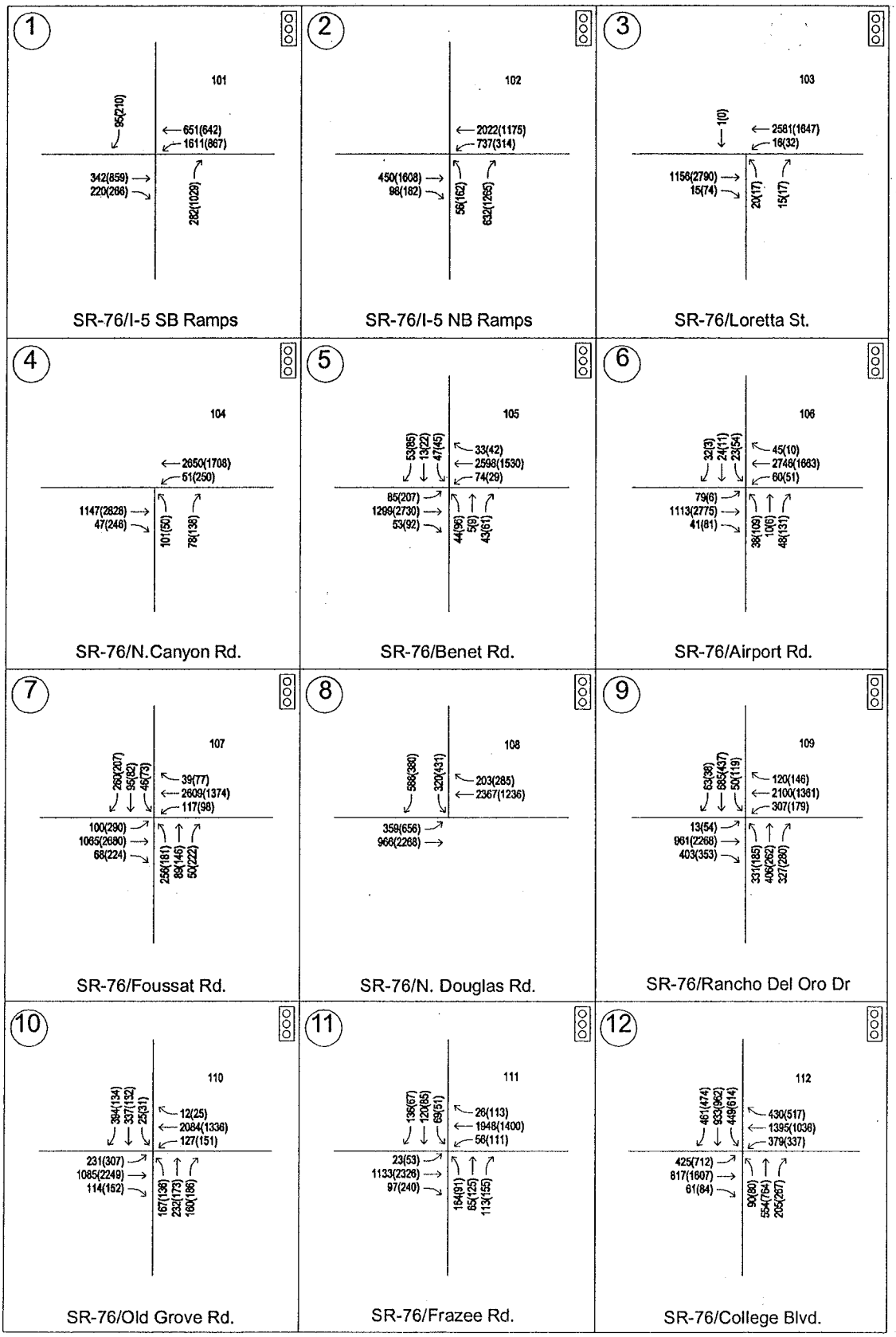
Not to Scale

HORIZON YEAR 2020 WITH PROJECT ADT VOLUMES
(WITH PALA ROAD)

RBF

55-100224.002

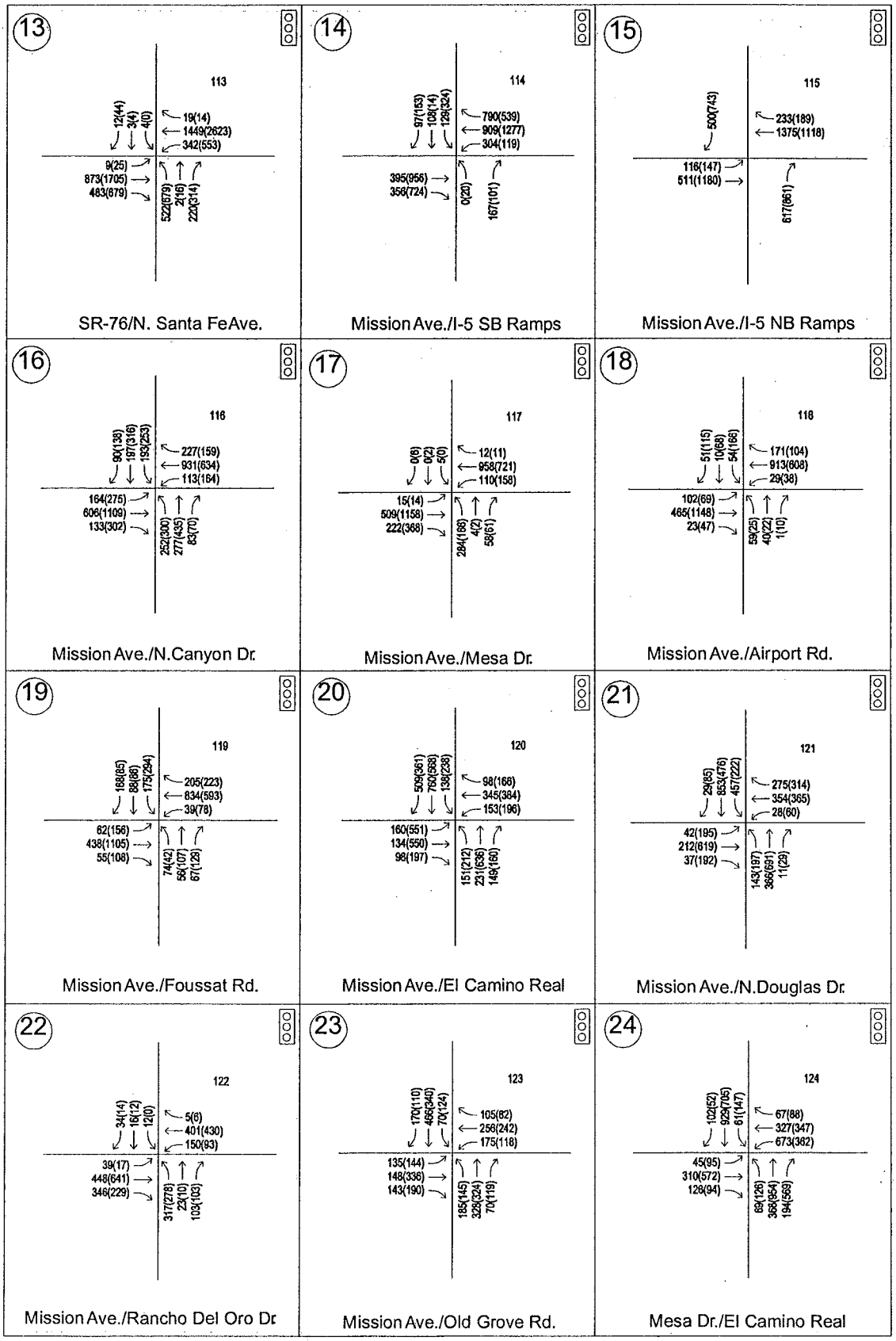
EXHIBIT 31



HORIZON YEAR 2020 WITHOUT PROJECT PEAK HOUR VOLUMES

(WITH PALA ROAD)

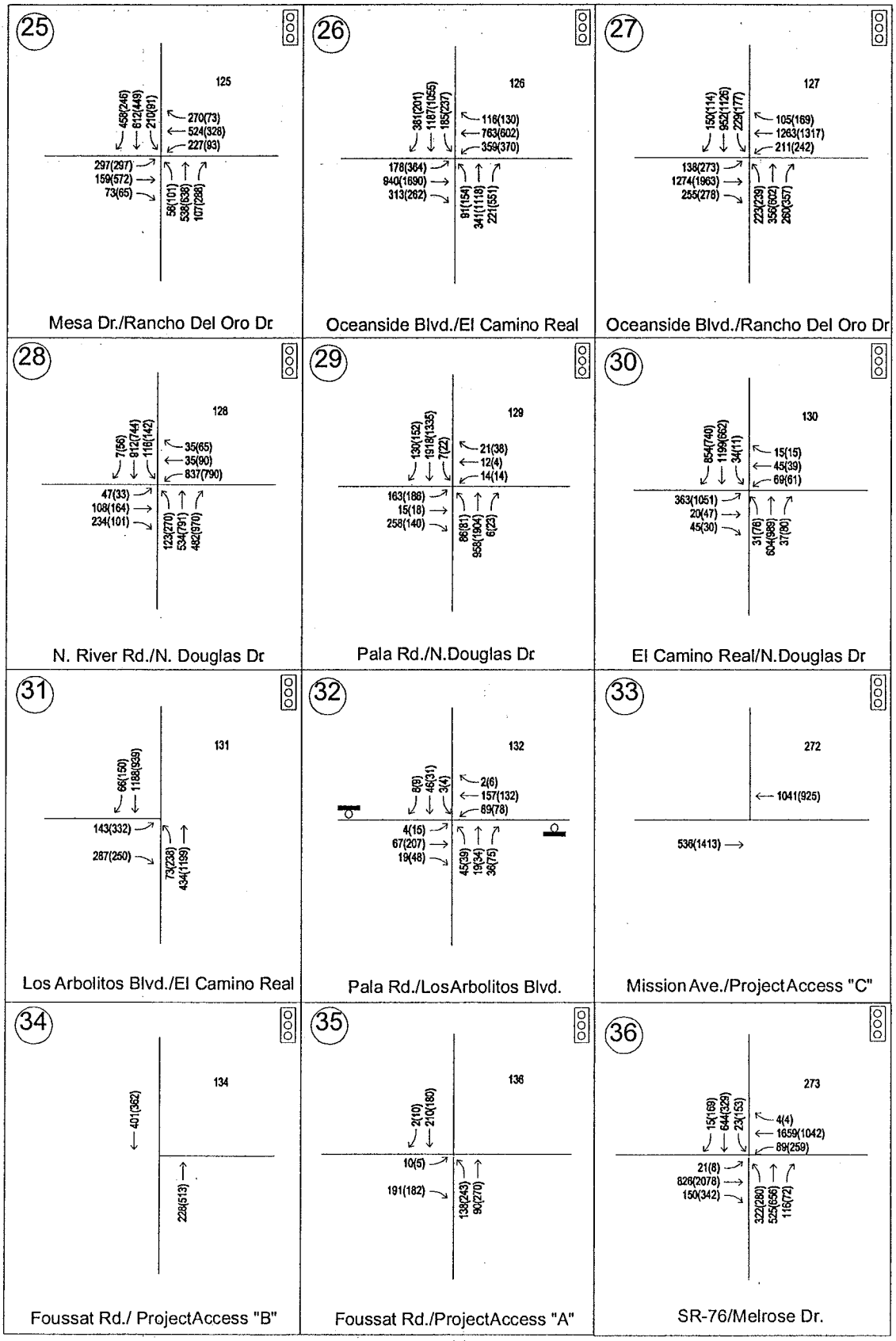
EXHIBIT 32A



HORIZON YEAR 2020 WITHOUT PROJECT PEAK HOUR VOLUMES

(WITH PALA ROAD)

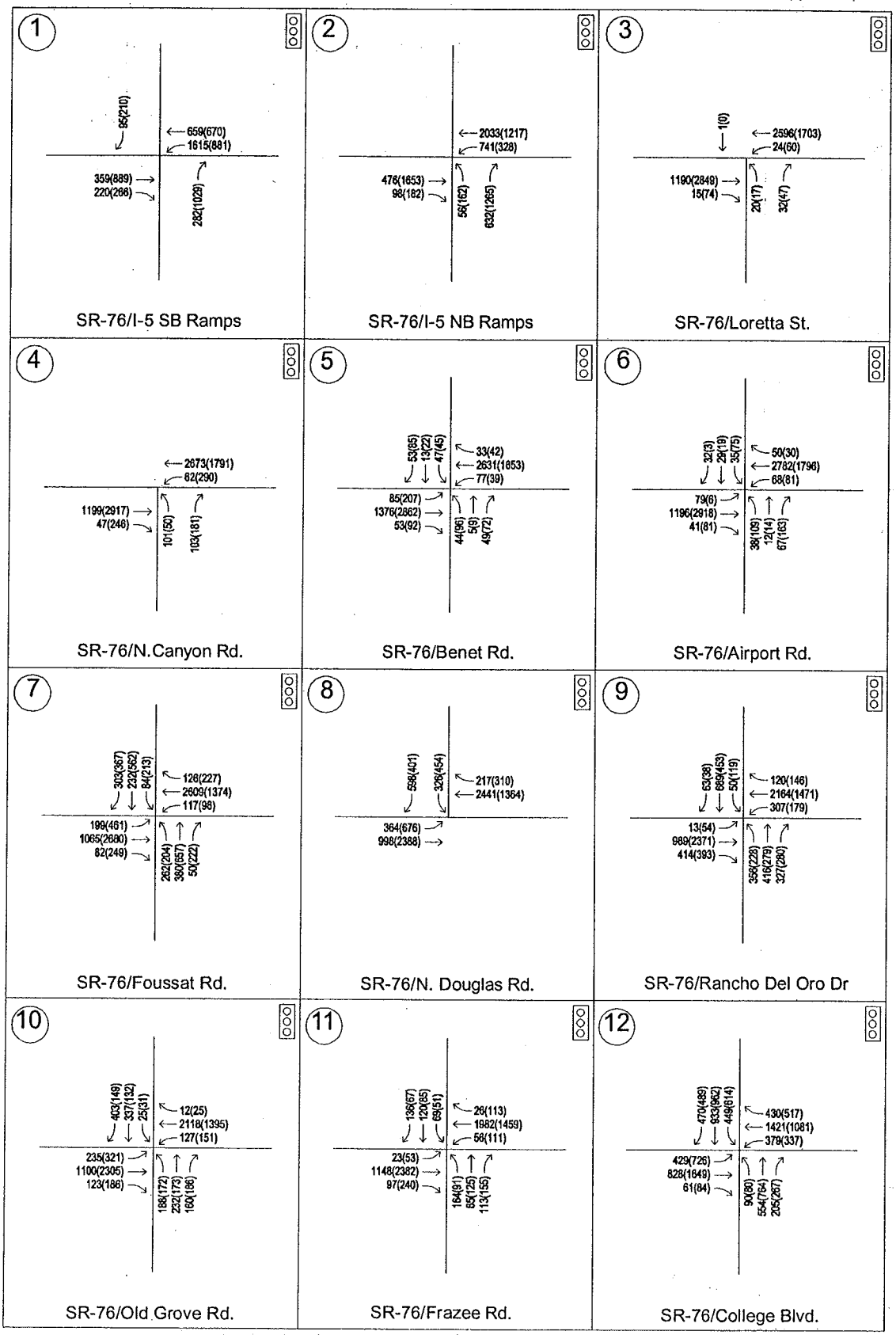
EXHIBIT 32B



HORIZON YEAR 2020 WITHOUT PROJECT PEAK HOUR VOLUMES

(WITH PALA ROAD)

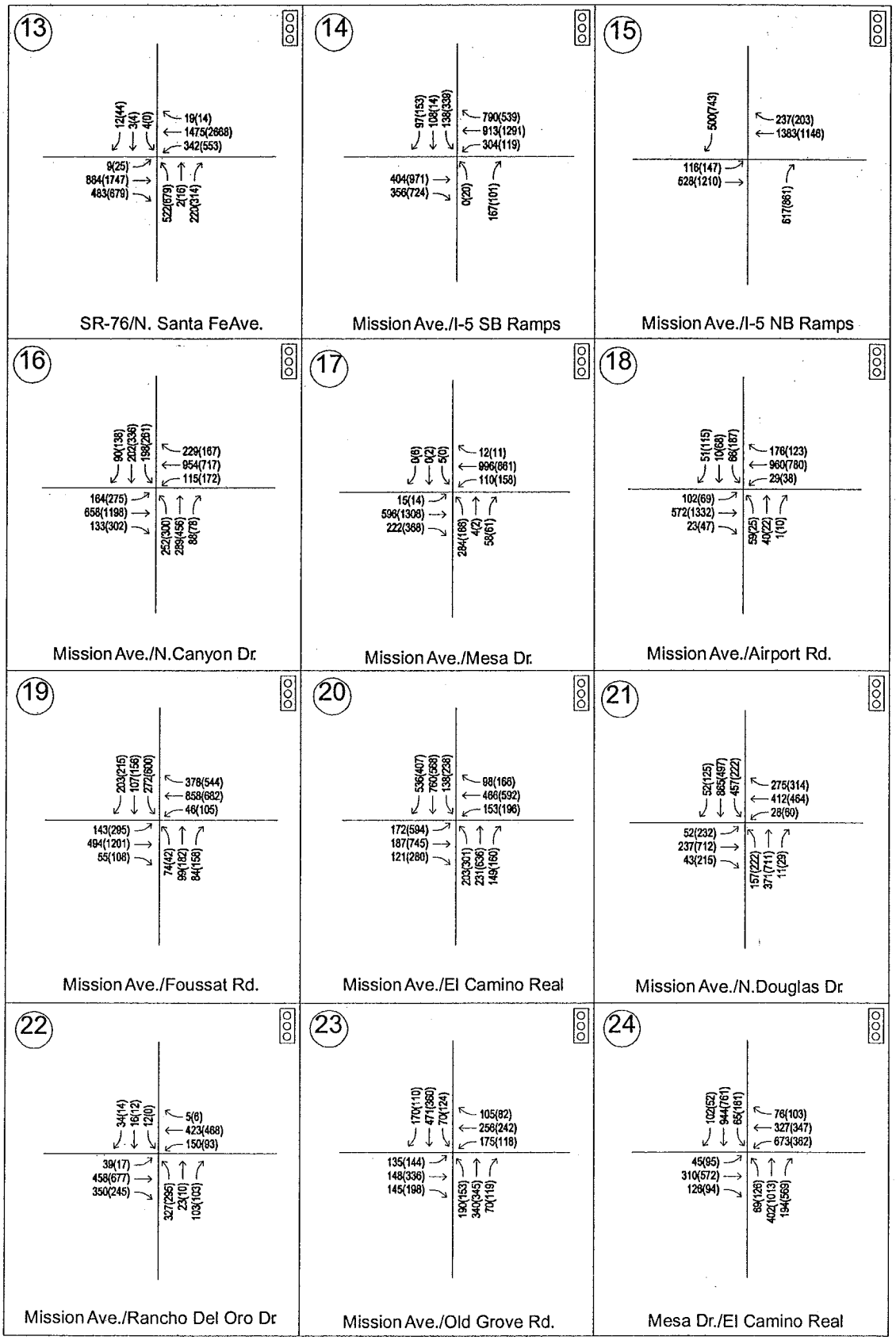
EXHIBIT 32C



HORIZON YEAR 2020 WITH PROJECT PEAK HOUR VOLUMES

(WITH PALA ROAD)

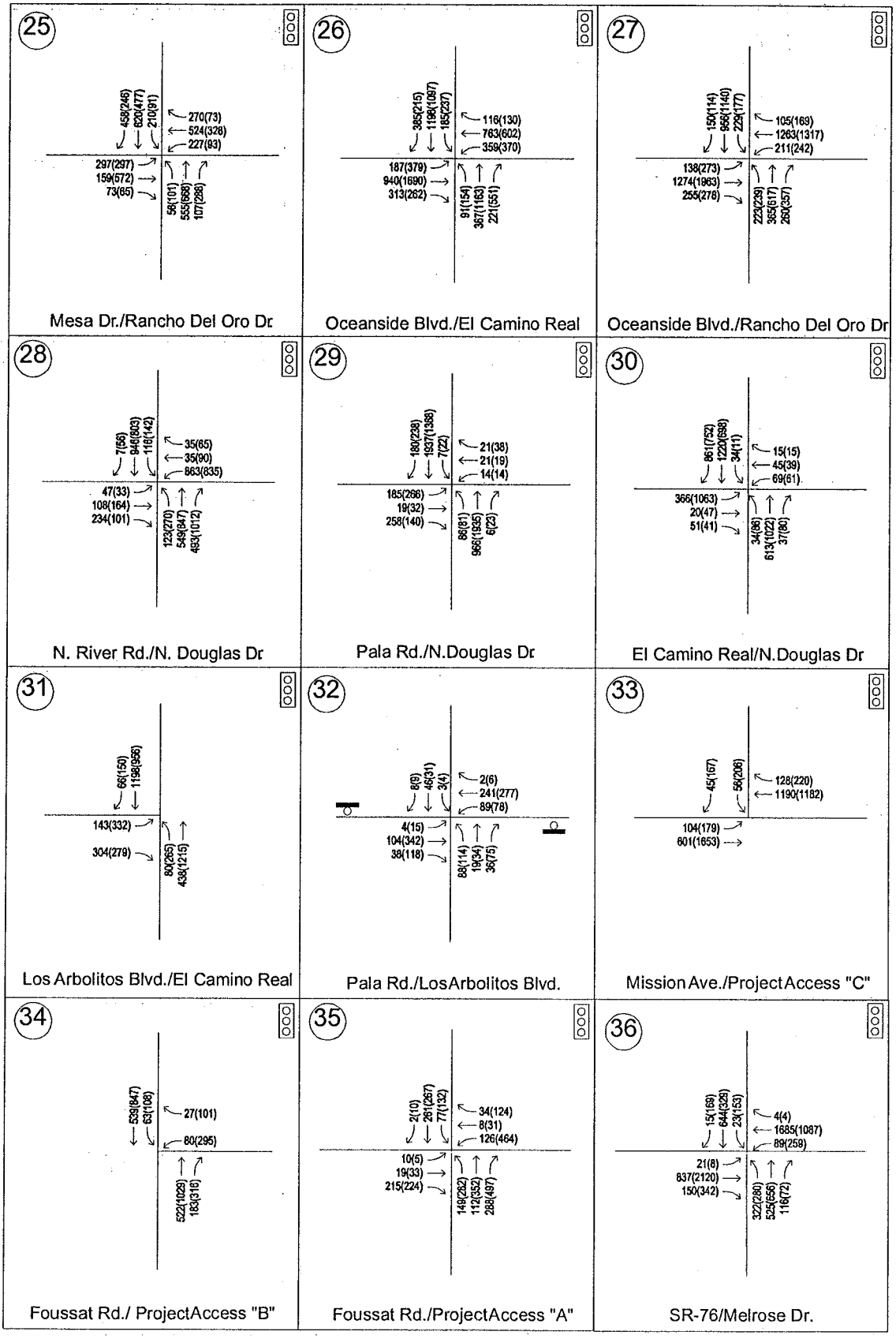
EXHIBIT 33A



HORIZON YEAR 2020 WITH PROJECT PEAK HOUR VOLUMES

(WITH PALA ROAD)

EXHIBIT 33B



HORIZON YEAR 2020 WITH PROJECT PEAK HOUR VOLUMES

(WITH PALA ROAD)

EXHIBIT 33C

Table 17
Short Term Peak Hour Intersection Operations
Without and With Pala Road Extension

Study Intersection	Without Pala Road Extension						With Pala Road Extension					
	Without Project (Delay-LOS)		With Project (Delay-LOS)		Change in Delay		Without Project (Delay-LOS)		With Project (Delay-LOS)		Change in Delay	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR-76/Foussat Rd.	16.7 - B	20.7 – C	24.8 – C	34.5 – C	8.1	13.8	24.2 – C	23.1 – C	31.0 – C	34.4 – C	6.8	11.3
SR-76/N. Douglas Dr.	45.9 - D	25.1 – C	54.3 – D	30.6 – C	8.4	5.5	36.4 – D	24.3 – C	41.7 – D	27.9 – C	5.3	3.6
Mission Ave./Foussat Rd.	16.1 – B	20.7 – C	19.6 – B	29.8 – C	3.5	9.1	20.6 – C	22.7 – C	22.9 – C	29.9 – C	2.3	7.2
Mission Ave./El Camino Real	28.6 – C	32.6 – C	29.6 – C	34.5 – C	1.0	1.9	28.2 – C	32.3 – C	29.0 – C	33.3 – C	0.8	1.0
Mission Ave./N. Douglas Dr.	30.8 – C	34.4 – C	32.2 – C	38.8 – D	1.4	4.4	28.8 – C	32.7 – C	29.5 – C	33.9 – C	0.7	1.2
Pala Rd./N. Douglas Dr.	14.9 – B	13.1 – B	16.5 – B	15.1 – B	1.6	2.0	15.2 – B	12.8 – B	16.0 – B	14.8 – B	0.8	2.0
El Camino Real/N. Douglas Dr.	24.4 – C	33.7 – C	26.4 – C	38.6 – D	2.0	4.9	20.3 – C	31.0 – C	20.7 – C	32.0 – C	0.4	1.0
Los Arbolitos Blvd./El Camino Real	14.0 – B	17.7 – B	16.8 – B	21.8 – C	2.8	4.1	12.7 – B	16.8 – B	13.4 – B	17.9 – B	0.7	1.1
Pala Rd./Los Arbolitos Blvd. [2]	10.7 – B	10.3 – B	10.7 – B	10.3 – B	0.0	0.0	17.6 – C	13.6 – B	24.8 – C	24.9 – C	7.2	11.3
Foussat Rd./Project Access (N)	-	-	6.5 – A	12.1 – B	6.5	12.1	0.1 – A	0.1 – A	8.6 – A	15.9 – B	8.5	15.8
Foussat Rd./Project Access (S)	13.6 – B	14.8 – B	22.7 – C	28.0 – C	9.1	13.2	25.8 – C	22.8 – C	29.5 – C	31.3 – C	3.7	8.5
Mission Road/Project Access.	-	-	5.8 – A	12.0 - B	5.8	12.0	0.1 - A	0.1 - A	7.1 - A	13.7 - B	7.0	13.6

Note: Deficient intersection operation shown in **bold**.

[1] Delay in seconds per vehicle.

[2] Unsignalized intersection, in which the highest approach delay, rather than the average delay, is reported for side-street stop-controlled intersections.

[3] Change in delay summarizes the increase or decrease in delay at the study intersections if the Pala Road extension is not constructed when compared to if Pala Road is constructed.

Table 18
Short Term Daily Roadway Segment Conditions
Without and With Pala Road Extension

Roadway	Location	Class (# Lanes)	Daily Capacity	Without Pala Road Extension							With Pala Road Extension						
				No Project			With Project			Change in V/C	No Project			With Project			Change in V/C
				ADT	V/C	LOS	ADT	V/C	LOS		ADT	V/C	LOS	ADT	V/C	LOS	
SR-76 [1]	Foussat Rd. to N. Douglas Dr.	Expwy (6)	60,000	**60,850**	**1.01**	**F**	**66,320**	**1.11**	**F**	**0.10**	**59,050**	**0.98**	**E**	**62,220**	**1.04**	**F**	**0.06**
Mission Ave.	Foussat Rd. to El Camino Real	Major (4)	40,000	24,664	0.62	B	**37,212**	**0.93**	**E**	**0.31**	20,460	0.51	A	**23,950**	**0.60**	**B**	**0.09**
Foussat Rd.	North of SR-76[3]	Secondary (5	37,500	6,055	0.16	A	**29,221**	**0.779**	**C**	0.61	10,255	0.27	A	27,385	0.73	C	0.46
	SR-76 to Mission Ave.	Secondary (5)	37,500	12,141	0.32	A	26,298	0.70	C	**0.38**	16,340	0.44	A	**26,810**	**0.71**	**C**	**0.27**
El Camino Real	Douglas Dr. to Los Arbolitos Blvd.	Major (4)	40,000	18,093	0.45	A	19,380	0.48	A	0.03	17,190	0.43	A	17,820	0.45	A	0.02
	Los Arbolitos Blvd. to Mission Ave.	Major (4)	40,000	23,137	0.58	A	26,355	0.66	B	0.08	19,840	0.50	A	20,790	0.52	A	0.02
N. Douglas Dr.	Pala Rd. to El Camino Real	Major (4)	40,000	**37,430**	**0.94**	**E**	**41,613**	**1.04**	**F**	**0.10**	**33,830**	**0.84**	**D**	**34,780**	**0.86**	**D**	**0.02**
	El Camino Real to Mission Ave.	Major (4)	40,000	22,417	0.56	A	26,278	0.66	B	0.10	**19,720**	**0.49**	**A**	**20,990**	**0.52**	**A**	**0.03**
	Mission Ave. to SR-76	Major (4)	40,000	21,370	0.53	A	24,588	0.61	B	0.08	19,570	0.49	A	20,200	0.51	A	0.02
Los Arbolitos Blvd.	Pala Rd. to El Camino Real	Collector	8,750	3,537	0.40	A	5,789	0.66	B	0.26	3,537	0.40	A	5,789	0.66	B	0.26
Pala Rd.	N. Douglas Dr. to Los Arbolitos Blvd.	Secondary (4)	25,000	2,607	0.10	A	3,572	0.14	A	0.04	5,300	0.21	A	8,520	0.34	A	0.13
	Los Arbolitos Blvd. to Foussat Rd.	Secondary (4)	25,000	0	--	--	0	--	--	--	6,000	0.24	A	10,760	0.43	A	0.19

Note: Deficient City of Oceanside roadway segment operation shown in **bold.**

[1] Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas Street, and an LOS E Standard from Douglas to Melrose.

[3] Change in V/C summarizes the increase or decrease in V/C along the roadway segment if the Pala Road extension is not constructed when compared to if Pala Road is constructed.

[3] Project will improve Foussat Rd. along the project frontage to a five lane secondary arterial, with a daily segment capacity (LOSE) of 37,500 vpd

Table 19
Horizon Year 2020 Peak Hour Intersection Operations
Without and With Pala Road Extension

Study Intersection	Without Pala Road Extension						With Pala Road Extension					
	Without Project (Delay-LOS)		With Project (Delay-LOS)		Change in Delay		Without Project (Delay-LOS)		With Project (Delay-LOS)		Change in Delay	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR-76/Foussat Rd.	19.8 – B	24.2 –C	26.3 – C	38.1 – D	6.5	13.9	25.0 – C	26.3 – C	31.2 – C	37.0 – D	6.2	10.7
SR-76/N. Douglas Dr.	29.7 – C	30.5 – C	31.2 – C	32.0 – C	1.5	1.5	26.6 – C	30.2 – C	27.1 – C	31.7 – C	0.5	1.5
Mission Ave./Foussat Rd.	16.3 – B	20.4 – C	20.0 – B	28.7 – C	3.7	8.3	19.1 – B	21.9 – C	22.1 – B	29.0 – C	3.0	7.1
Mission Ave./El Camino Real	26.8 – C	33.9 – C	29.9 – C	37.6 – D	3.1	3.7	27.4 – C	33.7 – C	29.3 – C	35.4 – D	1.9	1.7
Mission Ave./N. Douglas Dr.	30.6 – C	34.0 – C	31.8 – C	38.0 – D	1.2	4.0	29.5 – C	33.0 – B	30.1 – C	34.2 – C	0.6	1.2
Pala Rd./N. Douglas Dr.	48.2 – D	21.6 – B	**58.3 – E**	27.1 – C	**10.1**	5.5	25.3 – C	16.7 – B	25.6 – C	18.1 – B	0.3	1.4
El Camino Real/N. Douglas Dr.	22.4 – C	46.7 – D	23.7 – C	54.3 – D	1.3	7.6	19.7 – B	41.4 – D	19.9 – B	43.2 – D	0.2	1.8
Los Arbolitos Blvd./El Camino Real	18.6 – B	19.7 – B	21.7 – C	25.6 – C	3.1	5.9	16.6 – B	18.5 – B	17.4 – B	19.8 – B	0.8	1.3
Pala Rd./Los Arbolitos Blvd. [2]	11.2 – B	10.8 – B	11.2 – B	10.8 – B	0.0	0.0	13.0 – B	14.3 – B	16.6 – B	34.6 – C	3.6	20.3
Foussat Rd./Project Access B	13.7 – B	14.1 – B	19.3 – B	27.2 – C	5.6	13.1	13.4 – B	14.9 – B	21.0 – C	28.4 – C	7.6	13.5
Foussat Rd./Project Access A	14.5 – B	15.2 – B	22.2 – C	29.8 – C	13.2	22.6	23.6 – C	20.4 – C	27.9 – C	32.2 – C	4.3	11.8
Mission Road/Project Access. B	0.1 –A	0.1 –A	6.5 –A	12.2 – B	6.4	12.1	0.1 –A	0.1 –A	6.5 –A	11.6 – B	6.4	11.5

Note: Deficient intersection operation shown in **bold**.
[1] Delay in seconds per vehicle.
[2] Unsignalized intersection, in which the highest approach delay, rather than the average delay, is reported for side-street stop-controlled intersections.
[3] Change in delay summarizes the increase or decrease in delay at the study intersections if the Pala Road extension is not constructed when compared to if Pala Road is constructed.

Table 20
Horizon Year 2020 Daily Roadway Segment Conditions
Without and With Pala Road Extension

Roadway	Location	Class (# Lanes)	Daily Capacity	Without Pala Road Extension							With Pala Road Extension						
				No Project			With Project			Change in V/C	No Project			With Project			Change in V/C[2]
				ADT	V/C	LOS	ADT	V/C	LOS		ADT	V/C	LOS	ADT	V/C	LOS	
SR-76 [1]	Foussat Rd. to N. Douglas Dr.	Expwy (8)	80,000	**66,539**	**0.832**	**D**	**72,009**	**0.900**	**E**	**0.068**	**64,739**	**0.809**	**D**	**67,957**	**0.849**	**D**	**0.040**
Mission Ave.	Foussat Rd. to El Camino Real	Major (4)	40,000	31,950	0.799	C	**44,498**	**1.112**	**F**	**0.314**	27,750	0.694	B	**38,368**	**0.959**	**E**	**0.265**
Foussat Rd.	North of SR-76[3]	Secondary (5)	37,500	5,990	0.159	A	29,156	0.777	C	0.618	11,990	0.319	A	29,365	0.783	C	0.464
	SR-76 to Mission Ave.	Secondary (5)	37,500	14,300	0.381	A	28,457	0.759	C	**0.378**	18,500	0.493	A	28,118	0.776	C	**0.283**
El Camino Real	Douglas Dr. to Los Arbolitos Blvd.	Major (4)	40,000	23,572	0.589	A	24,859	0.621	B	0.032	22,672	0.567	A	23,316	0.583	A	0.016
	Los Arbolitos Blvd. to Mission Ave.	Major (4)	40,000	30,350	0.759	C	33,568	0.839	D	0.080	27,050	0.676	B	28,015	0.700	C	0.024
N. Douglas Dr.	Pala Rd. to El Camino Real	Major (4)	40,000	**41,897**	**1.047**	**F**	**46,080**	**1.152**	**F**	**0.105**	**38,297**	**0.957**	**E**	**39,262**	**0.982**	**E**	**0.024**
	El Camino Real to Mission Ave.	Major (4)	40,000	25,008	0.625	B	28,869	0.722	C	0.097	22,308	0.558	A	23,595	0.590	A	0.032
	Mission Ave. to SR-76	Major (4)	40,000	24,920	0.623	B	28,138	0.703	C	0.080	23,120	0.578	A	23,764	0.594	A	0.016
Los Arbolitos Blvd.	Pala Rd. to El Camino Real	Collector	8,750	8,200	0.547	A	10,452	0.697	B	0.150	8,200	0.547	A	9,809	0.654	B	0.107
Pala Rd.	N. Douglas Dr. to Los Arbolitos Blvd.	Secondary (4)	25,000	9,400	0.376	A	10,365	0.415	A	0.039	12,100	0.484	A	15,318	0.613	B	0.129
	Los Arbolitos Blvd. to Foussat Rd.	Secondary (4)	25,000	3,400	0.136	A	3,400	0.136	A	0.000	6,000	0.240	A	10,826	0.433	A	0.913

Note: Deficient City of Oceanside roadway segment operation shown in **bold**.

[1] Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas Street, and an LOS E Standard from Douglas to Melrose.

[2] Change in V/C summarizes the increase or decrease in V/C along the roadway segment if the Pala Road extension is not constructed when compared to if Pala Road is constructed.

[3] Project will improve Foussat Rd. along the project frontage to a five lane secondary arterial, with a daily segment capacity (LOSE) of 37,500 vpd

SIGNIFICANT IMPACTS AND MITIGATION

According to the 1995 City of Oceanside Circulation Element, the City's goal for acceptable service standards during daily periods is LOS D for intersections and LOS C for roadway segments. Regional roadway segment acceptable LOS threshold is LOS D, which includes SR-76. However, Caltrans has adopted LOS F standards for portions of SR-76 through City of Oceanside, as discussed previously in this document.

Based on City of Oceanside standards, intersections within their jurisdiction are forecast to be significantly impacted if:

- The addition of project generated trips results in a change in LOS from acceptable to deficient,
  OR
- the addition of project-generated traffic results in an increase in peak hour intersection delay by 2.0 seconds or more at an intersection operating at deficient levels of service (LOS E or worse) without the project traffic.

For roadway segments within the City of Oceanside, a significant impact is forecast to occur if:

- The addition of project generated trips results in a change in LOS from acceptable to deficient,
  OR
- the addition of project-generated traffic results in an increase in the V/C ratio on a roadway segment by 0.020 or more on segment operating at deficient level of service (LOS D or worse) without the project traffic.

Forecast Significant Impacts

Table 21 summarizes the roadway segments included in the traffic study forecast to operate at unacceptable LOS for Horizon Year 2020. Intersections forecast to operate at unacceptable LOS are summarized in Table 22. Of those locations forecast to operate at unacceptable LOS, the following locations are forecast to be significantly impacted by the project:

Roadway Segments:

- Mission Ave. from Foussat Rd. to El Camino Real
- El Camino Real from Los Arbolitos Blvd. to Mission Ave.
- N. Douglas Dr. from N. River Rd. to El Camino Real

Intersections:

- SR-76/Rancho Del Oro Drive
- Pala Rd./N. Doulgas Dr.

Level of service worksheets for the proposed mitigation measures summarized in Table 20 are provided in Appendix I.

Recommended Improvements and Mitigation Measures

Mitigation measures are required at all of the significantly impacted intersections and roadway segments. Recommended improvements to mitigate the identified impacts should return the LOS to acceptable operating conditions. Improvements to mitigate deficient operating conditions have been broken down into one of three categories:

- **Project Improvements** – Direct Impacts. Improvements that are likely to be the sole responsibility of the project. These correspond to impacts that are directly related to project generated traffic.

- **Fair Share Improvements** – Indirect/Cumulative Impacts. Improvements that are likely to be funded in part by the project. Funding for the improvements will be based on the project's proportionate share of traffic at that location under deficient operating conditions. Fair share improvements are identified at locations that are deficient without or with the proposed project's traffic.

- **By Others** – Highway 76 is planned to be widening from four to six lanes. It is likely the funding for these improvements will come from other sources, such as TransNet. Therefore, we assume the improvements will be done by others, and are not the responsibility of the project.

Creative measures

Creative measures are recommended for roadway segments where widening to meet daily traffic volumes is not a reasonable or recommended improvement. For these locations, creative mitigation measures that maximize the operational capacity, without increasing the total physical width of the roadway along the entire length of the segment should be implemented. Recommended creative measures specific to project mitigation are as follows:

- **Mission Avenue between Foussat Road and El Camino Real (project frontage) –** Install dedicated right turn lane on westbound approach to improve traffic flow for through lanes on westbound Mission Avenue. Construct dual left turn lanes eastbound to accommodate future inbound traffic on eastbound Mission Avenue.

- **El Camino Real from Los Arbolitos Boulevard to Mission Avenue** – Install second northbound left turn lane from El Camino Real onto Los Arbolitos. Monitoring of existing traffic conditions shows that currently the left turn volume exceeds the available storage. To improve traffic flow on El Camino Real, a second northbound left turn lane should be installed along with traffic signal modifications.

Table 21
Summary of Recommended Roadway Segment Mitigation Measures

Deficient Segment		Study Scenario LOS								Sig. Impacted?	Improvement / Mitigation	Direct/Indirect Impact?
		Existing		Cumulative		2020 w/o Pala		2020 w/Pala				
		No Project	With Project	No Project	With Project	No Project	With Project	No Project	With Project			
Mission Ave	West of I-5 SB Ramps	B	B	C	C	**D**	**D**	**D**	**D**	**No**	Creative Measure Intersection improvements to increase capacity for through traffic/turn pockets & signal phasing.	No Impact
	Between the I-5 Ramps	D	D	D	D	**E**	**E**	**E**	**E**	**No**		
	Between Foussat Rd. and El Camino Real	A	**E**	B	**E**	C	**F**	B	**E**	**Yes**	Creative Measures Install dedicated turn lanes at project access road to improve traffic flow along Mission Avenue.	Direct Impact
El Camino Real	Los Arbolitos Blvd. To Mission Ave.	A	B	A	B	C	**D**	B	C	**Yes**	Creative Measures: Install second northbound left turn lane at Los Arbolitos Blvd./El Camino Real to improve northbound traffic flow on El Camino Real.	Cumulative Indirect Impact
	Mesa Dr. to Oceanside Blvd.	C	C	**D**	**D**	**D**	**E**	**D**	**E**	**No**		No Impact
Rancho Del Oro Dr.	South of Oceanside Blvd.	A	A	A	A	**D**	**D**	**D**	**D**	**No**		No Impact
N. Douglas Dr.	Between N. River and Pala Rd.	**D**	**D**	**D**	**E**	**E**	**E**	**E**	**E**	**Yes**	Significant/unavoidable due to bridge. Identified in City of Oceanside Circulation Element.	Cumulative Indirect Impact
	Between Pala Rd. and El Camino Real	**D**	**E**	**E**	**F**	**F**	**F**	**E**	**E**	**Yes**	Install dual NB left turn lanes at Pala Rd. to improve flow on N. Douglas Dr.	Cumulative Indirect Impact
Oceanside Blvd.	West of El Camino Real	C	C	**D**	**D**	**D**	**D**	**D**	**D**	**No**		No Impact

Table 22
Summary of Intersection Mitigation Measures

Deficient Study Intersection	Study Scenario LOS								Sig. Impacted?	Recommended Improvement	Direct/ Indirect Impact?	Mitigated LOS
	Existing		Cumulative		2020 No Pala		2020 With Pala					
	No Project	With Project	No Project	With Project	No Project	With Project	No Project	With Project				
SR-76/Rancho Del Oro	**E/F**	**E/F**	**F/F**	**F/F**	D/D	D/D	D/D	D/D	**Yes**	Add additional EB/WB thru lane in conjunction w/SR-76 widening. (To be completed by Caltrans). Restripe NB approach to provide exclusive right turn lane & right turn overlap phase.	Indirect Cumulative Indirect Cumulative	D/D
SR-76/College	D/D	D/D	D/**E**	D/**E**	D/**E**	D/**E**	D/**E**	D/**E**	No			
Mesa Dr./ El Camino Real	C/C	C/C	C/C	C/C	D/**E**	D/**E**	D/**E**	D/**E**	No			
Oceanside Blvd./ El Camino Real	D/D	D/D	D/D	D/D	D/**E**	D/**E**	D/**E**	D/**E**	No			
Pala Rd./N. Douglas Dr.	B/B	B/B	B/B	B/B	D/C	**E**/C	C/B	C/B	**Yes**	Modify traffic signal and phasing to include EB right turn overlap phase. Install dual NB left turn lanes at Pala Rd. to improve flow on N. Douglas Dr.	Direct	C/B

Widening SR-76 (By Others Improvement)
Caltrans has plans to widen SR-76, which was included in the TransNet initiative of 2005. Also included in the Regional Transportation Plan (RTP) prepared by SANDAG, the widening of SR-76 was included in the 2000 Prioritization List. As this is a regional arterial, it is likely that widening improvements to the mainline of SR-76 would not be a project responsibility. Caltrans will have an opportunity to review this traffic report.

Widening Foussat (Project Improvement) to a five lane secondary along the project frontage is a direct project mitigation measure. This improvement is necessary to accommodate the 15,000 to 25,000 project generated trips per day. This section will match the existing Foussatt Road south of SR-76 and accommodate the necessary turn lanes for the project. As the fifth lane serves as a dedicated turn lane into the project, this segment does not deviate from the current secondary classification

SR-76/Rancho del Oro Drive Intersection Improvements (By others improvement)
This intersection is currently operating at deficient LOS. Due to the increase in traffic associated with the Pavilion project, the intersection is forecast to be significantly impacted. Widening SR-76 from four to six lanes is forecast to mitigate the condition by 2020, but these improvements are not likely to occur for several years. Short-term mitigation measures may be required to meet the interim project related indirect/cumulative impacts, which could include either restriping or widening the northbound approach to allow for a dedicated right turn lane.

N. Douglas Dr. – N. River Rd. to Pala Rd.
Portions of N. Douglas Drive are currently operating at and are forecast to continue to operate at deficient levels of service. Between N. River Road and El Camino Real, N. Douglas Drive currently operates at LOS D and is forecast to operate at LOS E or F through year 2020 (without or with Pala Road extension). City of Oceanside Circulation Element states:

> "North of El Camino Real to North River Road, forecast volumes approach 38,000 ADT [along N. Douglas Drive]. With these forecasted volumes, a Six-Lane Major Arterial classification would provide for acceptable LOS, however, due to right-of-way constraints, only a Four-Lane Major Arterial classification can be accommodated. This segment will operate at unacceptable LOS using the ADT method. With the use of special capacity enhancement treatments, an acceptable LOS can be achieved. "

N. Douglas Drive has been constructed as a four-lane major arterial, as described in the Circulation Element, with dedicated turn lanes at major access points and signalized intersections. As the City has recognized that widening of this road is not feasible, other creative measures may be necessary to improve these segments of roadway. Traffic signal coordination, interconnect and other capacity enhancements should be coordinated with City of Oceanside staff. However, if such enhancements are not feasible, it may be necessary to adopt statement of overriding considerations for the identified project impacts.

SITE ACCESS AND CIRCULATION

Access to the project site will be provided at three signalized and additional unsignalized intersections as illustrated previously on the site plan (Exhibit 2). Street A provides on-site circulation from both Mission Avenue and Foussat Road. Traffic calming measures such as pavement treatments at pedestrian crossings, raised and striped medians, a central traffic circle and signage are planned to help control speeds along this road and reduce the potential for cut-through traffic. The intersection of Street A and Foussat Road is at the existing Foussat Road bridge intersection that provides access to the neighborhoods north of the San Luis Rey River. The intersection is forecast to operate as a split phase eastbound and westbound due to the high traffic volume exiting the project site.

Exhibit 34 illustrates the proposed striping at Foussat Road/Project Driveway "A". Table 23 summarizes the forecast queue lengths for the key movements at the intersection. Turn pocket lengths and striping are based upon the forecast 2020 traffic volumes at the intersection without the Pala Road extension. As shown in Table 23, the proposed design as illustrated in Exhibit 34 is consistent with the forecast demand on the movements evaluated. A 100 second cycle length was used to assess the queue and signal operations.

Table 23
Foussat Road/Project Driveway "A" Queue Analysis

Movement	2020 Peak Hour Volume[1]	Number of Lanes	Cycle Length	Vehicles Queued / Cycle	Length of Queue	Length of Turn Pocket
NB Left	282	1	100	8	294'	300'
NB Right	621	1		17	647'	650'
WB Left	580	2		8	302'	300'
WB Right	31	1		1	32'	150'
EB Right	224	1		6	233'	250'

Note: [1]Assumes highest peak hour volume (peak may vary by movement) for "without Pala Road" conditions.

Exhibit 35 illustrates the proposed striping at Foussat Road/Project Driveway "B" as illustrated on the project site plan. As shown, the design of the site plan accommodates the necessary turn pocket lengths for this intersection. The queue analysis summary for Foussat Road/Project Driveway "B" is provided in Table 24.

Table 24
Foussat Road/Project Driveway "B" Queue Analysis

Movement	2020 Peak Hour Volume[(1)]	Number of Lanes	Cycle Length	Vehicles Queued / Cycle	Length of Queue	Length of Turn Pocket
NB Right	395	1	100	8 [(1)]	315	250'
SB Left	21	1		1	22	150'
WB Left	369	2		5	187	187'
WB Right	19					

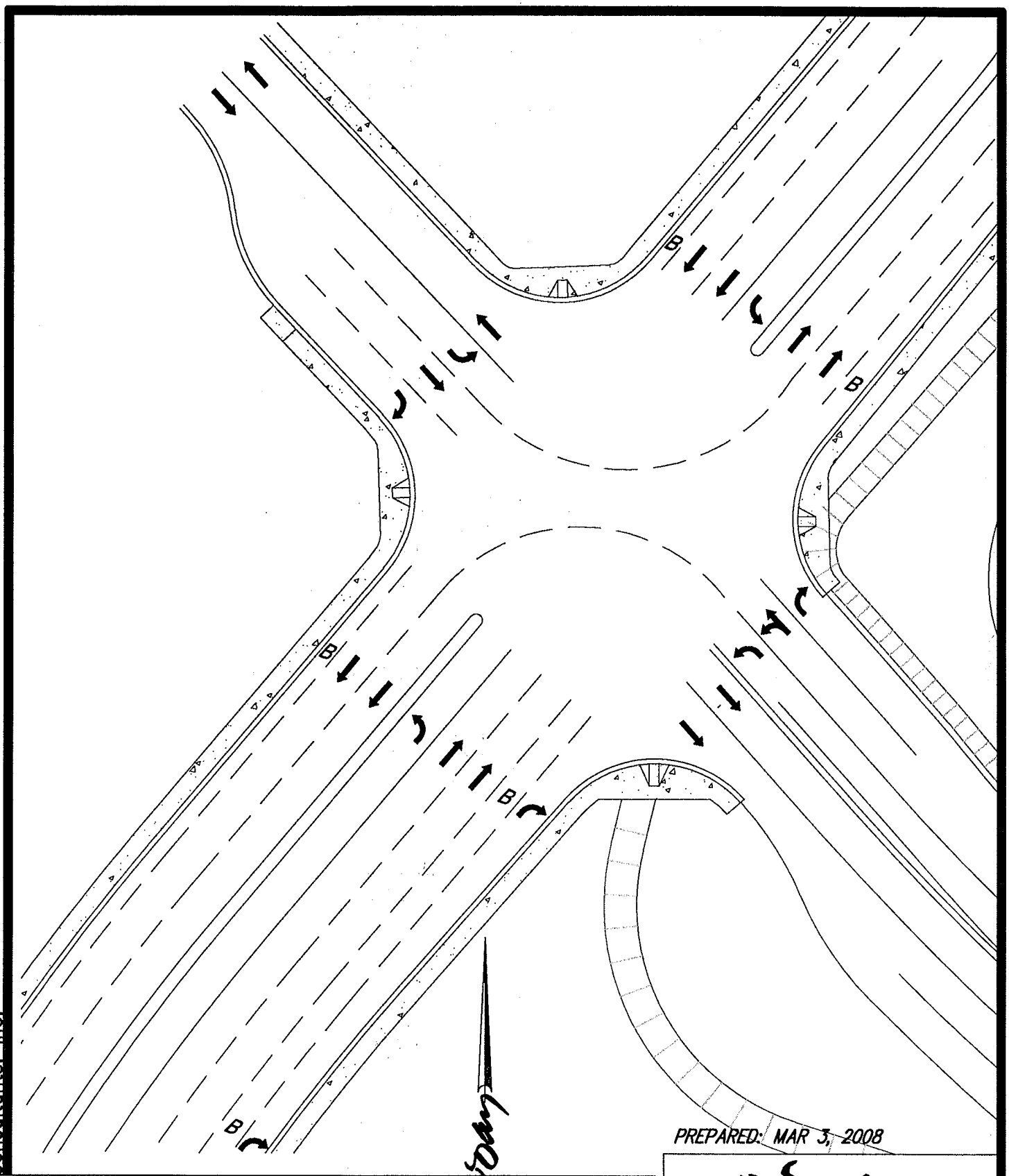
Note: [(1)]Assumes highest peak hour volume (peak may vary by movement) for "without Pala Road" conditions.
[(2)]Reduction in northbound right turn queue to account for overlap with westbound left turns.

Exhibit 36 illustrates the proposed striping at Mission Avenue/Project Driveway "C", which is the existing signalized intersection providing access to the weekend swap meet. The intersection would be modified on the north leg to accommodate the forecast project generated traffic. A dedicated right turn lane into the project site on the westbound approach is also recommended to improve traffic flow along Mission Avenue. The intersection and queue operations were based on a 100 second cycle length. Table 25 summarizes the queue analysis for the Mission Avenue/Project Driveway "C" intersection. As shown in Table 25 and Exhibit 36, the proposed design on the site plan is consistent with the forecast queues.

Table 25
Mission Avenue/Project Driveway "C" Queue Analysis

Movement	2020 Peak Hour Volume	Number of Lanes	Cycle Length	Vehicles Queued / Cycle	Length of Queue	Length of Turn Pocket
SB Left	222	1	100	6	231	250'
SB Right	167	2		2	87	150'
EB Left	179	2		2	75	75'
WB Right	237	1		7	247	250'

Note: [(1)]Assumes highest peak hour volume (peak may vary by movement) for "without Pala Road" conditions.
[(2)]Reduction in northbound right turn queue to account for overlap with westbound left turns.



Consultants, Inc.

PREPARED: MAR 3, 2008

O'Day CONSULTANTS

2710 Loker Ave West
Suite 100
Carlsbad, California 92008
760-931-7700
Fax: 760-931-8680
www.odayconsultants.com

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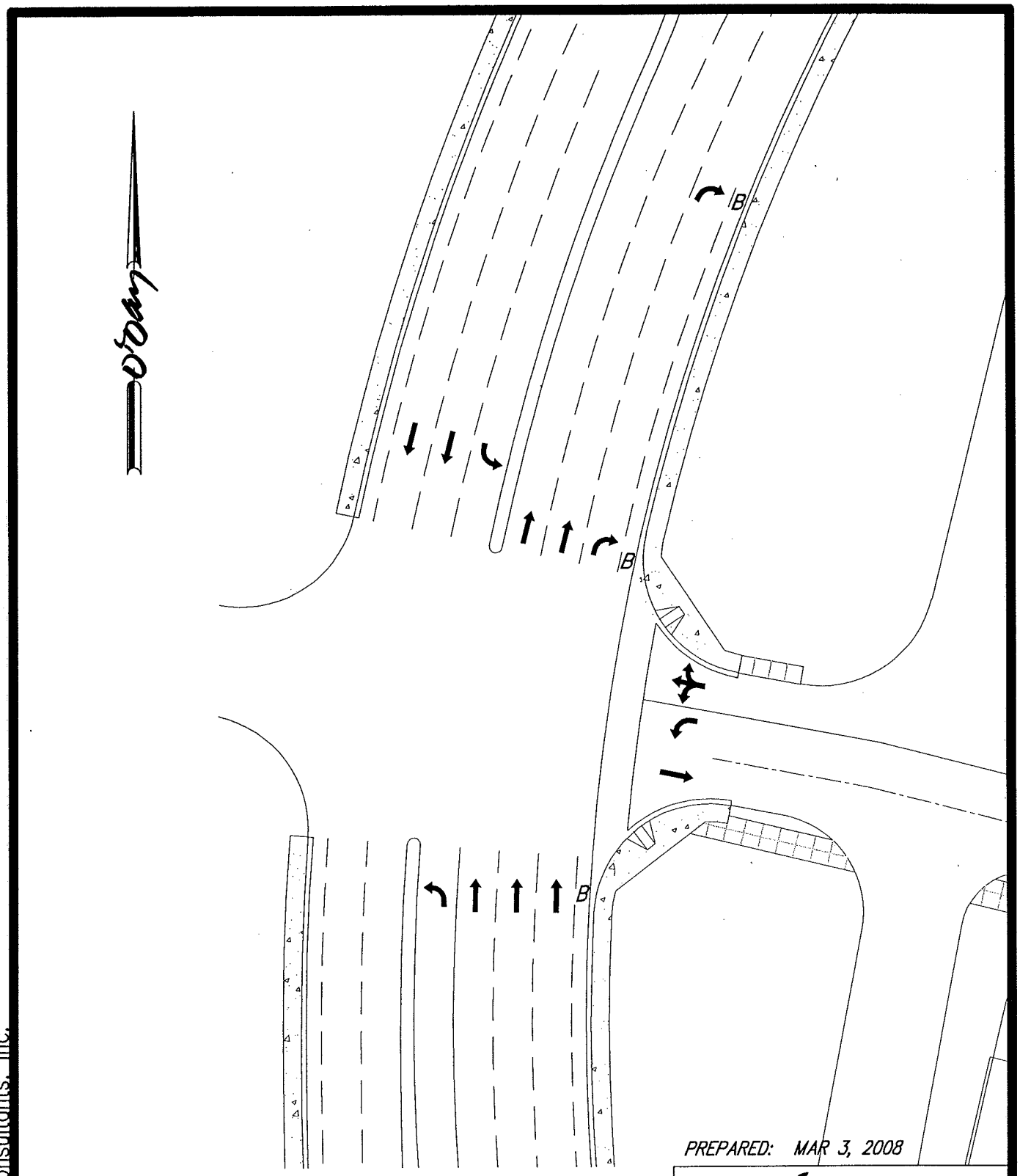
FOUSSAT ROAD/PROJECT ACCESS "A" STRIPING PLAN

EXHIBIT 34



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FOUSSAT ROAD/PROJECT ACCESS "B" STRIPING PLAN

EXHIBIT 35

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O'Day CONSULTANTS
2710 Loker Ave West
Suite 100
Carlsbad, California 92008
760-931-7700
Fax: 760-931-8680
www.odayconsultants.com

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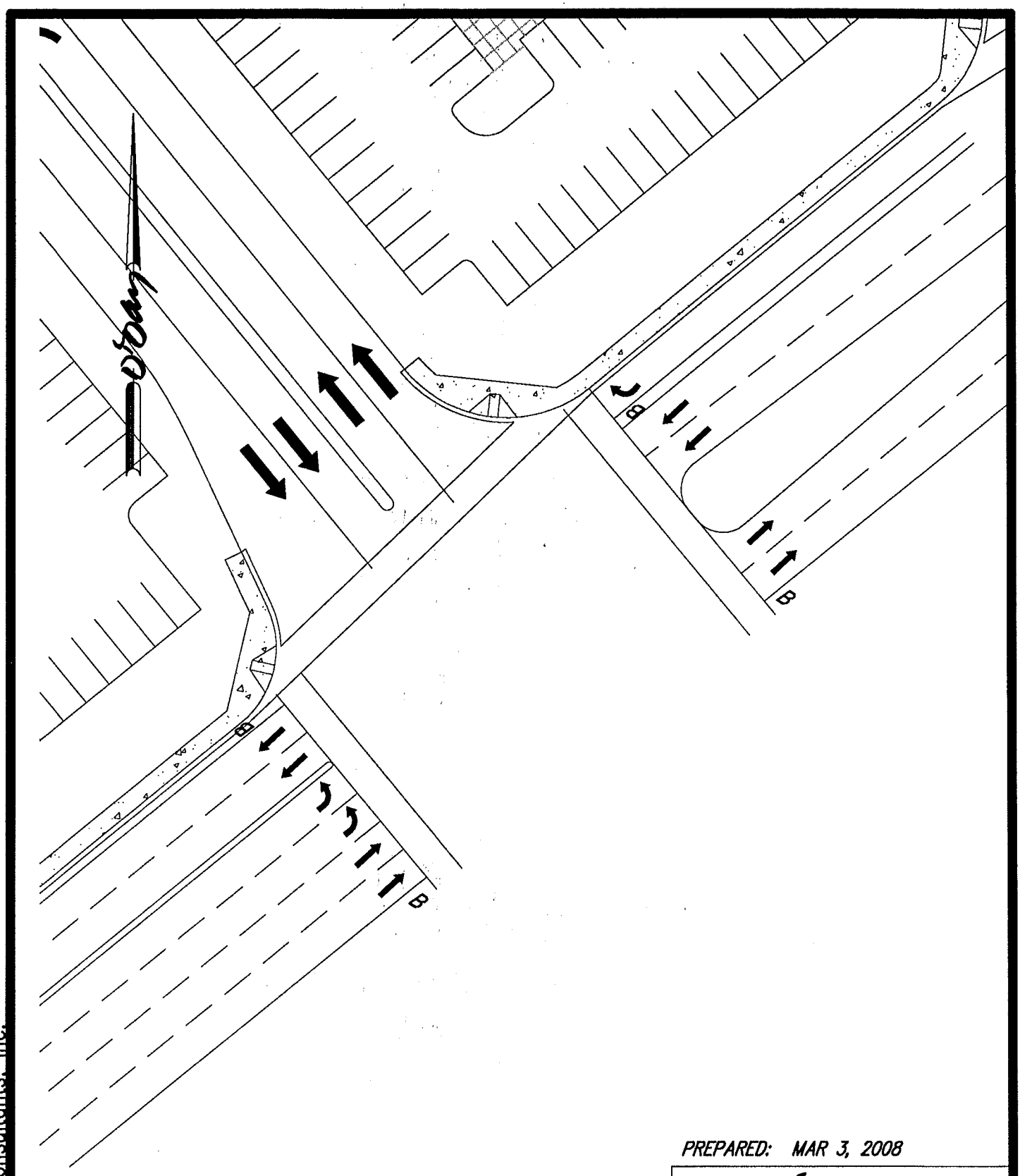

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O'Day
CONSULTANTS
2710 Loker Ave West
Suite 100
Carlsbad, California 92008
760-931-7700
Fax: 760-931-8680
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MISSION AVENUE/PROJECT ACCESS "C" STRIPING PLAN

EXHIBIT 36

CALTRANS OPERATIONAL ANALYSIS

Due to the project's close proximity to State Route 76, Caltrans requested an evaluation of freeway segments and intersections located within the study area.

Intersection Lane Volume Analysis

Caltrans requires that an Intersection Lane Volume (ILV) analysis be conducted for all state-owned facilities that may be impacted by a proposed project. As this project is located immediately adjacent to SR-76, the ILV method was conducted for all signalized intersections along the SR-76 corridor. The thresholds for operating conditions using the ILV methodology are summarized in Table 26.

Table 26
ILV Operational Thresholds

ILV/hr	Description
<1,200 "Stable"	Stable flow with slight, but acceptable delay. Occasional signal loading may develop. Free midblock operations.
1,200 to 1,500 "Unstable"	Unstable flow with considerable delays possible. Some vehicles occasionally wait two or more cycles to pass through the intersection. Continuous backup occurs on some approaches.
>1,500 "Capacity"	Stop-and-go operation with severe delay and heavy congestion. Traffic volume is limited by maximum discharge rates of each phase. Continuous backup in varying degrees occurs on all approaches. Where downstream capacity is restrictive, mainline congestion can impede orderly discharge through the intersection.

Notes: Caltrans Highway Design Manual, Table 406.

Table 27 summarizes the results of the ILV analysis. ILV Calculation worksheets are provided in Appendix J. As shown in Table 27, 14 study intersections along SR-76 were analyzed using the Caltrans Intersecting Lane Vehicles (ILV) capacity analysis methodology. The short-term results show that the intersections from Canyon Drive to N. Santa Fe Ave. are operating at capacity.

The Horizon Year 2020 analysis assumes that SR-76 is improved to a six-lane expressway from I-5 to Melrose Drive, which improves traffic flow along the SR-76 corridor resulting in improved traffic conditions. During the Horizon Year 2020 conditions the following intersections would operate at capacity:

- SR-76/Douglas Drive
- SR-76/Rancho Del Oro Drive
- SR-76/College Boulevard
- SR-76/N. Santa Fe Ave
- SR-76/Melrose Drive

These segments are experiencing capacity of more than 1500 vehicles per hour (VPH) at a point where conflicting lanes of traffic intersect. As shown in Table 26, the "Capacity" traffic flow condition consists of stop and go operation with severe delay and heavy congestion.

Table 27
ILV Operation Analysis

Scenario		State Route - 76													
		I-5 SB Ramps	I-5 NB Ramps	Loretta St.	Canyon Dr.	Benet Rd.	Airport Rd.	Foussat Rd.	Douglas Dr.	RDO Dr.	Old Grove Rd.	Frazee Rd.	College Blvd.	N. Santa Fe Ave.	Melrose Dr.
Existing	am	987 Stable	1256 Unstable	1271 Unstable	1337 Unstable	1583 Capacity	1346 Unstable	976 Stable	1709 Capacity	1772 Capacity	1229 Unstable	1173 Stable	1257 Unstable	1256 Unstable	870 Stable
	pm	757 Stable	982 Stable	990 Stable	1324 Unstable	1553 Capacity	1271 Unstable	934 Stable	1695 Capacity	1875 Stable	1232 Unstable	1336 Stable	1368 Unstable	1306 Unstable	883 Stable
Existing Plus Project	am	992 Stable	1263 Unstable	1286 Unstable	1359 Unstable	1599 Capacity	1374 Unstable	1080 Stable	1804 Capacity	1820 Capacity	1261 Unstable	1190 Stable	1271 Unstable	1269 Unstable	883 Stable
	pm	778 Stable	1011 Stable	1388 Unstable	1602 Capacity	1618 Capacity	1380 Unstable	1350 Stable	1831 Capacity	1955 Capacity	1292 Unstable	1363 Unstable	1388 Unstable	1327 Unstable	904 Stable
Existing Plus Cumulative	am	1019 Stable	1324 Unstable	1360 Unstable	1448 Unstable	1706 Capacity	1476 Stable	1050 Stable	1948 Capacity	2181 Capacity	1369 Unstable	1254 Unstable	1647 Capacity	1728 Capacity	1069 Stable
	pm	777 Stable	1112 Stable	1445 Unstable	1644 Capacity	1732 Capacity	1418 Unstable	1022 Stable	1873 Capacity	2077 Capacity	1392 Unstable	1397 Unstable	1540 Capacity	1609 Capacity	1075 Stable
Existing Plus Cumulative Plus Project	am	1024 Stable	1332 Unstable	1375 Unstable	1470 Unstable	1723 Capacity	1505 Capacity	1145 Stable	2043 Capacity	2226 Capacity	1397 Unstable	1271 Unstable	1659 Unstable	1741 Capacity	1082 Stable
	pm	798 Stable	1141 Stable	1502 Capacity	1727 Capacity	1797 Capacity	1527 Capacity	1431 Unstable	2009 Capacity	2157 Capacity	1451 Unstable	1425 Unstable	1560 Capacity	1630 Capacity	1096 Stable
2020 without Pala no Project	am	1023 Stable	1436 Unstable	896 Stable	985 Stable	1011 Stable	1056 Stable	1089 Stable	1578 Capacity	1515 Capacity	1178 Stable	1020 Stable	1405 Unstable	1090 Stable	1838 Capacity
	pm	863 Stable	1143 Stable	1036 Stable	1414 Stable	1235 Unstable	1096 Stable	1125 Stable	1555 Capacity	1246 Unstable	1211 Unstable	1206 Unstable	1684 Capacity	1771 Capacity	1999 Capacity
2020 without Pala with Project	am	1027 Stable	1443 Unstable	908 Stable	1003 Unstable	1022 Stable	1073 Stable	1208 Unstable	1661 Capacity	1550 Capacity	1204 Unstable	1032 Stable	1419 Unstable	1098 Stable	1847 Capacity
	pm	885 Stable	1172 Stable	1083 Stable	1482 Unstable	1278 Unstable	1181 Stable	1561 Capacity	1673 Capacity	1309 Unstable	1262 Unstable	1224 Unstable	1704 Capacity	1786 Capacity	**2013 Capacity**
2020 with Pala no Project	am	1023 Stable	1436 Unstable	896 Stable	985 Stable	1011 Stable	1056 Stable	1104 Stable	1516 Capacity	1515 Capacity	1178 Stable	1020 Stable	1405 Unstable	1090 Stable	1838 Capacity
	pm	863 Stable	1143 Stable	1036 Stable	1414 Stable	1235 Unstable	1096 Stable	1178 Stable	1515 Capacity	1246 Unstable	1211 Unstable	1206 Unstable	1684 Capacity	1771 Capacity	1999 Capacity
2020 with Pala with Project	am	1027 Stable	1443 Unstable	908 Stable	1003 Unstable	1022 Stable	1073 Stable	1225 Unstable	1555 Capacity	1550 Capacity	1204 Unstable	1032 Stable	1419 Unstable	1098 Stable	1847 Capacity
	pm	885 Stable	1172 Stable	1083 Stable	1482 Unstable	1278 Unstable	1181 Stable	1506 Capacity	1587 Capacity	1309 Unstable	1262 Unstable	1224 Unstable	1704 Capacity	1786 Capacity	**2013 Capacity**

Note: **Bold** ILV results indicate intersections affected by Pala Road Extension.

Freeway Mainline Segment Analysis

Segments of eastbound and westbound State Route 76 between Interstate 5 and Melrose Drive were analyzed under all peak hour conditions using the 2000 HCM Basic Freeway Segment analysis methodology. A 10% heavy truck factor was applied in addition to a measured free-flow speed of 55 mph was used in the HCM calculations for multi-lane segments.

The Horizon Year 2020 analysis assumes the planned widening of State Route 76 to be evaluated as a six-lane expressway from Interstate 5 to Melrose Drive.

The results of the Existing freeway segment level of service are shown in Tables 28 -29, the short-term results in Tables 30-31, and the Horizon Year 2020 results in Tables 32-33. HCM worksheets used to calculate the freeway segments are included in Appendix J.

Table 28
Existing Freeway Mainline Segment Level of Service Analysis
State Route 76

Segment	From	To	Existing Conditions							
			Volume	LOS	APCTS	D	Volume	LOS	APCS	D
			AM Peak Hour				PM Peak Hour			
SR-76	I-5	Loretta St.	1051	A	54.8	10.9	2557	D	54.6	26.7
SR-76	Loretta St.	I-5	2409	C	54.8	25.1	1323	B	54.8	13.8
SR-76	Loretta St.	N. Canyon Dr.	1077	B	54.8	11.2	2612	D	54.5	27.3
SR-76	N. Canyon Dr.	Loretta St.	2500	D	54.7	26.1	1516	B	54.8	15.8
SR-76	N. Canyon Dr.	Benet Rd.	1265	B	54.8	13.2	2698	D	54.3	28.3
SR-76	Benet Rd.	N. Canyon Dr.	2519	D	54.7	26.3	1744	C	54.8	18.2
SR-76	Benet Rd.	Airport Rd.	1106	B	54.8	11.5	2451	C	54.8	25.5
SR-76	Airport Rd.	Benet Rd.	2506	D	54.7	26.1	1360	B	54.8	14.2
SR-76	Airport Rd.	Foussat Rd.	1010	A	54.8	10.5	2583	D	54.6	27.0
SR-76	Foussat Rd.	Airport Rd.	2574	D	54.6	26.9	1391	B	54.8	14.5
SR-76	Foussat Rd.	N. Douglas Dr.	1175	B	54.8	12.2	2637	D	54.4	27.6
SR-76	N. Douglas Dr.	Foussat Rd.	2486	C	54.7	25.9	1367	B	54.8	14.2
SR-76	N. Douglas Dr.	RDO Dr.	1487	B	54.8	15.5	2875	D	53.8	30.5
SR-76	RDO Dr.	N. Douglas Dr.	2289	C	54.8	23.9	1355	B	54.8	14.1
SR-76	RDO Dr.	Old Grove Rd.	1119	B	54.8	11.7	2276	C	54.8	23.7
SR-76	Old Grove Rd.	RDO Dr.	2732	D	54.2	28.8	2217	C	54.8	23.1
SR-76	Old Grove Rd.	Frazee Rd.	1049	A	54.8	10.9	2193	C	54.8	22.8
SR-76	Frazee Rd.	Old Grove Rd.	1943	C	54.8	20.2	1323	B	54.8	13.8
SR-76	Frazee Rd.	College Blvd.	1052	A	54.8	11.0	2020	C	54.8	21.0
SR-76	College Blvd.	Frazee Rd.	1779	C	54.8	18.5	1440	B	54.8	15.0
SR-76	College Blvd.	N. Santa Fe Ave.	1176	B	54.8	12.3	2030	C	54.8	21.2
SR-76	N. Santa Fe Ave.	College Blvd.	1990	C	54.8	20.7	1440	B	54.8	15.0
SR-76	N. Santa Fe Ave.	Melrose Dr.	1032	A	54.8	10.7	1990	C	54.8	20.7
SR-76	Melrose Dr.	N. Santa Fe Ave.	1620	B	54.8	16.9	1680	B	54.8	17.5

Note: Deficient freeway mainline segment operation indicated in **bold** where applicable.

APCTS – Average Passenger Car Travel Speed (mph)

D – Density, Passenger Cars per Mile per Lane

Table 29
Existing Plus Project Freeway Mainline Segment Level of Service Analysis
State Route 76

Segment	From	To	Existing Plus Project Conditions							
			Volume	LOS	APCTS	D	Volume	LOS	APCS	D
			AM Peak Hour				PM Peak Hour			
SR-76	I-5	Loretta St.	1084	B	54.8	11.3	2616	D	54.5	27.4
SR-76	Loretta St.	I-5	2424	C	54.8	25.3	1379	B	54.8	14.4
SR-76	Loretta St.	N. Canyon Dr.	1129	B	54.8	11.8	2701	D	54.3	28.4
SR-76	N. Canyon Dr.	Loretta St.	2523	D	54.7	26.3	1600	B	54.8	16.7
SR-76	N. Canyon Dr.	Benet Rd.	1342	B	54.8	14.0	2830	D	53.9	29.9
SR-76	Benet Rd.	N. Canyon Dr.	2553	D	54.6	26.7	1867	C	54.8	19.5
SR-76	Benet Rd.	Airport Rd.	1189	B	54.8	12.4	2594	D	54.5	27.1
SR-76	Airport Rd.	Benet Rd.	2542	D	54.6	26.5	1493	B	54.8	15.5
SR-76	Airport Rd.	Foussat Rd.	1123	B	54.8	11.7	2779	D	54.1	29.3
SR-76	Foussat Rd.	Airport Rd.	2623	D	54.5	27.5	1574	B	54.8	16.4
SR-76	Foussat Rd.	N. Douglas Dr.	1237	B	54.8	12.9	2867	D	53.8	30.4
SR-76	N. Douglas Dr.	Foussat Rd.	2629	D	54.5	27.5	1613	B	54.8	16.8
SR-76	N. Douglas Dr.	RDO Dr.	1536	B	54.8	16.0	3018	D	53.4	32.3
SR-76	RDO Dr.	N. Douglas Dr.	2377	C	54.8	24.8	1508	B	54.8	15.7
SR-76	RDO Dr.	Old Grove Rd.	1147	B	54.8	11.9	2380	C	54.8	24.8
SR-76	Old Grove Rd.	RDO Dr.	2796	D	54.0	29.5	2327	C	54.8	24.2
SR-76	Old Grove Rd.	Frazee Rd.	1064	B	54.8	11.1	2249	C	54.8	23.4
SR-76	Frazee Rd.	Old Grove Rd.	1977	C	54.8	20.6	1382	B	54.8	14.4
SR-76	Frazee Rd.	College Blvd.	1067	B	54.8	11.1	2076	C	54.8	21.6
SR-76	College Blvd.	Frazee Rd.	1813	C	54.8	18.9	1499	B	54.8	15.6
SR-76	College Blvd.	N. Santa Fe Ave.	1187	B	54.8	12.4	2072	C	54.8	21.6
SR-76	N. Santa Fe Ave.	College Blvd.	2016	C	54.8	21.0	1725	B	54.8	18.0
SR-76	N. Santa Fe Ave.	Melrose Dr.	1043	A	54.8	10.9	1797	C	54.8	18.7
SR-76	Melrose Dr.	N. Santa Fe Ave.	1646	B	54.8	17.2	1322	B	54.8	13.8

Note: Deficient freeway mainline segment operation indicated in **bold** where applicable.

APCTS – Average Passenger Car Travel Speed (mph)

D – Density, Passenger Cars per Mile per Lane

Table 30
Short Term Freeway Mainline Segment Level of Service Analysis
State Route 76

Segment	From	To	Short Term Conditions							
			Volume	LOS	APCTS	D	Volume	LOS	APCS	D
			AM Peak Hour				PM Peak Hour			
SR-76	I-5	Loretta St.	1347	B	54.8	14.0	2750	D	54.2	29.0
SR-76	Loretta St.	I-5	2534	D	54.6	26.5	1476	B	54.8	15.4
SR-76	Loretta St.	N. Canyon Dr.	1379	B	54.8	14.4	2809	D	54.0	29.7
SR-76	N. Canyon Dr.	Loretta St.	2676	D	54.3	28.1	1750	C	54.8	18.2
SR-76	N. Canyon Dr.	Benet Rd.	1643	B	54.8	17.1	2946	D	53.6	31.4
SR-76	Benet Rd.	N. Canyon Dr.	2718	D	54.2	28.6	2005	C	54.8	20.9
SR-76	Benet Rd.	Airport Rd.	1458	B	54.8	15.2	2675	D	54.3	28.1
SR-76	Airport Rd.	Benet Rd.	2698	D	54.3	28.3	1640	B	54.8	17.1
SR-76	Airport Rd.	Foussat Rd.	1383	B	54.8	14.4	2805	D	54.0	29.6
SR-76	Foussat Rd.	Airport Rd.	2762	D	54.1	29.1	1675	B	54.8	17.4
SR-76	Foussat Rd.	N. Douglas Dr.	1548	B	54.8	16.1	2900	D	53.7	30.8
SR-76	N. Douglas Dr.	Foussat Rd.	2681	D	54.3	28.1	1708	B	54.8	17.8
SR-76	N. Douglas Dr.	RDO Dr.	1897	C	54.8	19.8	3028	D	53.3	32.4
SR-76	RDO Dr.	N. Douglas Dr.	2502	D	54.7	26.1	1646	B	54.8	17.2
SR-76	RDO Dr.	Old Grove Rd.	1489	B	54.8	15.5	2456	C	54.7	25.6
SR-76	Old Grove Rd.	RDO Dr.	3338	E	52.3	36.4	2488	C	54.7	25.9
SR-76	Old Grove Rd.	Frazee Rd.	1240	B	54.8	12.9	2292	C	54.8	23.9
SR-76	Frazee Rd.	Old Grove Rd.	2143	C	54.9	22.3	1433	B	54.8	14.9
SR-76	Frazee Rd.	College Blvd.	1187	B	54.8	12.4	2235	C	54.8	23.3
SR-76	College Blvd.	Frazee Rd.	1937	C	54.8	20.2	1537	B	54.8	16.0
SR-76	College Blvd.	N. Santa Fe Ave.	1349	B	54.8	14.0	2491	C	54.7	26.0
SR-76	N. Santa Fe Ave.	College Blvd.	2540	D	54.6	26.5	1981	C	54.8	20.6
SR-76	N. Santa Fe Ave.	Melrose Dr.	1232	B	54.8	12.8	2289	C	54.8	23.9
SR-76	Melrose Dr.	N. Santa Fe Ave.	2232	C	54.8	23.3	1541	B	54.8	16.1

Note: Deficient freeway mainline segment operation indicated in **bold** where applicable.

APCTS – Average Passenger Car Travel Speed (mph)

D – Density, Passenger Cars per Mile per Lane

Table 31
Short Term With Project Freeway Mainline Segment Level of Service Analysis
State Route 76

Segment	From	To	Short Term with Project Conditions							
			Volume	LOS	APCTS	D	Volume	LOS	APCS	D
			AM Peak Hour				PM Peak Hour			
SR-76	I-5	Loretta St.	1381	B	54.8	14.4	2809	D	54.0	29.7
SR-76	Loretta St.	I-5	2549	D	54.6	26.6	1532	B	54.8	16.0
SR-76	Loretta St.	N. Canyon Dr.	1431	B	54.8	14.9	2898	D	53.7	30.8
SR-76	N. Canyon Dr.	Loretta St.	2699	D	54.3	28.4	1834	C	54.8	19.1
SR-76	N. Canyon Dr.	Benet Rd.	1720	B	54.8	17.9	3078	D	53.2	33.0
SR-76	Benet Rd.	N. Canyon Dr.	2752	D	54.2	29.0	2128	C	54.8	22.2
SR-76	Benet Rd.	Airport Rd.	1541	B	54.8	16.1	2818	D	54.0	29.8
SR-76	Airport Rd.	Benet Rd.	2734	D	54.2	28.8	1773	C	54.8	18.5
SR-76	Airport Rd.	Foussat Rd.	1496	B	54.8	15.6	3001	D	53.4	32.0
SR-76	Foussat Rd.	Airport Rd.	2811	D	54.0	29.7	1858	C	54.8	19.4
SR-76	Foussat Rd.	N. Douglas Dr.	1610	B	54.8	16.8	3130	D	53.0	33.7
SR-76	N. Douglas Dr.	Foussat Rd.	2824	D	54.0	29.9	1954	C	54.8	20.4
SR-76	N. Douglas Dr.	RDO Dr.	1936	C	54.8	20.2	3171	D	52.9	34.2
SR-76	RDO Dr.	N. Douglas Dr.	2590	D	54.5	27.1	1799	C	54.8	18.7
SR-76	RDO Dr.	Old Grove Rd.	1517	B	54.8	15.8	2560	D	54.6	26.7
SR-76	Old Grove Rd.	RDO Dr.	3402	E	52.0	37.3	2598	D	54.5	27.2
SR-76	Old Grove Rd.	Frazee Rd.	1255	B	54.8	13.1	2348	C	54.8	24.5
SR-76	Frazee Rd.	Old Grove Rd.	2177	C	54.8	22.7	1492	B	54.8	15.5
SR-76	Frazee Rd.	College Blvd.	1202	B	54.8	12.5	2291	C	54.8	23.9
SR-76	College Blvd.	Frazee Rd.	1971	C	54.8	20.5	1596	B	54.8	16.6
SR-76	College Blvd.	N. Santa Fe Ave.	1360	B	54.8	14.2	2533	D	54.6	26.4
SR-76	N. Santa Fe Ave.	College Blvd.	2566	D	54.6	26.8	2026	C	54.8	21.1
SR-76	N. Santa Fe Ave.	Melrose Dr.	1243	B	54.8	12.9	2331	C	54.8	24.3
SR-76	Melrose Dr.	N. Santa Fe Ave.	2258	C	54.8	23.5	1586	B	54.8	16.5

Note: Deficient freeway mainline segment operation indicated in **bold** where applicable.

APCTS – Average Passenger Car Travel Speed (mph)

D – Density, Passenger Cars per Mile per Lane

Table 32
Horizon Year (2020) Freeway Mainline Segment Level of Service Analysis
State Route 76

Segment	From	To	Horizon Year Conditions							
			Volume	LOS	APCTS	D	Volume	LOS	APCS	D
			AM Peak Hour				PM Peak Hour			
SR-76	I-5	Loretta St.	1171	A	54.8	8.1	2864	C	54.8	19.9
SR-76	Loretta St.	I-5	2759	C	54.8	19.2	1489	A	54.8	10.3
SR-76	Loretta St.	N. Canyon Dr.	1194	A	54.8	8.3	3074	C	54.8	21.4
SR-76	N. Canyon Dr.	Loretta St.	2597	C	54.8	18.0	1679	B	54.8	11.7
SR-76	N. Canyon Dr.	Benet Rd.	1437	A	54.8	10.0	3029	C	54.8	21.0
SR-76	Benet Rd.	N. Canyon Dr.	2701	C	54.8	18.8	1958	B	54.8	13.6
SR-76	Benet Rd.	Airport Rd.	1233	A	54.8	8.6	2862	C	54.8	19.9
SR-76	Airport Rd.	Benet Rd.	2705	C	54.8	18.8	1601	B	54.8	11.1
SR-76	Airport Rd.	Foussat Rd.	1233	A	54.8	8.6	3194	C	54.8	22.2
SR-76	Foussat Rd.	Airport Rd.	2851	C	54.8	19.8	1729	B	54.8	12.0
SR-76	Foussat Rd.	N. Douglas Dr.	1449	A	54.8	10.1	3462	C	54.8	24.1
SR-76	N. Douglas Dr.	Foussat Rd.	2848	C	54.8	19.8	1604	B	54.8	11.1
SR-76	N. Douglas Dr.	RDO Dr.	1377	A	54.8	9.6	2675	C	54.8	18.6
SR-76	RDO Dr.	N. Douglas Dr.	2570	B	54.8	17.8	1521	A	54.8	10.6
SR-76	RDO Dr.	Old Grove Rd.	1430	A	54.8	9.9	2708	C	54.8	18.8
SR-76	Old Grove Rd.	RDO Dr.	2527	B	54.8	17.6	1686	B	54.8	11.7
SR-76	Old Grove Rd.	Frazee Rd.	1253	A	54.8	8.7	2619	C	54.8	18.2
SR-76	Frazee Rd.	Old Grove Rd.	2223	B	54.8	15.4	1512	A	54.8	10.5
SR-76	Frazee Rd.	College Blvd.	1303	A	54.8	9.0	2403	B	54.8	16.7
SR-76	College Blvd.	Frazee Rd.	2030	B	54.8	14.1	1624	B	54.8	11.3
SR-76	College Blvd.	N. Santa Fe Ave.	1365	A	54.8	9.5	2409	B	54.8	16.7
SR-76	N. Santa Fe Ave.	College Blvd.	2204	B	54.8	15.3	1890	B	54.8	13.1
SR-76	N. Santa Fe Ave.	Melrose Dr.	1097	A	54.8	7.6	2019	B	54.8	14.0
SR-76	Melrose Dr.	N. Santa Fe Ave.	1810	B	54.8	12.6	3190	C	54.8	22.2

Note: Deficient freeway mainline segment operation indicated in **bold** where applicable.
APCTS – Average Passenger Car Travel Speed (mph)
D – Density, Passenger Cars per Mile per Lane

RBF CONSULTING

February 28, 2008 JN 55-100224.002

Mr. John Amberson
City of Oceanside
300 North Coast Highway
Oceanside, CA 92056

Subject: Oceanside Pavilion Truck Haul Study

Dear Mr. Amberson:

This letter report addresses traffic related issues for trucking activity associated with the proposed Oceanside Pavilion project in the City of Oceanside. The project site is located on the north side of SR-76, east of Foussat Road. Exhibit 1 illustrates the project study area.

For the proposed project, an estimated 459,000 cubic yards of material will be hauled into the site. This study includes a comparative evaluation of two haul durations for the project as part of the environmental review process. The haul duration alternatives being evaluated include:

- 2-Month Haul Schedule (44 days)
- 3-Month Haul Schedule (65 days)

Truck traffic will gain access to the site directly from SR-76 and Mission Avenue at existing signalized intersections. Materials will be hauled from El Corazon, a future park site located within the limits between Mesa Drive and Oceanside Boulevard, and El Camino Real and Rancho Del Oro Drive. Based on anticipated daily truck activity levels and estimated project duration times, the analysis includes the evaluation of existing and existing plus project conditions. An analysis of short-term cumulative impacts is also included in the analysis. The material import activity is anticipated to be completed in two- to three-months; therefore a long-term analysis is not included.

The following six roadway segments were included in the analysis:

- Mission Avenue: Project Access "C" to El Camino Real
- El Camino Real: Mission Avenue to Mesa Drive

- El Camino Real: Mesa Drive to Oceanside Boulevard
- Rancho Del Oro: Mesa Drive to Oceanside Boulevard
- Mesa Drive: El Camino Real to Rancho Del Oro Drive
- Oceanside Boulevard: El Camino Real to Rancho Del Oro Drive

In addition, six study intersections were evaluated:

- Mission Avenue / Project Access "C"
- Mission Avenue / El Camino Real
- El Camino Real / Mesa Drive
- El Camino Real / Oceanside Boulevard
- Rancho Del Oro / Mesa Drive
- Rancho Del Oro / Oceanside Boulevard

The following letter summarizes the findings of the truck haul traffic analysis for the proposed project.

Intersection Analysis Methodology

Analysis of all intersections and roadway segments in the project study area is based on the guidelines set forth in the 1995 City of Oceanside General Plan Circulation Element, subsequent publications from the City of Oceanside Transportation Division, and SANDAG CMP Guidelines. As required, the 2000 Highway Capacity Manual (HCM) operation methodology for *Signalized and Unsignalized Intersections* was used to determine the operating Levels of Service (LOS) of the study intersections. The TRAFFIX software package was used to evaluate the study intersections using the HCM methodology. The HCM methodology describes the operation of an intersection using a range of levels of service (LOS) from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on corresponding delay per vehicle thresholds for signalized and unsignalized intersections shown in Table 1. The City of Oceanside considers LOS D or better to be acceptable intersection operating conditions during the peak hours.

Table 1
Level of Service & Delay Ranges

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual.

Roadway Segment Methodology

A daily roadway segment analysis was conducted for all study area roadways, which was based upon the 1995 City of Oceanside Circulation Element and SANDAG CMP guidelines. The roadway segment level of service criteria is included in Table 2. Excerpts from the 1995 City of Oceanside Circulation Element that summarizes the capacity thresholds by roadway segment and level of service criteria are provided in Appendix A.

Table 2
Daily Level of Service Thresholds for Roadway Segments

Classification / Lanes	Level of Service				
	A	B	C	D	E
Prime Arterial / 6	36,000	42,000	48,000	54,000	60,000
Expressway / 4	38,400	44,800	51,200	57,600	64,000
Major Arterial / 4	24,000	28,000	32,000	36,000	40,000
Secondary / 4	18,000	21,000	24,000	27,000	30,000

Source: Ultimate Capacities from City of Oceanside Circulation Element, 1995; SANDAG CMP Guidelines, 2002.

According to the 1995 City of Oceanside Circulation Element, the City's goal for acceptable service standards during daily periods is LOS C for all roadway segments. The City of Oceanside recognizes that due to regional traffic passing through the City, LOS C cannot be maintained along regional arterials; therefore, the City will accept LOS D during the peak hours.

Significant Impact Thresholds

Within the City of Oceanside, a significant impact is forecast to occur if project-generated traffic increases the peak hour intersection delay by 2.0 seconds or more for intersections operating at deficient levels of service (LOS E or worse). For roadway segments, a significant impact is forecast to occur if the project-generated traffic results in an increase in the V/C ratio on a roadway segment by 0.020 or more, and the roadway segment is forecast to operate at a deficient level of service (LOS D or worse in the City of Oceanside).

Existing Traffic Volumes and Roadway Network

Existing traffic volume data was collected in February 2006 specifically for the "Oceanside Pavilion Traffic Impact Report (August 2007)." Exhibit 2 presents the existing daily and peak hour volumes on the study roadway segments and intersections. Traffic count sheets are provided as an attachment to this report.

RBF Consulting conducted a field assessment of the roadway network to determine the existing functional classifications. *Mission Avenue* is classified as a four-lane Major and is oriented in an east-west direction. *El Camino Real* is classified as a four-lane Major and generally runs north and south, connecting to Oceanside Boulevard, Mesa Drive, and Mission Avenue. *Oceanside Boulevard* currently operates as a 6-lane Prime Arterial and is oriented in an east-west direction. *Rancho Del Oro Drive* is a four-lane Major oriented in a north-south direction. The roadway extends from Mission Avenue to the north and Vista Way to the south. *Mesa Drive* is classified as a Secondary road and is oriented in an east-west direction.

Transport Trip Generation

As described previously, truck-hauling activities that would impact traffic operations in the study area are primarily associated with soil import for the Pavilion project. Approximately 459,000 cubic yards is planned to be imported to the site.

For purposes of this study the duration of import is assumed to be between 2- and 3-months (44 to 65 working days). During this period, 459,000 cubic yards of material will be hauled on-site by double-bottom dump trucks. Each truck is capable of carrying approximately 20 cubic yards of material per trip. Trucks will arrive from the El Corazon site and will take direct project access from Mission Avenue to deliver materials.

Truck activity is anticipated to occur between 8:30 a.m. and 3:30 p.m., with 51 to 75 trucks arriving per hour. Over the seven-hour period, between 353 and 522 trucks per day will access the site resulting in 706 to 1,044 round-trip truck trips per day. Since trucks tend to have a more significant effect on roadway operations when compared to passenger vehicles, passenger car equivalency factors (PCE's) were applied to convert truck traffic to passenger vehicle equivalents. PCE's published by the San Bernardino Association of Governments (SANBAG) were used since local PCE factors are not available. As specified by SANBAG, heavy-duty trucks should use a PCE factor of 3.0. Therefore, all truck trips calculated in this analysis were multiplied by 3.0 to derive traffic levels in PCE's. Table 3 presents the estimated daily trip generation levels for the schedule alternatives.

Table 3
Soil Import Truck Trip Generation

Total Transported Material	Material Transported Daily	Transfer Truck Capacity	Daily Loads	Daily Truck Trips	Daily PCE Trips*
2-Month Haul Schedule (44 Days)					
459,000 cubic yards (cy)	10,432 cy/day	20 cy/truck	522	1,044	3,132
3-Month Haul Schedule (65 Days)					
459,000 cubic yards (cy)	7,062 cy/day	20 cy/truck	353	706	2,118

*Passenger Car Equivalency (PCE) factor of 3.0 applied.

Transport Trip Distribution

It is anticipated that all imported fill material will be transported from the future El Corazon park site, located on Oceanside Boulevard between El Camino Real and Rancho Del Oro Drive. Material from the El Corazon site will be excavated from the future senior center site located on Rancho Del Oro Drive. To minimize the number of left turns and to reduce the impact to residents, separate routes for inbound and outbound truck trips are recommended. It is proposed that all inbound truck trips travel south from El Corazon on Rancho Del Oro Drive, west on Oceanside Boulevard, north on El Camino Real, and west onto Mission Avenue to Project Access C. In turn, it is recommended that all outbound trucks travel from Project Access C, east on Mission Avenue, south on El Camino Real, east on Mesa Drive, and south on Rancho Del Oro Drive to El Corazon. Separating the inbound and outbound truck routes may reduce the impacts to Oceanside Boulevard, Mesa Drive, and El Camino Real (from Mesa Drive to Oceanside Boulevard) by fifty percent. Exhibit 3 illustrates the proposed haul routes.

Exhibits 4 and 5 illustrate the anticipated daily project truck trips and corresponding PCE's on the study roadway segments for the 2-month (44 days) and 3-month (65 days) haul schedules and haul routes, respectively.

Cumulative Projects

City of Oceanside provided a list of 32 projects that are located within the vicinity of the Oceanside Pavilion project site. These projects were either under construction, approved, or in process at the City of Oceanside at the time the traffic count data was collected:

1) Ocean Ranch
2) Monarch Del Oro
3) Pacific Coast Business Park
4) Seagate Corporate Center
5) Oceanpointe Multi-Family
6) Ocean Creek
7) The Belvedere Mixed-Use
8) Oceanside Harbor Residential
9) Oceanside Pier Resort
10) South Coast Baptist Church
11) NCTD Mixed-Use
12) Casitas @ Spring Creek
13) Hi Hope Ranch
14) VUSD Magnet School
15) Wilmont Ranch
16) Morro Hills
17) Wannis View Estates
18) Benet Industrial Center
19) Mission San Luis Rey Exp.
20) Deutsch Industrial Addition
21) Z- Market and Deli
22) Airport Auto Center
23) Mission Ave. Afford. Housing
24) Ocean Terrace
25) Murray Bridge Middle School
26) Terraza
27) Carmelo Street Hotel
28) Oceanside Marketplace
29) Harbor View Townhome Project
30) Pelican Homes
31) Prescott Industrial Park
32) Equestrian Facility/Condos

Collectively these projects are forecast to generate 98,820 trips per day. Exhibit 6 illustrates the locations of the projects and the forecast ADT and peak hour volumes associated with them. Adding the cumulative traffic to the existing conditions volumes provides the forecast short-term traffic volumes used in assessing impacts. Exhibit 7 illustrates the existing plus cumulative project volumes.

Project Impact to Surrounding Roadways

Truck traffic, converted to PCE's, was added to existing traffic volumes and to forecast existing plus cumulative traffic volumes to determine the impacts to surrounding roadways associated with the transport of materials from an off-site location. Traffic volumes (with project truck traffic represented in PCE's) for the existing plus project conditions are presented in Exhibits 8 and 9 for the

2-month and 3-month schedules, respectively. Existing plus cumulative plus project volumes are illustrated in Exhibits 10 and 11.

Tables 4 and 5 present the roadway segment levels of service (LOS) for existing and existing plus cumulative conditions without and with the forecast temporary truck traffic. As shown in Tables 4 and 5, all study roadway segments currently operate at acceptable levels of service under existing conditions. The addition of truck traffic associated with the hauling of 459,000 cubic yards of fill material will result in an increase in ADT between 2,118 (3-month schedule) to 3,132 (2-month schedule) PCE trips per day. The analysis for the 2-month and 3-month schedules show that the temporary increase in truck traffic will result in a change in LOS from acceptable (LOS C) to deficient (LOS D) along the segment of El Camino Real from Mesa Drive to Oceanside Boulevard. This impact is forecast to occur during either 2-month or 3-month haul schedules.

Under cumulative conditions, the roadway segment of El Camino Real from Mesa Drive to Oceanside Boulevard is forecast to operate at deficient levels of service (LOS D) without and with the project. The addition of truck traffic associated with either hauling schedule is forecast to result in a significant impact along this segment for both the 2-month and 3-month time periods.

Project Impact to Surrounding Intersections

Tables 6 and 7 summarize the results of the intersection operating conditions during the a.m. peak hour only. It is anticipated that all truck activity will end prior to the p.m. peak. Therefore, a p.m. peak hour analysis was not conducted.

The results of the intersection operating conditions analysis show that the six study intersections currently operate at LOS C or better during the a.m. peak hour without or with the additional truck traffic associated with the hauling activity. No significant impacts are forecast to occur with the addition of truck traffic.

Under cumulative conditions, the results of the intersection operating conditions analysis show that the six study intersections operate at LOS C or better during the a.m. peak hour without or with the additional truck traffic associated with the hauling activity. No significant impacts are forecast to occur with the forecast truck traffic.

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Table 4a
Roadway Segment Level of Service – Existing Conditions
2-Month Haul Schedule (44 Days)

Roadway	Location	Classification (# lanes)	LOS E Capacity	Existing		Existing + Project			
				Daily Volume	LOS	Project Trips*	Daily Volume	LOS	Impact?
Mission Ave	Foussat to El Camino Real	Major (4)	40,000	23,811	A	3,132	26,943	B	-
El Camino Real	Mission Ave. to Mesa Dr.	Major (4)	40,000	21,236	A	3,132	24,368	B	-
	Mesa Dr to Oceanside Bl.	Major (4)	40,000	30,989	C	1,566	**32,555**	**D**	✓
Oceanside Bl.	El Camino Real to Rancho Del Oro Dr.	Prime (6)	60,000	25,588	A	1,566	27,154	A	-
Rancho Del Oro Dr.	Mesa Dr. to Oceanside Bl.	Major (4)	40,000	11,217	A	3,132	14,349	A	-
Mesa Dr.	El Camino Real to Rancho Del Oro Dr.	Secondary (2)	25,000	12,432	A	1,566	13,998	A	-

Table 4b
Roadway Segment Level of Service – Cumulative Conditions
2-Month Haul Schedule (44 Days)

Roadway	Location	Classification (# lanes)	LOS E Capacity	Existing + Cumulative		Existing + Cumulative + Project			
				Daily Volume	LOS	Project Trips*	Daily Volume	LOS	Impact?
Mission Ave	Foussat to El Camino Real	Major (4)	40,000	24,664	B	3,132	27,796	B	-
El Camino Real	Mission Ave. to Mesa Dr.	Major (4)	40,000	24,199	B	3,132	27,331	B	-
	Mesa Dr to Oceanside Bl.	Major (4)	40,000	**33,710**	**D**	1,566	**35,276**	**D**	✓
Oceanside Bl.	El Camino Real to Rancho Del Oro Dr.	Prime (6)	60,000	31,675	A	1,566	33,241	A	-
Rancho Del Oro Dr.	Mesa Dr. to Oceanside Bl.	Major (4)	40,000	18,704	A	3,132	21,836	A	-
Mesa Dr.	El Camino Real to Rancho Del Oro Dr.	Secondary (2)	25,000	14,483	A	1,566	16,049	A	-

Note: *Passenger Car Equivalency (PCE) factor of 3.0 applied. Deficient roadway segment operation shown in **bold**.
(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

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Table 5a
Roadway Segment Level of Service – Existing Conditions
3-Month Haul Schedule (65 Days)

Roadway	Location	Classification (# lanes)	LOS E Capacity	Existing		Existing + Project			
				Daily Volume	LOS	Project Trips*	Daily Volume	LOS	Impact?
Mission Ave	Foussat to El Camino Real	Major (4)	40,000	23,811	A	2,118	25,929	B	-
El Camino Real	Mission Ave. to Mesa Dr.	Major (4)	40,000	21,236	A	2,118	23,354	A	-
	Mesa Dr to Oceanside Bl.	Major (4)	40,000	30,989	C	1,059	**32,048**	**D**	✓
Oceanside Bl.	El Camino Real to Rancho Del Oro Dr.	Prime (6)	60,000	25,588	A	1,059	26,647	A	-
Rancho Del Oro Dr.	Mesa Dr. to Oceanside Bl.	Major (4)	40,000	11,217	A	2,118	13,335	A	-
Mesa Dr.	El Camino Real to Rancho Del Oro Dr.	Secondary (2)	25,000	12,432	A	1,059	13,491	A	-

Table 5b
Roadway Segment Level of Service – Cumulative Conditions
3-Month Haul Schedule (65 Days)

Roadway	Location	Classification (# lanes)	LOS E Capacity	Existing + Cumulative		Existing + Cumulative + Project			
				Daily Volume	LOS	Project Trips*	Daily Volume	LOS	Impact?
Mission Ave	Foussat to El Camino Real	Major (4)	40,000	24,664	B	2,118	26,782	B	-
El Camino Real	Mission Ave. to Mesa Dr.	Major (4)	40,000	24,199	B	2,118	26,317	B	-
	Mesa Dr to Oceanside Bl.	Major (4)	40,000	**33,710**	**D**	1,059	**34,769**	**D**	✓
Oceanside Bl.	El Camino Real to Rancho Del Oro Dr.	Prime (6)	60,000	31,675	A	1,059	32,734	A	-
Rancho Del Oro Dr.	Mesa Dr. to Oceanside Bl.	Major (4)	40,000	18,704	A	2,118	20,822	A	-
Mesa Dr.	El Camino Real to Rancho Del Oro Dr.	Secondary (2)	25,000	14,483	A	1,059	15,542	A	-

Note: *Passenger Car Equivalency (PCE) factor of 3.0 applied. Deficient roadway segment operation shown in **bold**.
(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

Table 6
A.M. Peak Hour Intersection Levels of Service
Existing Conditions

Intersection	Existing AM		Existing + Project					
			Existing + 2 Months		Change in V/C	Ex + 3 Months		Change in V/C
	Delay	LOS	Delay	LOS		Delay	LOS	
Mission Ave / Project Access C	1.2	A	10.7	B	9.5	7.5	A	6.3
Mission Ave / El Camino Real	28.6	C	29.8	C	1.2	29.4	C	0.8
El Camino Real / Mesa Drive	27.4	C	30.0	C	2.6	28.6	C	1.2
El Camino Real / Oceanside Blvd	27.9	C	28.3	C	0.4	28.0	C	0.1
Rancho Del Oro / Oceanside Blvd	24.0	C	26.4	C	2.4	25.4	C	1.4
Rancho Del Oro / Mesa Drive	25.5	C	26.6	C	1.1	27.0	C	1.5

Table 7
A.M. Peak Hour Intersection Levels of Service
Cumulative Conditions

Intersection	Existing + Cumulative AM		100 % El Corazon					
			Ex + Cum + 2 Months		Change in V/C	Ex + Cum + 3 Months		Change in V/C
	Delay	LOS	Delay	LOS		Delay	LOS	
Mission Ave / Project Access C	1.2	A	10.2	B	9.0	7.1	A	5.9
Mission Ave / El Camino Real	29.4	C	30.6	C	1.2	30.2	C	0.8
El Camino Real / Mesa Drive	30.6	C	34.7	C	4.1	33.1	C	2.5
El Camino Real / Oceanside Blvd	31.5	C	31.6	C	0.1	31.5	C	0.0
Rancho Del Oro / Oceanside Blvd	28.5	C	28.5	C	0.0	28.5	C	0.0
Rancho Del Oro / Mesa Drive	31.5	C	33.1	C	1.6	32.4	C	0.9

Project Impact on Pedestrians, Bicycles, and Transit

The introduction of trucks on the roadway network will not impact the location of or functionality of existing transit stops within the study area.

Likewise, all sidewalks and crosswalks will remain accessible during construction activities. Due to increased traffic volumes at intersections, pedestrian wait times may increase at controlled intersections as a result of longer cycle lengths and/or green times.

Bicycle activity is permitted along SR-76 and Mission Avenue. The project will not prohibit or interfere with current vehicle or bicycle activities along either of the haul route alternatives.

Extension of Haul Route Activity

To minimize the impacts on the roadways, hauling between El Corazon and the Oceanside Pavilion project site could occur over an extended period of time (7:30 a.m. – 4:00 p.m.) and by increasing the number of working days to include Saturdays.

Increasing the duration of hauling hours would result in either a decrease in the number of trucks hauling materials per hour or the number of weeks vehicles would haul material. For instance, if working hours were extended by one hour per day, this would result in 14 to 18 less truck trips per hour or a reduction in haul activity by one week. Extending working hours by an additional two hours, thereby consisting of a nine-hour workday, would result in a decrease of 22 to 34 less truck trips per hour or a reduction in haul duration of two weeks.

In addition, allowing trucks to haul materials on Saturdays should be considered. Extending the number of working days per week to include weekends would reduce the total duration of hauling activities. By allowing hauling on Saturdays, the two-month haul schedule would be reduced from 44 days to 36 days. Extending the workday by one hour per day would further shorten the haul schedule by one week. To minimize the length of time the haul route activity will impact the surrounding communities for both noise and traffic, it is recommended that the haul route activity be allowed to occur for a minimum of eight hours per day (7:30 a.m. – 3:30 p.m.) and on Saturdays. This would result in a total haul duration of approximately 44 days that would occur over a one and a half month period.

Summary

Truck traffic related to the import of fill material will be a temporary condition and is not anticipated to significantly impact any of the study intersections under either proposed 2- or 3-month, seven-hour per day transport schedule. Under short-term conditions, the hauling of 459,000 cubic yards of fill material is forecast to significantly impact the roadway segment of El Camino Real from Mesa Drive to Oceanside Boulevard under the 2- and 3-month haul schedules. This segment of El Camino Real is forecast to operate deficiently under cumulative conditions without and with the addition of haul route activity related to the Pavilion project. This is a short term, unmitigated impact.

Analysis of the study intersections for the a.m. peak period shows that the impacts of the 51 to 75 inbound and outbound trucks during the a.m. peak will have less than a significant impact on existing and cumulative operations. Truck traffic should subside daily prior to 4:00 p.m. so as to not impact the operations along the roadways during the p.m. peak.

It is possible that some of the hauling materials may come from sources other than El Corazon. If so, trucks would most likely travel along SR-76 and access the project site at the intersection

of SR-76 and Foussat Road. The Oceanside Pavilion Traffic Impact Analysis evaluated this intersection under Existing, Cumulative and Horizon Year 2030 conditions. The intersection is currently operating at acceptable levels of service and no significant impacts were identified with the addition of project trips to any study scenario. Since the volume of Oceanside Pavilion project trips (32,175 daily trips) is greater than the volume forecasted in this truck haul study, the intersection is expected to continue to operate at acceptable levels of service with the addition of truck trips. Furthermore, hauling some of the materials from other sources would reduce the impacts and amount of trips on the roadways and intersections identified in this letter.

The City of Oceanside has planned roadway improvements for segments of El Camino Real and Rancho Del Oro Drive, which are expected to be completed in the year 2008. Therefore, per City staff direction, it is recommended that the project applicant be responsible for videotaping roadway conditions prior to and after truck activities are completed for Oceanside Pavilion. The recording of roadway conditions before and after hauling activities will serve as documentation to any damage possibly caused by the trucks. In addition, truck drivers will maintain daily logs of roadway conditions and report damages greater than normal wear and tear of the roadways. Roadway damage incurred by the Pavilion truck hauling activities will be the responsibility of the project applicant. However, since El Camino Real is designated as a truck route by the City of Oceanside, normal wear and tear and damages unrelated to Oceanside Pavilion will not be the responsibility of the project applicant.

In addition, it is recommended that all queuing and stacking of haul trucks be managed on-site to minimize impacts on public roads. This may require an extension of the driveways and stacking area for the trucks on El Corazon and the project site.

The addition of truck traffic associated with the hauling of materials to the site will not adversely impact pedestrians, bicycles or transit operations. Pedestrians and bicycles may experience a temporary increase in wait time to cross at controlled intersections due to increased traffic volumes.

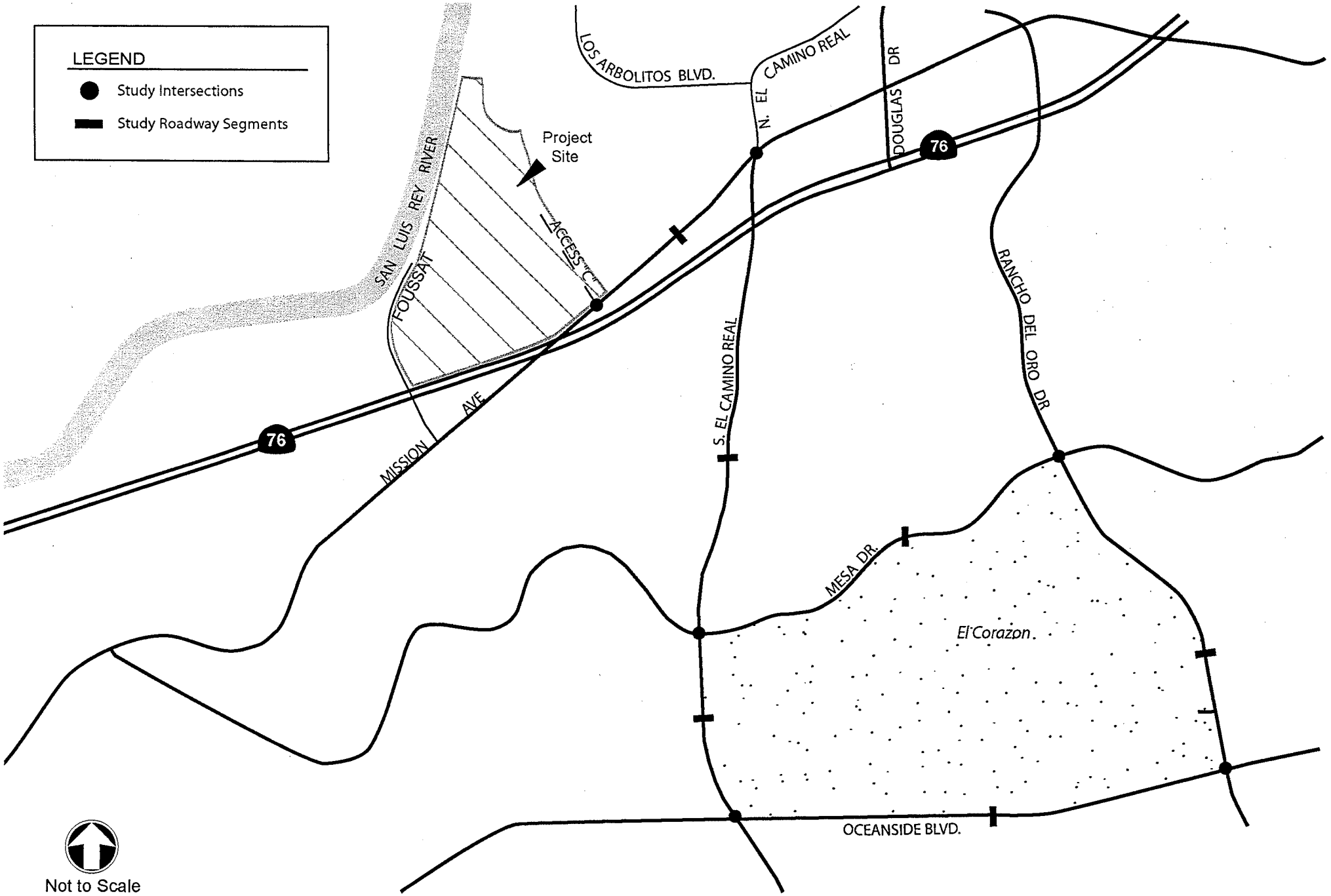
To minimize the length of time the haul route activity will impact the surrounding communities for both noise and traffic, it is recommended that the haul route activity be allowed to occur for a minimum of eight hours per day (7:30 a.m. – 3:30 p.m.) and on Saturdays. This would result in a total haul duration of approximately 44 days that would occur over a one and a half month period.

If you have any questions, please call me at (760) 603-6246.

Sincerely,

Dawn Wilson, P.E.
Project Manager
Transportation Services

Attachments:
Supporting Exhibits (1-11)
Traffic Count Worksheets
Level of Service Worksheets



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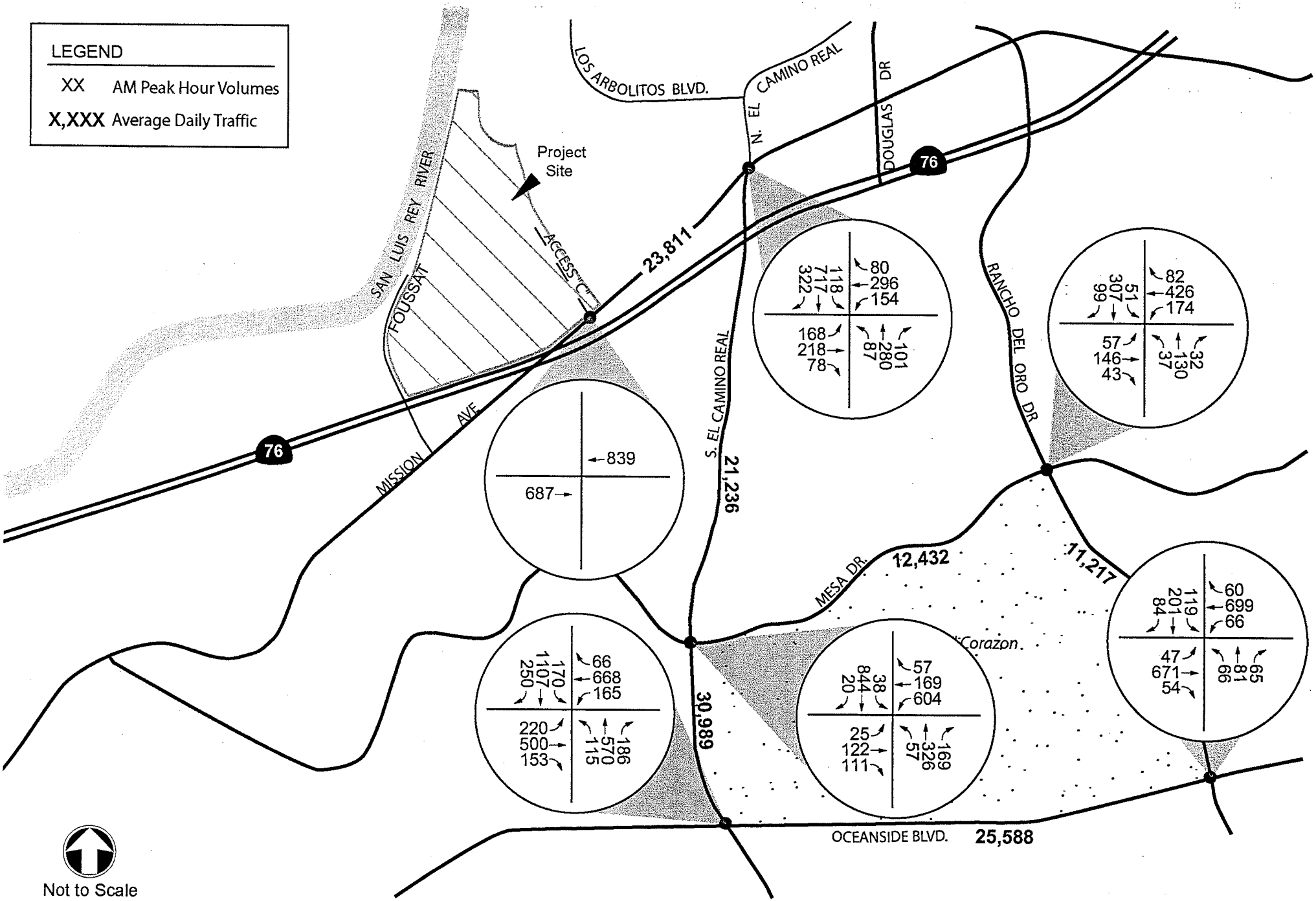
PROJECT LOCATION

Exhibit 1



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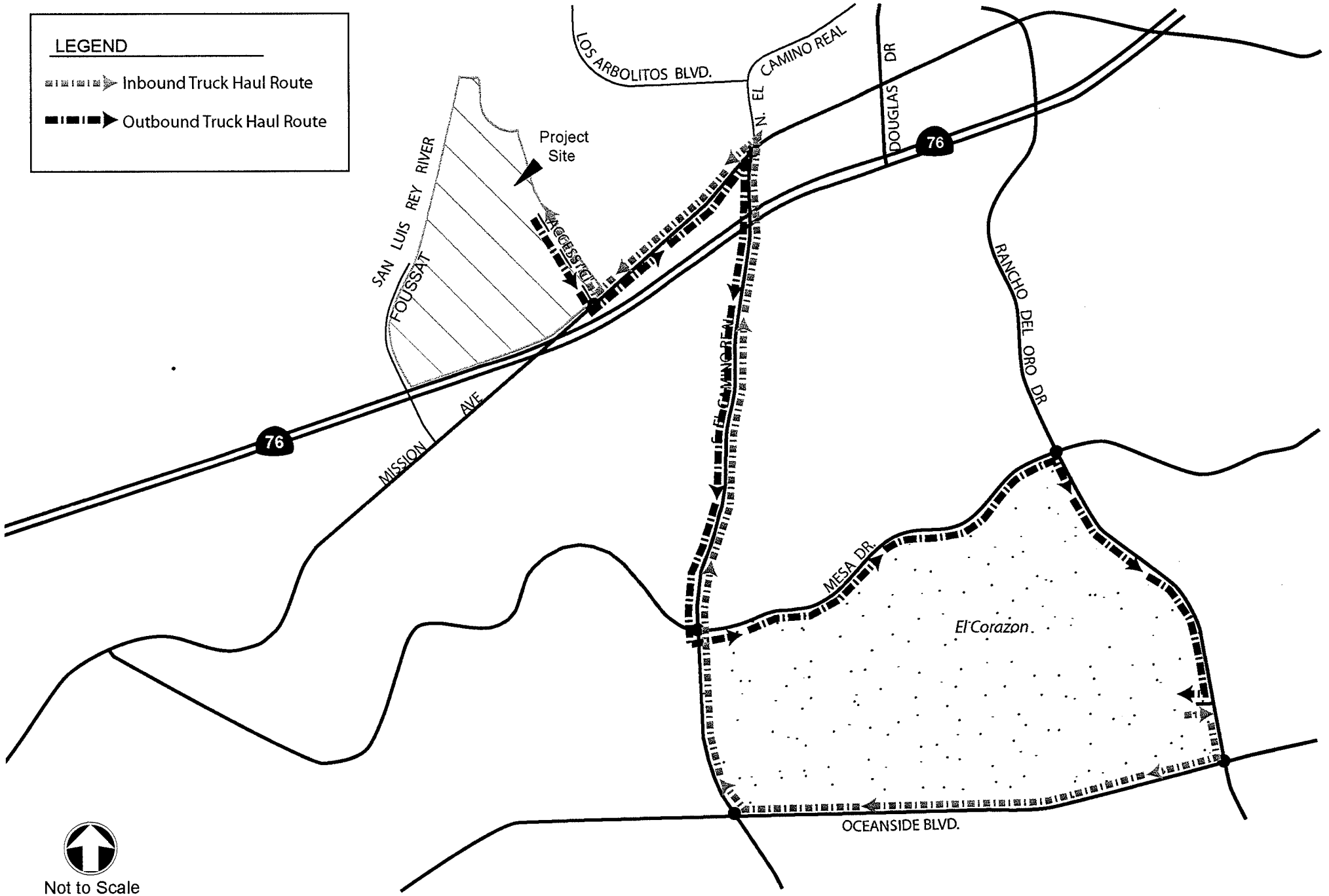
EXISTING PEAK HOUR & DAILY VOLUMES

Exhibit 2



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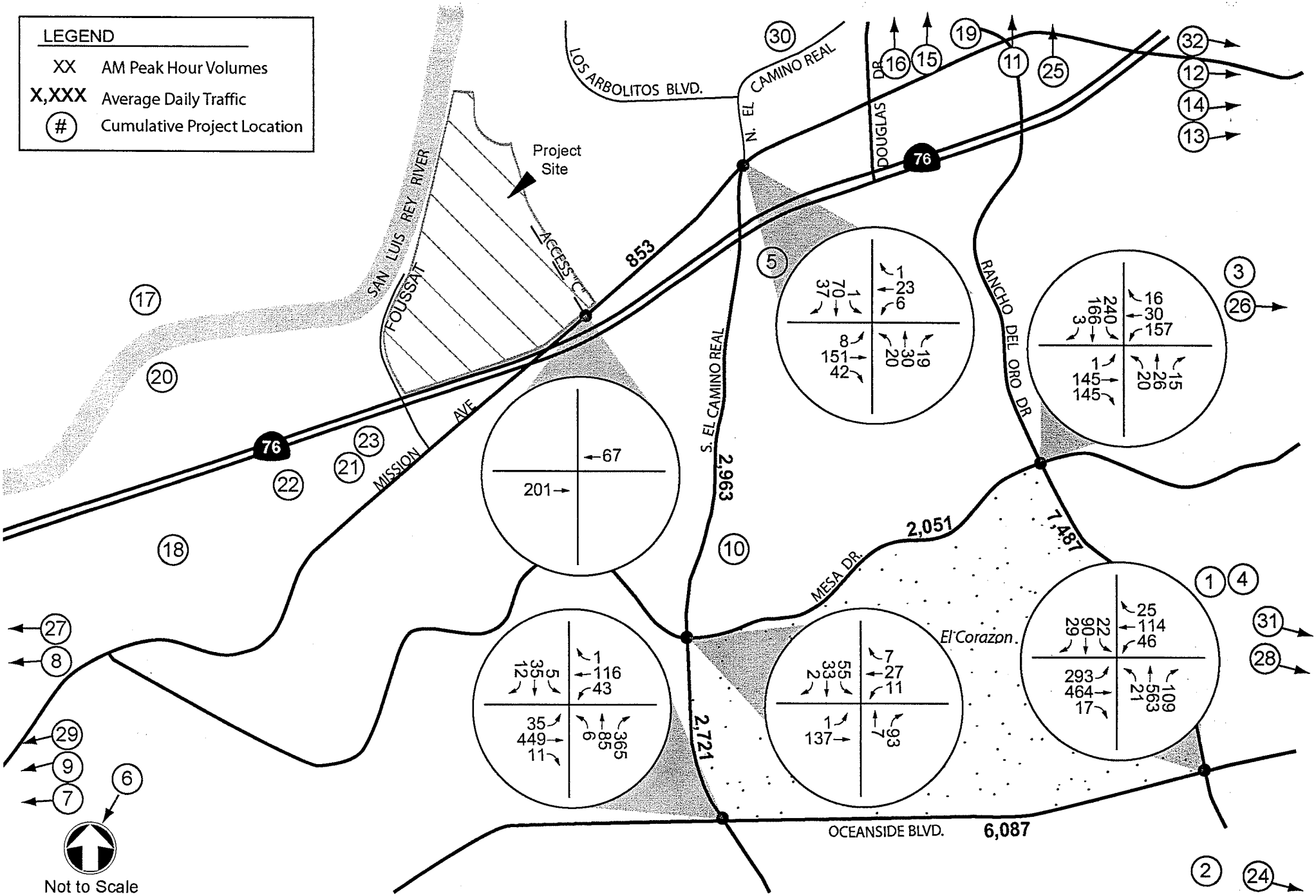
PROPOSED HAUL ROUTES

Exhibit 3



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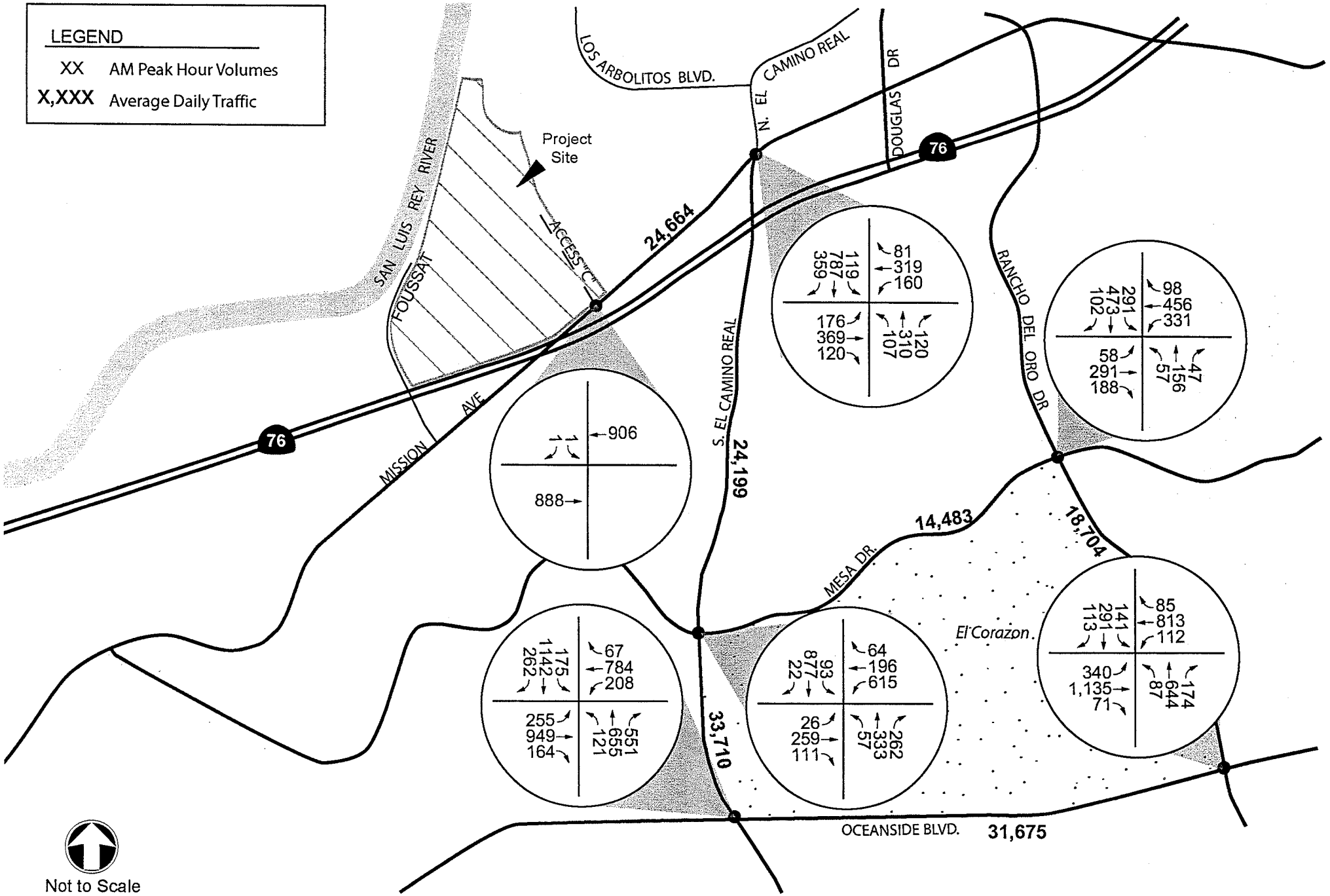
CUMULATIVE PROJECT LOCATIONS & VOLUMES

Exhibit 6



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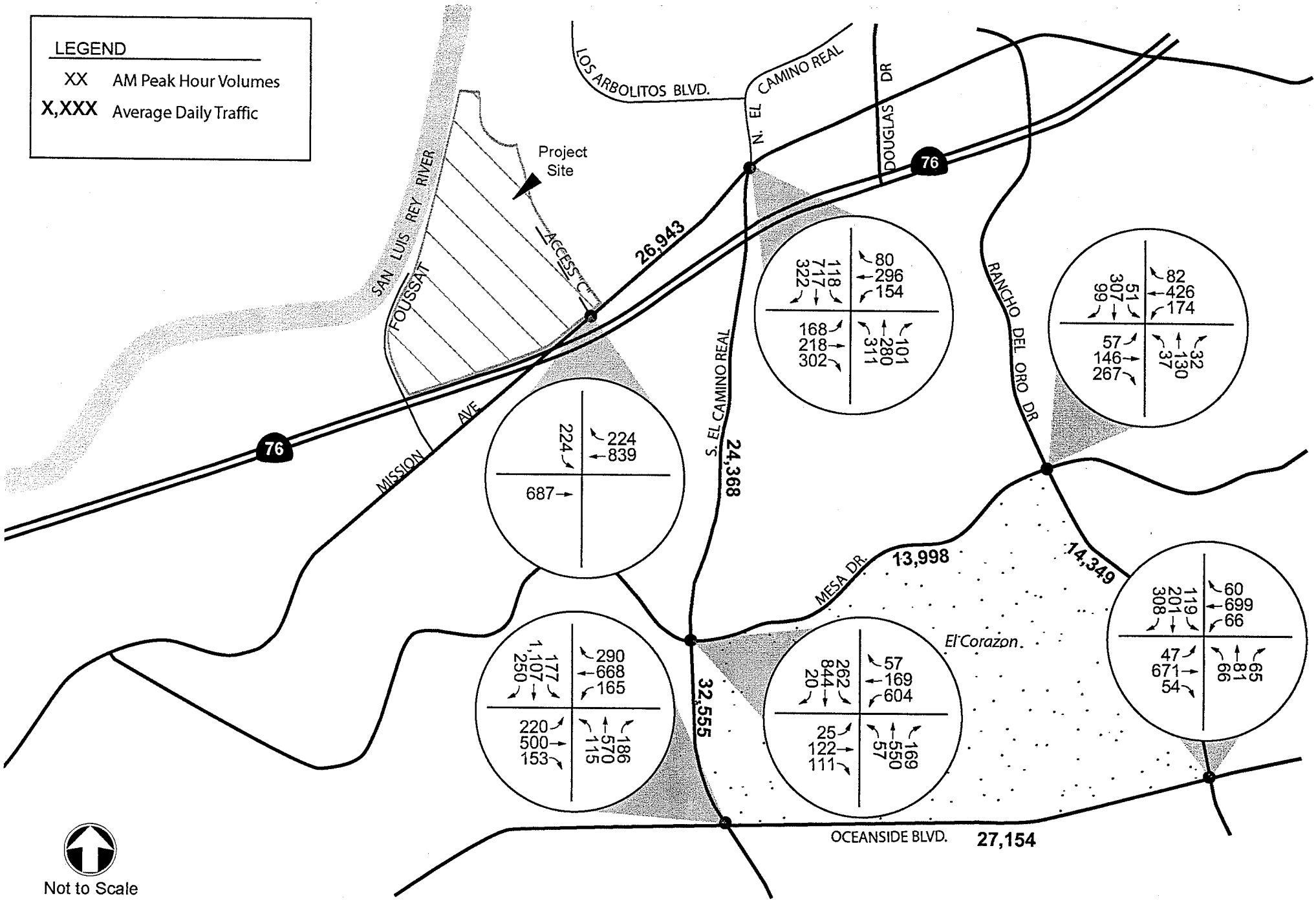
EXISTING PLUS CUMULATIVE PEAK HOUR & DAILY VOLUMES

Exhibit 7



EXISTING PLUS PROJECT PEAK HOUR & DAILY VOLUMES:
2-MONTH HAUL SCHEDULE (44 DAYS)

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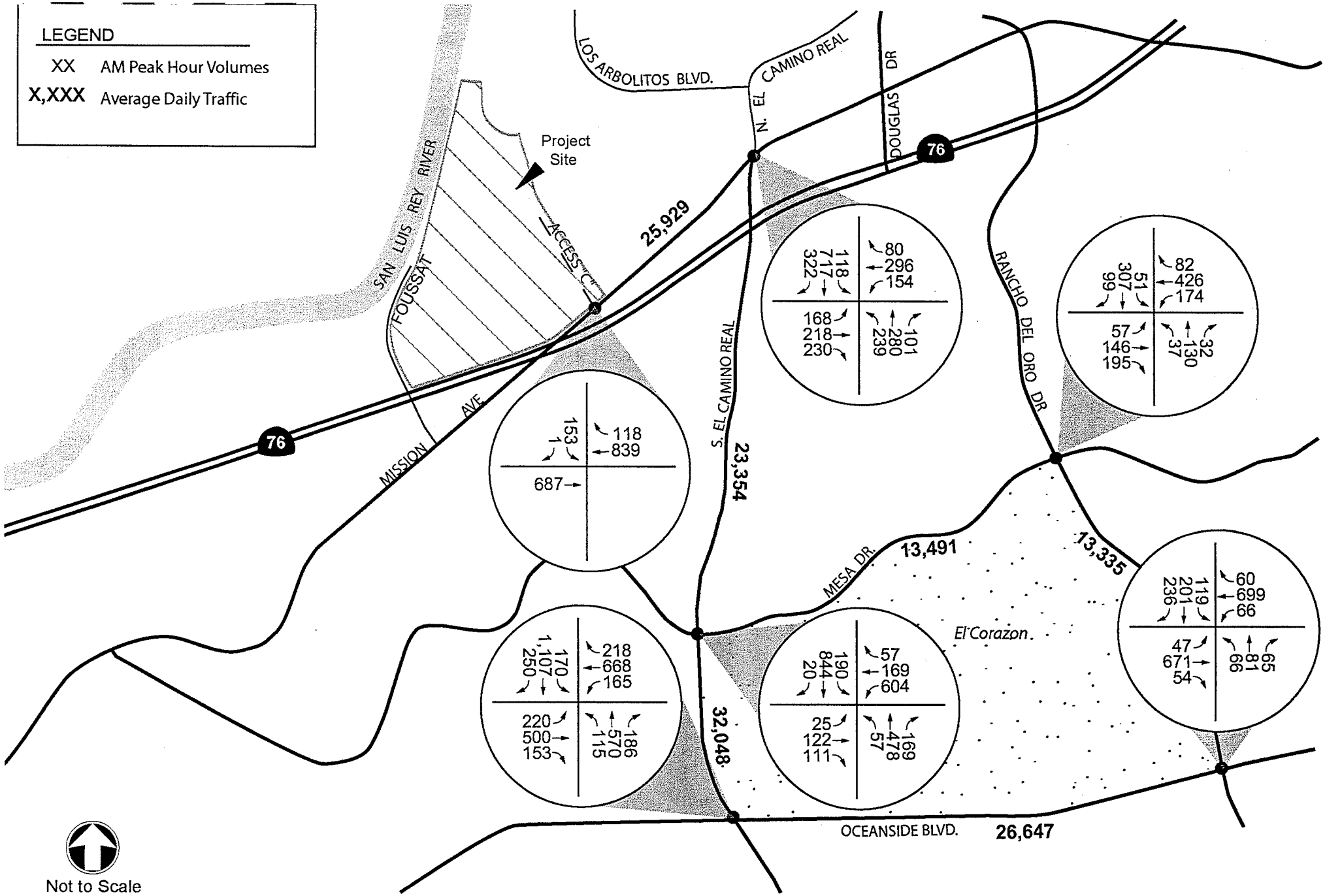
Exhibit 8



Not to Scale

EXISTING PLUS PROJECT PEAK HOUR & DAILY VOLUMES:
3-MONTH HAUL SCHEDULE (65 DAYS)

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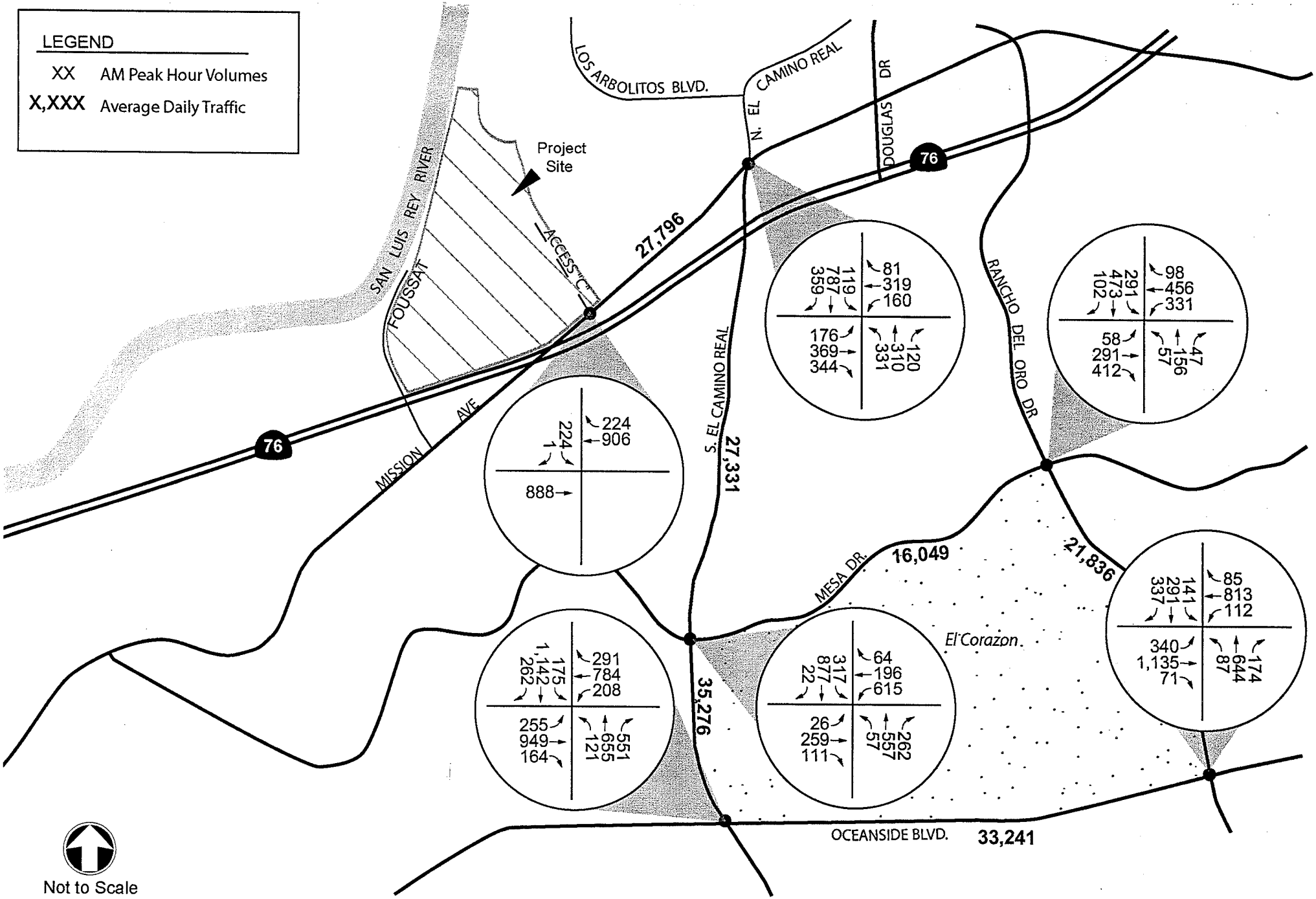
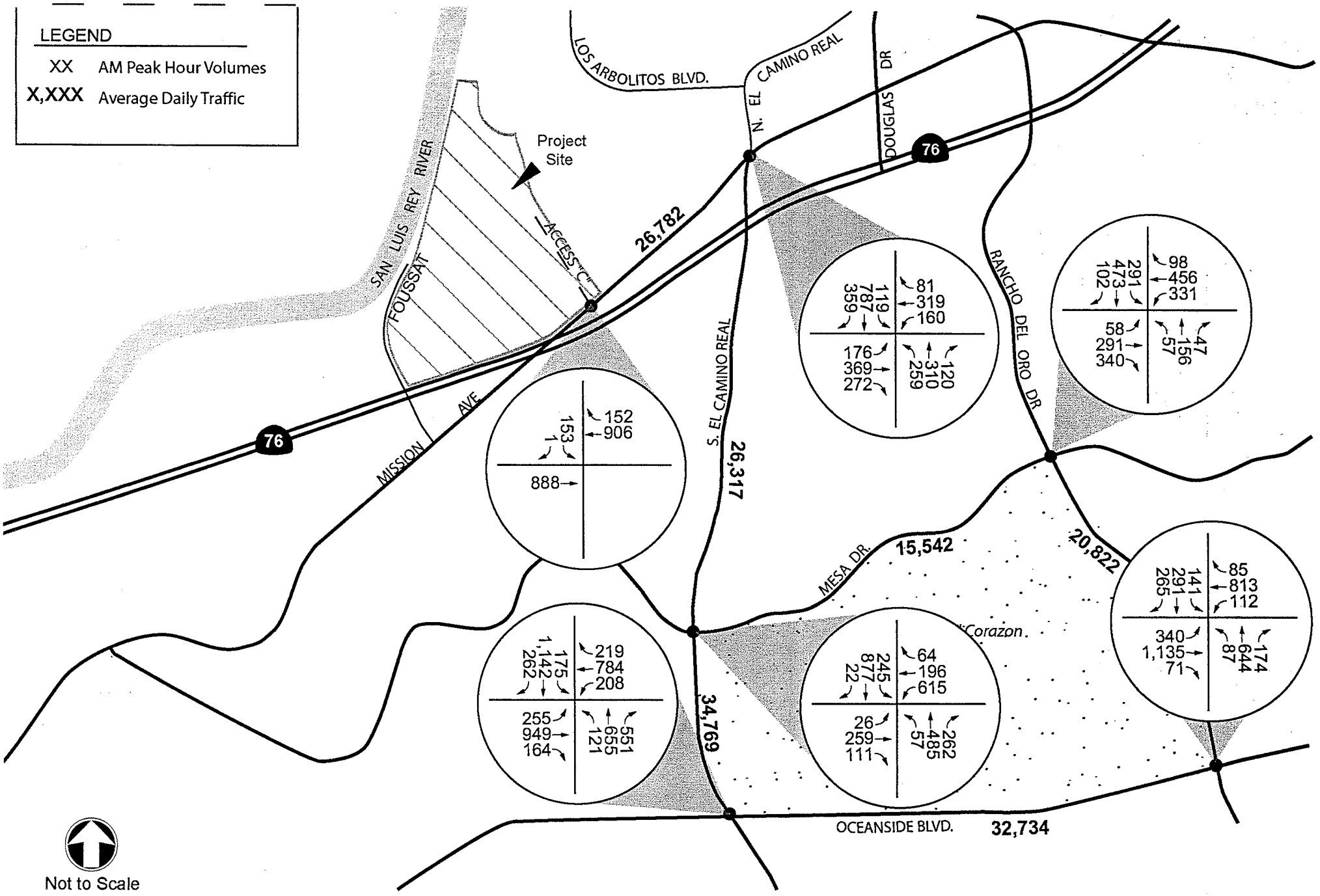
Exhibit 9



EXISTING PLUS CUMULATIVE PLUS PROJECT PEAK HOUR & DAILY VOLUMES:
2-MONTH HAUL SCHEDULE (44 DAYS)

JN 55-100224.002 DECEMBER 2007

Exhibit 10



EXISTING PLUS CUMULATIVE PLUS PROJECT PEAK HOUR & DAILY VOLUMES:
3-MONTH HAUL SCHEDULE (65 DAYS)

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Exhibit 11

Note:

Haul route worksheets are on file in a separate technical appendix at the City of Oceanside's Planning Division and may be reviewed at that location during normal business hours.