COMMENTS	RESPONSES
Comment Letter O3b **Transportation & Traffic Impact Analysis Report** **Neal K. Liddicoat, P.E., Traffic Engineering Manager,** **MRO Engineers Inc.** # EXHIBIT A	

COMMENTS	RESPONSES

Comment Letter O3b

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June 2, 2017

Ms. Carmen Borg
Shute, Mihaly & Weinberger LLP
396 Hayes Street
San Francisco, California 94102

Subject: ***Review of Transportation/Traffic Impact Analysis***
Harmony Grove Village South
San Diego County, California

Dear Ms. Borg:

As requested, MRO Engineers, Inc., (MRO) has completed a review of the "Transportation/Traffic" analysis completed with respect to the proposed Harmony Grove Village South project in San Diego County, California. The proposed project is the subject of an April 2017 Draft Environmental Impact Report (DEIR) prepared by HELIX Environmental Planning, Inc. The DEIR incorporates (as Appendix D) a traffic impact analysis prepared by Linscott, Law & Greenspan, Engineers (LLG). (Reference: Linscott, Law & Greenspan, *Traffic Impact Analysis – Harmony Grove Village South*, April 6, 2017.)

Our review focused on the technical adequacy of the "Transportation/Traffic" analysis, including the detailed procedures and conclusions documented in the LLG report.

O3b-1

TRANSPORTATION/TRAFFIC ANALYSIS REVIEW

Our review of the traffic impact analysis for the proposed Harmony Grove Village South project revealed several issues that must be addressed prior to certification of the environmental document and approval of the project by the County of San Diego. These issues are presented below.

1. ***Emergency Access*** – The DEIR describes in some detail an existing public safety issue in the study area. In particular, DEIR p. 1-2 states:

> *Country Club Drive provides the only public access for existing and future residents and property uses south of the Escondido Creek. The existing "Arizona crossing" . . . exhibits several ongoing problems. When the creek floods, flood waters have historically been high enough that existing residents south of the creek cannot cross it, resulting in concerns regarding the ability to provide emergency services during such events. Similarly, during wildfire (or other emergency) evacuation events, the two-lane crossing provides substantial logistical challenges to providing emergency vehicle access while evacuating residents and large animals from the area.*

Despite the potentially life-threatening situation described above, which would be exacerbated significantly through the construction of an additional 453 residential units, the DEIR is unclear as to whether the proposed project will remedy this situation through the construction of a bridge at the creek crossing.

For example, DEIR p. 1-2 also says:

O3b-2

Response to Comment O3b-1

The issues presented in this summary comment are responded to in Response to Comment O3b-2 through Response to Comment O3b-23.

Response to Comment O3b-2

There is no uncertainty with respect to the Escondido Creek bridge crossing being an essential element of the Project's circulation design. Section 1.2.2.1 of the EIR described the Project's circulation improvements to include improvements to the Harmony Grove Road and Country Club Drive intersection; crossing of Escondido Creek on a bridge; and trail, road, and sidewalk amenities. The EIR assumed a conservative bridge footprint that encompassed the full extent of the anticipated County bridge design to ensure that all potential environmental impacts were thoroughly evaluated in this EIR. Project technical studies assume bridge implementation as a critical design element to be both assessed and relied upon (e.g., see, variously, the biological resources, noise, aesthetics, air quality, and hydrology studies). At the time of the Notice of Preparation (NOP) issuance of the Project's EIR, the County was contemplating construction of this crossing as a future capital improvement plan (CIP) project. The EIR therefore also ensured that if the County Department of Public Works (DPW) were to construct the bride crossing prior to the development of the Project, the Applicant would pay its fair share contribution with respect to this improvement. Likewise, if another developer were to construct the bridge crossing, the Applicant would do the same. In any event the EIR has been amended to clarify that the bridge crossing is a Project feature, as shown on the Project vesting tentative map (VTM).

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 **Comment Letter O3b** *Ms. Carmen Borg* *June 2, 2017* *Page 2* *Separate from the Proposed Project, the County Department of Public Works (DPW) has been reviewing potential implementation of a bridge at this location.* This suggests that, not only will the Proposed Project not be constructing the bridge, but that the County is still far short of being prepared to do so. On the other hand, DEIR p. 1-4 describes one of the "Project Themes" as: *Circulation improvements that would benefit the entire Harmony Grove community located south of Harmony Grove Road (including . . . crossing of Escondido Creek on a bridge . . .* This suggests that the Proposed Project will construct the bridge, but DEIR p. 1-6 says: *The Project would contribute to or participate in implementation of County plans to improve the connection over Escondido Creek by improving the existing substandard "Arizona" crossing with a bridge . . .* That paragraph goes on to list the benefits of the bridge project, including (as the last item presented) improvements to emergency evacuation conditions and emergency vehicle access. Finally, DEIR p. 1-18 says: *In the event of construction of the bridge by others, the Project would make fair share contributions to bridge improvements.* This apparent uncertainty regarding the proposed project's involvement in construction of the badly-needed bridge must be resolved. More to the point, the proposed project must be required to construct the bridge (with the possibility of partial reimbursement for costs beyond the project's fair share as other development projects are approved). Absent construction of the bridge, the proposed project would result in a previously-unrevealed significant impact relating to "Traffic Hazards Due to an Existing Transportation Design Feature," particularly with respect to the following significance factor (as presented at DEIR p. 2.2-14): 9. *Design features/physical configurations of access roads may adversely affect the safe movement of all users along the roadway.* The DEIR also describes improvements to Country Club Drive that are proposed in connection with the project. (DEIR p. 1-17) Specifically, that road will be widened from the existing two-lane cross section to three lanes from Harmony Grove Road to just west of the southern project access road (i.e., Private Drive C). The proposed three-lane, 38-foot-wide cross section will provide one travel lane in each direction plus a center turn lane. As described at DEIR p. 1-17: *The center lane would provide opportunities for southbound left turns at the Project entrances (to take slowing cars out of the through lanes), and, as an ancillary benefit, could be converted to a through lane for its total length in an emergency evacuation scenario. South of the southern Project entrance north of Cordrey Drive, the improved road would transition back to the existing two-lane configuration . . .* O3b-2 O3b-3	**Response to Comment O3b-3** The requirement for the Project to construct a bridge over Escondido Creek is ensured; please refer to Response to Comment O3b-2. Evacuations are fluid events and the incident command, law enforcement, and County Office of Emergency Services (OES) would jointly enact evacuations based on fire behavior. The Project will work with evacuation coordinators at the San Diego County OES and San Diego Sheriff's offices. As pointed out in the Fire Protection Plan (FPP), a key to any evacuation of a large number of people is controlling the intersections downstream of the evacuating population. To that end, evacuation routes available to Harmony Grove Village South (HGV South) will be identified and prioritized and key intersections mapped and shared with OES and the Sheriff's office. Integration of this information into pre-planned evacuation scenarios will assist these agencies in mobilizing the necessary number of officers to control these key intersections for movement of HGV South residents during an emergency situation. The Wildfire Safety Assessment (WSA) identified four routes of escape that exist for evacuation from the Proposed Project site; two with strong viability. Country Club Drive and Harmony Grove Village Parkway were determined to offer good escape alternatives. (The WSA is incorporated herein and available for the public on the County's website for the project at http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/hgvs/Harmony%20Grove%20Village%20South%20Public%20Review/HARMONY%20GROVE%20SOUTH%20WILDFIRE%20RISK%20ANALYSIS.pdf.) The WSA also determined that shelter-in-place would be a viable option should there be threats along evacuation routes. With respect to the comment raised regarding the adequate roadway capacity of Country Club Drive to evacuate all residents and their animals, the following response is presented. In an evacuation scenario, it is assumed that drivers would not make multiple trips to and from their homes as is considered when ADT is calculated. Instead, the number of trips per unit would be one-way (outbound only), and would be determined by the number of vehicles present on the site, and the number of drivers available to operate them. The existing homes in the vicinity are on large lots, and may have sufficient square footages

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	that allow for larger households (including more drivers). Therefore, it could be assumed that on average there would be four vehicles/unit. By contrast, the Project will construct smaller units on smaller lots; therefore, an estimate of three vehicles/unit is made. It is estimated that there are approximately 50 dwelling units within the vicinity along both roadways. Were all 50 existing lots to evacuate, this would result in 200 vehicles. Were all 450 Project lots to evacuate, this would result in 1,350 vehicles. Together, both existing plus Project units could generate 1,550 outbound vehicle trips. These outbound trips would likely occur over a period of several hours, depending on the evacuation event. Roadway capacity is generally described in terms of daily capacity (over 24-hours), or hourly capacity. Since evacuation events occur within hours, the latter is the most appropriate capacity to consider. The Highway Capacity Manual (HCM) contains the published methodology used by jurisdictions, including the County of San Diego, to analyze traffic operations. The HCM generally ascribes an hourly capacity to a single lane of traffic of 1,900 passenger cars/hour (Chapter 16, Urban Street Facilities). The Project proposes to construct Country Club Drive with a three-lane cross section such that the striped median could be used as a lane. Thus, the two lanes, each with 1,900 passenger cars/hour capacity, would provide a combined hourly capacity of 3,800 passenger cars. The County of San Diego has no published methods for evaluating roadway volume or capacity during an evacuation event. Using engineering judgment, the worst-case volume estimated for the evacuation of approximately 50 existing units plus the approximately 450 proposed units is 1,550 outbound vehicles/hour. The roadway capacity for two outbound lanes (one standard lane + one median) is calculated at 3,800 vehicles/ hour. This would indicate that the roadway as proposed would have more than sufficient capacity to accommodate peak outbound traffic during an evacuation event, without compromising counter flow capacity needed to serve inbound safety service vehicles such as fire-trucks or ambulances.

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	Finally, the County disagrees that the ability of the residents living beyond the Project would be constrained because Country Club Drive widening would terminate at the Project's western boundary and there would be increased traffic from the Project. The residents living south and west of the Project will still have the existing two-lane road that accesses their properties and currently serves existing traffic. The Project will improve Country Club Drive north of that point to three-lanes as required by M-TR-1a and 1b (EIR Section 2.2.6), to serve both existing residents and future Project traffic. The Project will also incorporate an appropriate transition from three to two lanes southwest of the southernmost Project entry, as depicted on Figure 1-14b of the EIR. For more discussion of each of these items, as well as large animal evacuation, please see the Global Response to Adequacy of Emergency Evacuation and Access.

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Consideration of this proposed improvement reveals two issues that have not been adequately addressed in the DEIR. The first issue concerns the possibility of an emergency (such as a wildfire) between the proposed project site and Harmony Grove Road. In such a case, access to the regional road system would be eliminated for all residents south of the location of the emergency, and not just residents of the proposed project, as Country Club Drive connects only to Harmony Grove Road; it has no other connections to the regional road system.

The second issue relates to the safety of residents living beyond the project site (i.e., farther from Harmony Grove Road). Because the proposed Country Club Drive widening project would terminate at approximately the proposed project's western boundary, residents living beyond that point will receive no benefit from the road improvements; their ability to evacuate safely will be severely constrained by the existing 20-foot-wide road. Furthermore, they will now have to contend with the traffic associated with the residents of an additional 453 homes, which is substantially more than would be allowed under current land use designations.

A credible analysis must be provided to demonstrate that adequate road capacity will be available to accommodate emergency vehicle access in combination with an emergency evacuation of all residents and animals located along Country Club Drive and connecting roadways such as Cordrey Drive, Cordrey Lane, Hillside Road, etc..

O3b-3

2. ***Obsolete Traffic Volume Data*** – DEIR p. 2.2-4 and LLG p. 12 state that the traffic volume data used in the analysis was collected in February and June 2014, about three years ago. This is a violation of San Diego County policy. Specifically, page 1 of the document entitled, *County of San Diego Report Format & Content Requirements – Transportation and Traffic* (Reference: County of San Diego, Land Use and Environment Group, Second Modification, August 24, 2011) states:

> *Documentation of the existing traffic volumes, levels of service, and geometrics for roads and intersections that may be potentially impacted by the proposed project must be provided.* ***This assessment is typically based upon traffic counts that are less than two years old****, unless it can be demonstrated that traffic volumes have not significantly changed since prior counts were taken.* [Emphasis added]

Furthermore, this is contrary to accepted practice within the traffic engineering profession. Page 19 of the 2006 Institute of Transportation Engineers (ITE) document, *Transportation Impact Analyses for Site Development*, specifically states that:

> *. . . traffic volume data should generally be no older than 1 year.*

In addition, LLG p. 12 says:

> *Freeway volumes were taken from the most recent Caltrans Performance Management System (PeMS) data. The PeMS software distributes real-time peak hour and average daily traffic volumes and provides a graphical representation of volumes at each PeMS station location.*

Appendix B to the LLG report provides the traffic volume data, including the Caltrans PeMS data sheets. Attachment A to this letter presents the Caltrans PeMS data from the LLG report. As shown there, the State Route 78 (SR 78) freeway volumes used in the analysis are from October 11, 2011, over 5½ years ago. Also shown in Attachment A is Table 6-3 from the LLG report, which verifies that the freeway volumes used in the analysis of existing conditions

O3b-4

Response to Comment O3b-4

The comment asserts that the baseline traffic volumes used in the EIR traffic study analysis are "obsolete" and violate County of San Diego "policy," as well as "accepted practice within the traffic engineering profession." The comment goes on to cite specific passages from the County of San Diego's *Report Format and Content Requirements – Transportation and Traffic* document ("County's Traffic Guidelines"), as well as the ITE's *Transportation Impact Analyses for Site Development* as evidence of these policies and violations. The citations themselves are contrary to the comment's assertion that that there are policy violations. For example, with respect to the cited County requirements, the commenter's emphasis is that an assessment "…is typically based upon traffic counts that are less than two years old unless it can be demonstrated that traffic volumes have not significantly changed since prior counts were taken."

As stated in the citation, the County's Traffic Guidelines allow for use of traffic counts that are more than two years old if it can be demonstrated that traffic volumes have not significantly changed since prior counts were taken. The County's Traffic Guidelines also clearly state that "These are intended to serve as a guideline and are not intended to replace sound traffic engineering judgment." In fact, the standard of practice in the County is to assess the validity of existing or baseline counts as time passes with project processing. It is important to note that neither of the reviewing agencies with jurisdiction over traffic issues (City of Escondido, Caltrans) had comments about the age of the counts on the EIR traffic study.

Similarly, the ITE document is neither a policy nor a guideline used by the County for the purposes of assessing validity of existing traffic volumes. Again, the commenter's own citation "…*traffic volume data should generally be no older than 1 year*" would mean that the validity of existing or baseline counts is based on sound traffic engineering judgment and the circumstances at hand.

The County disagrees that local policies or national practices have been violated. Lead agencies always retain the ability to tailor analytical data specific to the project. In fact, the modeling for this Project was very conservative, in that all traffic loading for Harmony Grove Village (HGV)

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	buildout was assumed as part of the existing condition (because physical, on-the-ground improvements were already underway, ignoring associated HGV traffic would have resulted in misleading analyses regarding road capacity without this balance). Please see the Global Response to Baseline Conditions. Project modeling, therefore, resulted in a conservative assessment as discussed below. The Project's traffic consultant, LLG, was commissioned to take validation counts on all 14 street segments in the study area analyzed in the EIR traffic study (see Attachment A to the final TIA) to determine if existing counts are higher or lower than the baseline counts used in the EIR traffic study, upon which the Project impacts are based. These counts included the six segments in the City of Escondido, and the eight segments in the County of San Diego. The 24-hour average daily traffic (ADT) counts were conducted on Thursday, October 5, 2017, when local schools were in session. The results showed that as compared to the baseline traffic counts used in the EIR traffic analysis, the 2017 counts are lower on 11 of the 14 roadway segments (see Attachment A to the final TIA). Throughout the study area, the average reduction in traffic between 2017 validation counts as compared to the EIR traffic study counts is -23 percent. For the three segments that were observed to have higher traffic in 2017, the maximum increase was 10 percent (on one segment) with the other two segments being higher by 4 percent and 8 percent. It is noted that these counts are a snapshot in time. A general guideline used by traffic engineers is that traffic volumes on a given roadway can vary day-to-day by as much as 10 percent, which would be within the margin of error, and therefore within expected variation. In the context of a validation comparison, a 10 percent increase on 1 of 14 segments would not indicate that the baseline volumes were obsolete, especially with an overall average reduction throughout the study area of -23 percent. Thus, the baseline volumes remain valid as compared to existing 2017 data, and the corresponding analysis results also remain conservative. The comment also suggests that the SR-78 freeway mainline volumes utilized in the report are outdated as they were from 2011. A 2017 validation count was

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	completed in October 2017 at the locations analyzed in the EIR traffic study, east and west of the Nordahl Road interchange, using Caltrans Performance Measurement System (PeMS) data. A comparison of the daily freeway volumes on the SR-78 sections analyzed in the report show a decrease of 8 percent on one segment and an increase of 6 percent on another. Again, this may be accounted for by daily variations in traffic volumes. See Attachment B to the final TIA, which shows a comparative summary of the EIR traffic study volumes and 2017 freeway volumes obtained from Caltrans (PeMS). It can therefore be concluded that the analysis presented in the EIR/Traffic Impact Assessment (TIA) accurately represents existing baseline conditions and no new impacts would be expected to occur per the traffic count data validation.

freeway operations are the same October 2011 volumes taken from LLG Appendix B. Obviously, these traffic volumes are too old to be meaningful.

Because the traffic volumes represent the most critical input parameter in the level of service calculation process, any inaccuracies in those values directly affect the validity of the level of service results. In short, to the extent that the existing traffic volumes fail to represent current conditions in the study area, the corresponding level of service results reported in the DEIR are invalid, and a misleading representation of the environmental setting and project-related impacts will be provided.

New traffic volume data must be obtained for the study intersections, roadway segments, and freeway facilities, and the analysis must be revised to incorporate that new data.

O3b-4

3. ***Study Area*** – The study area for the traffic impact analysis is seemingly extensive, as it includes 19 intersections and 14 road segments. However, only two freeway segments were analyzed, both of which are on State Route 78 (SR 78). (DEIR pp. 2.2-30 and 2.2-34 – 2.2-35 and LLG pp. 7 – 8) No analysis was included with respect to existing or projected traffic operations on the Interstate 15 (I-15) mainline. This is particularly odd, given that I-15 is expected to carry a greater percentage of project traffic than SR 78. Specifically, referring to DEIR Figure 2.2-3 (DEIR p. 2.2-45) and LLG Figure 7-1 (LLG p. 33), both of which are labeled "Project Traffic Distribution," SR 78 west of Nordahl Road is shown to carry 15 percent of the project's traffic. East of Nordahl Road, SR 78 will carry five percent of the project-generated traffic.

In contrast, those same figures show that I-15 between W. Valley Parkway and W. 9th Avenue will carry 13 percent of the project-generated traffic. South of W. 9th Avenue, I-15 will carry 26 percent of the project's traffic. (Note that the figures incorrectly show that this latter segment of I-15 will carry 18 percent of the project-generated traffic. When we examine the intersection turning movement volumes at the I-15 freeway ramp intersections at W. Valley Parkway and W. 9th Avenue, we see that 13 percent of the project's traffic enter/exit the freeway to/from the south at both of these locations. Combining these values reveals that 26 percent of the project's traffic will travel on I-15 south of W. 9th Avenue, rather than the 18 percent shown on Figure 7-1. Attachment B presents an annotated version of the DEIR figure with the corrected percentages.)

O3b-5

Thus, even though I-15 south of W. 9th Avenue will carry over 70 percent more project traffic than SR 78 west of Nordahl Road, I-15 has been inappropriately ignored in the traffic analysis. This is a substantial shortcoming in the traffic analysis.

Moreover, no analysis was provided to determine whether adequate freeway system capacity exists on either SR 78 or I-15 to safely and effectively accommodate vehicles entering and exiting those facilities. Such "merge" (i.e., on-ramp) and "diverge" (i.e., off-ramp) analyses address conditions at the locations where the ramps meet the freeway mainline and evaluate the level of turbulence created in the traffic stream by the intensive lane-changing maneuvers associated with entering and exiting drivers.

O3b-6

According to the *Highway Capacity Manual* (Transportation Research Board, 2010, p. 13-2):

> *Ramps and ramp junctions do not operate independently of the roadways they connect. Thus, operating conditions on the main roadways can affect operations on the ramp and ramp junctions, and vice versa. In particular, a breakdown [Level*

Response to Comment O3b-5

The I-15 freeway lies within Caltrans jurisdiction. Caltrans reviewed the EIR traffic study the public review of the EIR and technical studies and did not request an analysis of the I-15 mainlines.

TIA Figure 7–1, *Project Distribution*, contained one incorrect percentage at the I-15/Auto Park Way interchange. It erroneously showed a 13 percent distribution to/from I-15 from Auto Park Way when the actual Project distribution is 7 percent at this interchange (6 percent to/from 9th Avenue and 1 percent to/from Auto Park Way arriving at the I-15 southbound ramps where 5 percent turns onto the freeway and 2 percent continues to the east on 9th Avenue). This amounts to the correctly shown 18 percent (rather than the suggested 26 percent) along I-15 south of Auto Park Way, where 13 percent comes from the Valley Parkway interchange and 5 percent comes from Auto Park Way. The incorrect number has been corrected on the figure in the TIA and the EIR.

Since the intersection analysis in the EIR traffic study used a higher assignment of Project trips to the I-15 South Ramps/Auto Park Way intersection (13 percent), using the correct 7 percent of trips at this location results in no new impacts and no changes to the significance conclusion. Attachment C to the final TIA provides the revised analysis.

With the correct distribution of trips to I-15 as described above, only 3 percent more traffic is distributed to I-15 than SR-78 (15 percent to SR-78, 18 percent to I-15). Nonetheless, to additionally address the comment, a supplemental freeway analysis using Caltrans District 11's V/C method for the I-15 segment south of 9th Avenue was completed; see Attachment D to the final TIA. Data were collected from the Caltrans PeMS database 2016 for I-15 as those files reflect the best available data available for I-15. This analysis concluded that no new direct or cumulative impacts would occur with the addition of Project traffic. The analysis of State Route (SR) 78 was included in the EIR traffic study to be consistent with other nearby development projects' traffic studies.

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	Response to Comment O3b-6 As previously mentioned, Caltrans provided comments during public review of the EIR and technical studies and did not request such analyses be performed. In San Diego County (District 11), ramp junction analyses are not required or included in traffic studies prepared for local development projects as the measure of effectiveness is not subject to any locally published significance criteria thresholds. When Caltrans District 11 has required ramp junction analyses, it has been for the purposes of confirming specific design recommendations for freeways/interchanges yet to be constructed. As such, a ramp junction analysis was not requested by Caltrans, is not required in District 11, and is therefore not included in the traffic study. County guidelines require the analysis of freeways in the near-term scenarios but not in the buildout. Per County guidelines, projects conforming to the General Plan do not require buildout analyses. Projects that propose to change the County's General Plan, Circulation Element or zoning above the current density or intensity are required to provide a focused buildout analysis of Mobility Element roadways. Given the Project does not conform to the General Plan, a buildout Year 2035 street segment level of service (LOS) analysis of Mobility Element roadways is provided in the EIR traffic study consistent with this practice. The purpose of this analysis is to conclude whether the proposed land use changes are consistent with the County's Mobility Element. If not, the Project may be required to make changes to the Mobility Element. As shown in the EIR traffic study, no changes are needed to Mobility Element roadways.

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 *of Service (LOS) F] at a ramp-freeway junction may have serious effects on the freeway upstream or downstream of the junction. These effects can influence freeway operations for miles in the worst cases.* We note that DEIR Table 2.2-8 (DEIR p. 2.2-39) shows that SR 78 west of Nordahl Road is projected to operate at LOS F(0) in the AM and PM peak hours under two analysis scenarios: Existing + Cumulative Projects and Existing + Project + Cumulative Projects. In each case, the SR 78 freeway is shown to operate at 4 – 9 percent beyond its capacity. Although this does not guarantee that deficient operations will occur at the ramp-freeway junctions, it increases the likelihood of such an occurrence. O3b-6 Because no analysis of freeway operations was conducted for "Buildout" conditions, it is impossible to comment on the project-related impacts on the freeway mainline or ramp-freeway junctions. Given that a portion of SR 78 is documented as operating at LOS F under less intensive analysis scenarios, it is reasonable to expect that operational deficiencies would be found through the conduct of such an analysis. Finally, no analysis was performed to determine whether the two project access intersections on Country Club Drive will operate effectively. Consequently, we have no information with respect to delays and projected queue lengths at the intersections of Country Club Drive/Private Drive A and Country Club Drive/Private Drive C. O3b-7 To ensure a thorough analysis of the proposed project's traffic impacts, we believe the following mainline segments of I-15 must be evaluated: • I-15 between W. Valley Parkway and W. 9th Avenue (both directions), and • I-15 south of W. 9th Avenue (both directions). In addition, merge/diverge analyses must be performed at: • SR 78 Westbound/Nordahl Road On-ramp, • SR 78 Westbound/Nordahl Road Off-ramp, • SR 78 Eastbound/Nordahl Road On-ramp, • SR 78 Eastbound/Nordahl Road Off-ramp, • I-15 Northbound/W. Valley Parkway On-ramp, • I-15 Northbound/W. Valley Parkway Off-ramp, • I-15 Southbound/W. Valley Parkway On-ramp, • I-15 Southbound/W. Valley Parkway Off-ramp, • I-15 Northbound/W. 9th Avenue On-ramp, • I-15 Northbound/W. 9th Avenue Off-ramp, • I-15 Southbound/W. 9th Avenue On-ramp, • I-15 Southbound/W. 9th Avenue Off-ramp, Finally, the following two intersections must be analyzed: O3b-8	**Response to Comment O3b-7** Per Section 11.2 of the EIR traffic study, a qualitative analysis of the Project access was conducted based on the proposed lane configurations and traffic control devices. The center turn lane proposed along Country Club Drive will store vehicles turning left onto the Project access streets, thus removing them from the free flow of traffic destined to the existing residences on Country Club Drive. Stops signs would be installed at the Project access roads, and Country Club Drive would flow uninterrupted. In order to address the comment, a supplemental peak hour LOS analysis for the Project driveways: Private Drive A and Private Drive C, both intersecting with Country Club Drive, was prepared and is included in Attachment E to the final TIA. With these geometric conditions, acceptable LOS A operations are calculated at the project access intersections and therefore no excessive queuing would occur. **Response to Comment O3b-8** Please see Responses to Comments O3b-5 and O3a-28.

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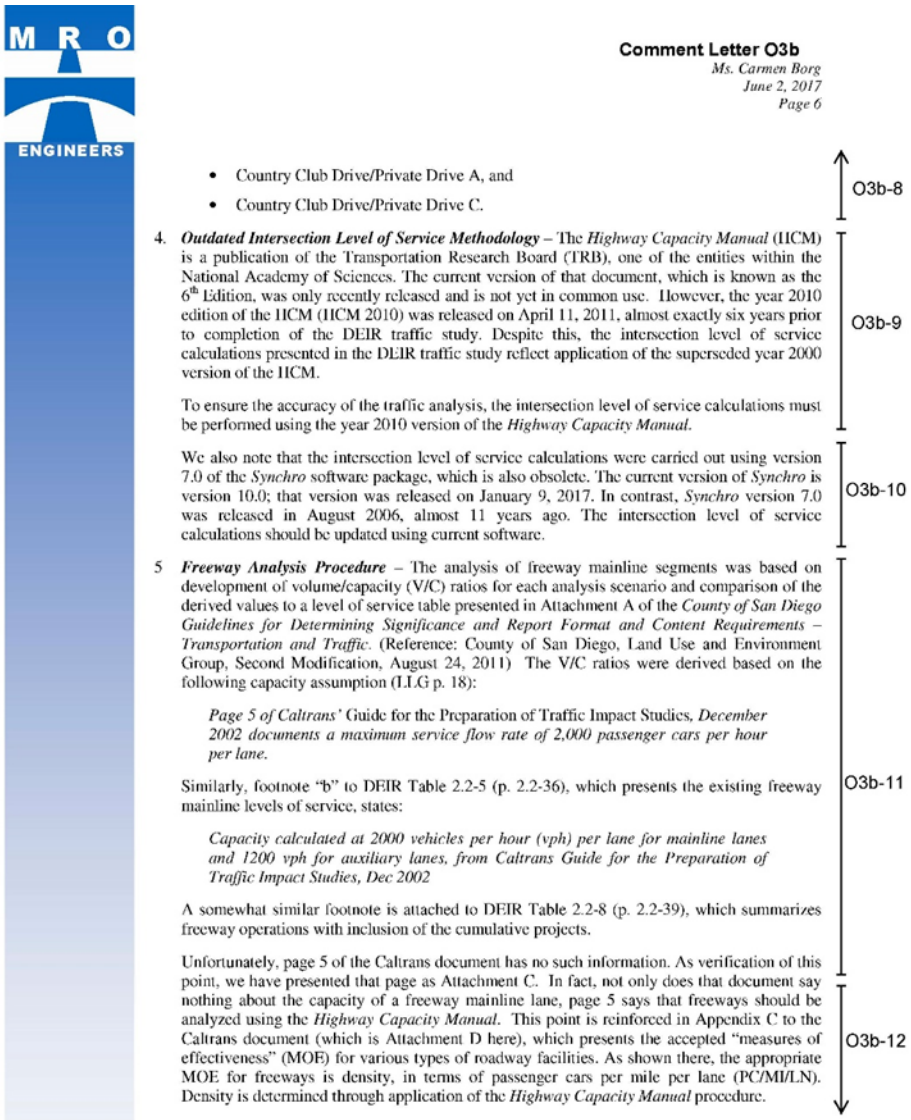	**Response to Comment O3b-9** The Synchro software uses the HCM methodology and data input to calculate intersection delay and LOS. In response to the comment, the Project's traffic consultant, Linscott, Law & Greenspan (LLG), conducted an intersection analysis using Synchro version 10.0 which uses the HCM 2010 methodology and data. Application of the HCM 2010 methodology and the latest Version 10.0 show that changes to LOS and delay vary; however, the changes do not result in new or different significant impacts, and the conclusions of significance remain identical to the EIR traffic study analysis. The results are demonstrated in Attachment F to the final TIA, which shows the results of this analysis and the supporting synchro analyses. Therefore, by completing Synchro 10, it confirms the results and that the original TIA was accurate. For purposes of information, the reason the TIA used the HCM 2000 parameters for conducting LOS and intersection delay analysis was because the Project was the third of three substantial projects in the immediate area. The first of the projects was Harmony Grove Village, which was approved and is under construction. The analysis for that project was conducted using HCM 2000 methodology. Subsequently, the traffic analysis (approved December 2015) for the Valiano project was prepared using the same HCM 2000 methodology. (The Valiano project is currently awaiting hearing and approval by the Board of Supervisors.) The NOP for HGV South was issued in August 2015, prior to the approval of the Valiano traffic study; therefore, as both studies were being conducted concurrently for the same intersection locations, the HCM 2000 was considered the appropriate analysis methodology. Efforts were made to maintain consistency to the extent possible among the three projects analyses since they share over 50 percent of the same study area intersections and two of the studies (Valiano and HGV South) had the potential to be under concurrent County review.

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 • Length of analysis period, • Peak-hour factor (i.e., a representation of the distribution of traffic flow over the peak-hour period), • Percentage of heavy vehicles (i.e., trucks and recreational vehicles), and • Driver population factor. Clearly, the nature and quantity of the input requirements associated with the HCM 2000 analysis procedure would lead to a more accurate representation of conditions on the study area freeway segments than the DEIR discloses. This leads to an initial conclusion that the level of service results derived using the HCM 2000 procedure would be more reflective of the physical and operational characteristics of those facilities than would ever be possible using the simplistic V/C approach. However, other considerations also apply, as described below. *Comparison of Analysis Procedures* With the various input parameters established, it might be helpful to summarize the analysis procedures associated with each of the two techniques. For a standard V/C ratio analysis, the procedure requires the following: 1. Divide measured or estimated volume by estimated or assumed capacity. 2. Compare the resulting V/C ratio to appropriate level of service criteria. On the other hand, conduct of a freeway segment level of service analysis using the HCM 2000 method involves the following steps. (HCM 2000, Exhibit 23-1, p. 23-2): 1. Establish and input the data listed above. 2. Estimate the road's free-flow speed, adjusting as necessary to reflect the number of lanes, lane width, lateral clearance, and interchange density. 3. Adjust the traffic volume to reflect traffic flow patterns (i.e., number of lanes, peak-hour factor, heavy vehicle percentage, driver population, and terrain/grades) for use in estimating the flow rate. 4. Define the speed-flow curve. 5. Determine the speed using the speed-flow curve. 6. Compute the density using the flow rate and speed. 7. Determine the level of service. While we are not suggesting that complexity alone equates to a higher level of accuracy, we are inclined to believe that the numerous adjustments incorporated into the HCM 2000 methodology result in an analysis procedure that better reflects the actual physical characteristics of the roadway, as well as the local traffic flow patterns. In summary, it is readily apparent that, compared to the simplistic V/C ratio approach used in the DEIR, the HCM 2000 methodology would provide a superior indication of operating conditions on SR 78 and I-15 through the study area. Given the limited number of freeway segments to be evaluated, the level of effort involved in conducting an analysis using the HCM 2000 procedures is not substantially greater than is required for the relatively crude V/C O3b-12	The County guidelines do not specify the version of Synchro or the HCM to be used in the analysis of study area locations, but use of the HCM 2000 methodology ensures that the Project's analysis is consistent with the County's General Plan Mobility Element EIR traffic study, as well as other traffic analyses prepared for the County. It is important to note that while versions of the HCM are updated periodically, wholesale changes to chapters such as those referenced in the comment do not occur. Subtle changes to signalized and unsignalized methodologies are present, but have not been observed to result in substantive changes when compared with HCM 2000. In fact, the primary changes from HCM 2000 to HCM 2010 relate to the introduction of new methodologies to evaluate multi-modal transportation, application of microsimulation analysis, and the presentation of active traffic management, none of which affect the analysis in this EIR. To illustrate this point and to address the comment, LLG conducted an HCM 2010 analysis of the study area intersections using Synchro Version 10.0. Application of the HCM 2010 methodology and the latest Version 10.0 show that changes to LOS and delay vary; however, the changes do not result in new or different significant impacts, and the conclusions of significance remain identical to the EIR traffic study analysis. Attachment F to the final TIA shows the results of this analysis and the supporting synchro analyses. **Response to Comment O3b-10** Similar to the HCM updates described above in Response to Comment O3b-9, the Synchro software is periodically updated with new versions. As with all software, continued use in the market place reveals bugs that the maker addresses with updates. Often these reflect enhancements to the user interface or to minor changes to implementation of the current HCM methodology in the

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 • Length of analysis period, • Peak-hour factor (i.e., a representation of the distribution of traffic flow over the peak-hour period), • Percentage of heavy vehicles (i.e., trucks and recreational vehicles), and • Driver population factor. Clearly, the nature and quantity of the input requirements associated with the HCM 2000 analysis procedure would lead to a more accurate representation of conditions on the study area freeway segments than the DEIR discloses. This leads to an initial conclusion that the level of service results derived using the HCM 2000 procedure would be more reflective of the physical and operational characteristics of those facilities than would ever be possible using the simplistic V/C approach. However, other considerations also apply, as described below. *Comparison of Analysis Procedures* With the various input parameters established, it might be helpful to summarize the analysis procedures associated with each of the two techniques. For a standard V/C ratio analysis, the procedure requires the following: 1. Divide measured or estimated volume by estimated or assumed capacity. 2. Compare the resulting V/C ratio to appropriate level of service criteria. On the other hand, conduct of a freeway segment level of service analysis using the HCM 2000 method involves the following steps. (HCM 2000, Exhibit 23-1, p. 23-2): 1. Establish and input the data listed above. 2. Estimate the road's free-flow speed, adjusting as necessary to reflect the number of lanes, lane width, lateral clearance, and interchange density. 3. Adjust the traffic volume to reflect traffic flow patterns (i.e., number of lanes, peak-hour factor, heavy vehicle percentage, driver population, and terrain/grades) for use in estimating the flow rate. 4. Define the speed-flow curve. 5. Determine the speed using the speed-flow curve. 6. Compute the density using the flow rate and speed. 7. Determine the level of service. While we are not suggesting that complexity alone equates to a higher level of accuracy, we are inclined to believe that the numerous adjustments incorporated into the HCM 2000 methodology result in an analysis procedure that better reflects the actual physical characteristics of the roadway, as well as the local traffic flow patterns. In summary, it is readily apparent that, compared to the simplistic V/C ratio approach used in the DEIR, the HCM 2000 methodology would provide a superior indication of operating conditions on SR 78 and I-15 through the study area. Given the limited number of freeway segments to be evaluated, the level of effort involved in conducting an analysis using the HCM 2000 procedures is not substantially greater than is required for the relatively crude V/C O3b-12	software, not wholesale changes in the standard methodology for analyzing study area locations. Attachment F to the final TIA includes the results of the Synchro 10 analysis and demonstrates no changes to the conclusions of significance occur between the two software versions. **Response to Comment O3b-11** The traffic study utilized a conservative 2,000 passenger cars per hour per lane for the freeway analysis but incorrectly references the Caltrans *Guide for the Preparation of Traffic Impact Studies*, with regard to the capacity. This capacity has been used as an industry practice among San Diego traffic engineering firms and all local reviewing agencies, and is accepted and used by Caltrans District 11 in their own planning documents. It should be noted it is a very conservative estimated capacity given the Caltrans guidelines allow for a maximum of 2,350 passenger cars per hour per lane capacity (page 3 of Caltrans's Appendix C). **Response to Comment O3b-12** The comment suggests that based on the Caltrans statewide guidelines appended to the comment letter, an HCM-methodology freeway analysis using a modulus of rupture (MOE) of density (pc/mi/ln) should have been conducted instead of the V/C method used in the EIR traffic study. It is true that the HCM method involves more variables. However, the comment is incorrect. As discussed in Response to Comment O3b-11 above, the Project is in Caltrans's District 11 jurisdiction, and therefore subject to Caltrans District 11 preferences. The Caltrans Guide for the Preparation of Traffic Impact Studies (Section V) lists analyses that are typically performed for different state-owned facilities, and states that HCM ***or operational analysis*** may be conducted. With regard to "operational analysis," it is up to direction from the lead agency, Caltrans and those preparing the traffic study to decide which type of analysis to prepare. Caltrans District 11 is a signatory agency to the regional San Diego Traffic Engineer's Council (SANTEC) and the Institute of Transportation Engineers (ITE) Guidelines for Traffic Impact Studies in the San Diego Region. The regional significance criteria for freeway impacts listed in this document use change in V/C to determine significant freeway impacts (Table

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	1, Page 10). Therefore, it is the industry standard to perform the V/C freeway analysis within Caltrans District 11.

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  • Length of analysis period, • Peak-hour factor (i.e., a representation of the distribution of traffic flow over the peak-hour period), • Percentage of heavy vehicles (i.e., trucks and recreational vehicles), and • Driver population factor. Clearly, the nature and quantity of the input requirements associated with the HCM 2000 analysis procedure would lead to a more accurate representation of conditions on the study area freeway segments than the DEIR discloses. This leads to an initial conclusion that the level of service results derived using the HCM 2000 procedure would be more reflective of the physical and operational characteristics of those facilities than would ever be possible using the simplistic V/C approach. However, other considerations also apply, as described below. *Comparison of Analysis Procedures* With the various input parameters established, it might be helpful to summarize the analysis procedures associated with each of the two techniques. For a standard V/C ratio analysis, the procedure requires the following: 1. Divide measured or estimated volume by estimated or assumed capacity. 2. Compare the resulting V/C ratio to appropriate level of service criteria. O3b-12 On the other hand, conduct of a freeway segment level of service analysis using the HCM 2000 method involves the following steps. (HCM 2000, Exhibit 23-1, p. 23-2): 1. Establish and input the data listed above. 2. Estimate the road's free-flow speed, adjusting as necessary to reflect the number of lanes, lane width, lateral clearance, and interchange density. 3. Adjust the traffic volume to reflect traffic flow patterns (i.e., number of lanes, peak-hour factor, heavy vehicle percentage, driver population, and terrain/grades) for use in estimating the flow rate. 4. Define the speed-flow curve. 5. Determine the speed using the speed-flow curve. 6. Compute the density using the flow rate and speed. 7. Determine the level of service. While we are not suggesting that complexity alone equates to a higher level of accuracy, we are inclined to believe that the numerous adjustments incorporated into the HCM 2000 methodology result in an analysis procedure that better reflects the actual physical characteristics of the roadway, as well as the local traffic flow patterns. In summary, it is readily apparent that, compared to the simplistic V/C ratio approach used in the DEIR, the HCM 2000 methodology would provide a superior indication of operating conditions on SR 78 and I-15 through the study area. Given the limited number of freeway segments to be evaluated, the level of effort involved in conducting an analysis using the HCM 2000 procedures is not substantially greater than is required for the relatively crude V/C	As previously mentioned, Caltrans provided comments during public review of the EIR and technical reports, and made no comments requesting the type of freeway analysis requested in the comment.

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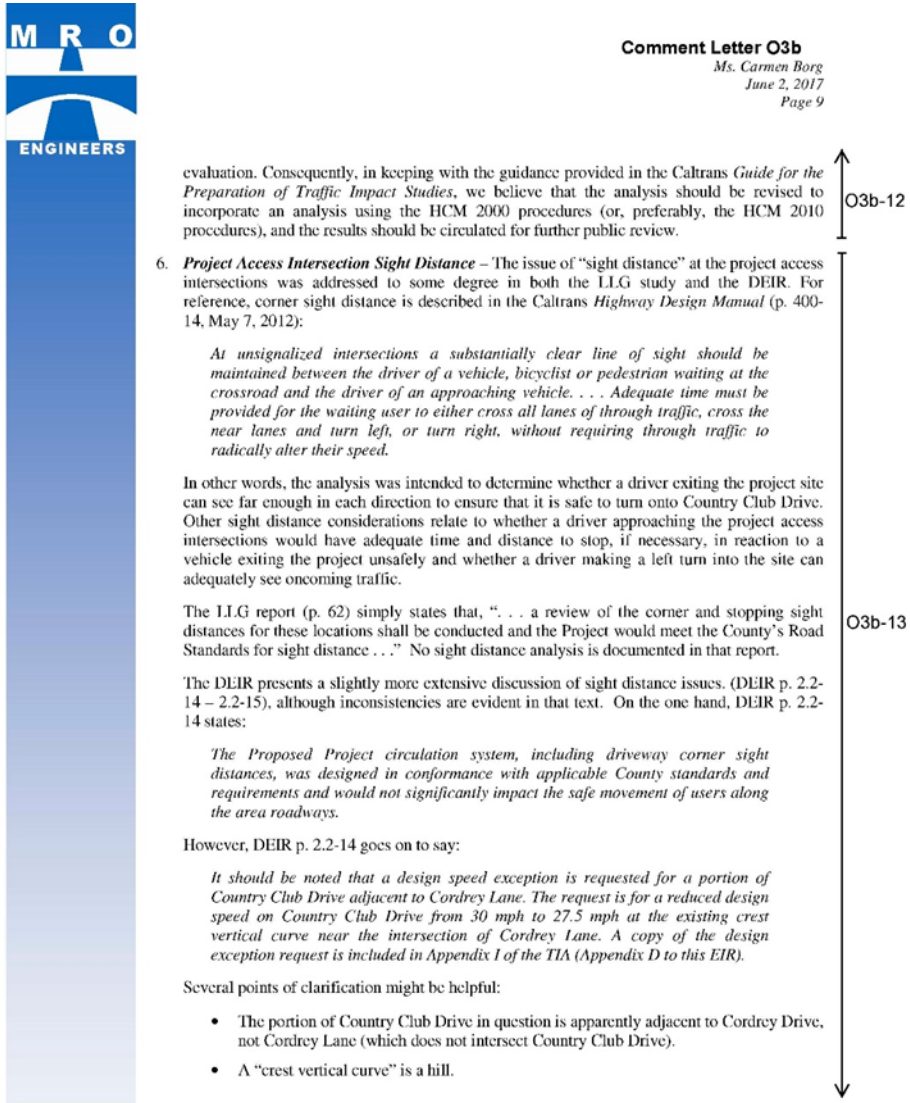	**Response to Comment O3b-13** Thank you for the corrections relative to the identification of Cordrey Drive/Lane and the TIA appendix number. The County disagrees there would not be adequate sight distance at Project intersections. Both statements in the EIR are correct. The Project would not significantly impact safe movement. Nonetheless, a slightly reduced speed exception was requested to provide an even safer condition. This is because the amount of reaction time permitted while driving is in large part based on a combination of when a driver sees another vehicle or person/object, how far the vehicle is from another static or moving object, and how fast they are each moving. In this instance, the road is curving and there is also a small hill. The slightly slower speed requested (and approved by the County) permits drivers a few extra seconds to react. Relative to the southernmost Project entry, engineering review of the TM and Project site visits supported County approval of the deviation. This in turn supported Project design of the County Club Drive transition presented in the DEIR as part of Project design. The cited text regarding conformance with County standards and requirements is an introductory statement for the reader, prior to the specific elements that follow. Once the design exception was approved, it became part of the Project, and analysis assumed its implementation. Regardless, a basic purpose of CEQA is informational. Full disclosure of the deviation was made and included in Appendix D so that it could be reviewed by commenters on the DEIR, as has occurred. In addition, and in response to this comment, additional review cited in the DEIR has been undertaken. Please see Attachment G to the final TIA. As noted in that document, the existing roadway segment identified in the design exception would extend from the southernmost Project driveway westerly for approximately 320 feet, the distance from the driveway to where Project improvements to Country Club Drive transition back to existing roadway. Based on substandard roadway features related to: (1) lane-width, (2) road surfacing width, (3) paved shoulder width, (4) parkway width, and (5) maximum desirable grade, the road has a functional speed of approximately 25 miles per hour (mph).

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	Also as described in the Attachment G memorandum, a 7-day speed survey of actual driving practice was undertaken in March 2018. The 85th percentile was 22.1 mph, with the maximum average driving speed 25.8 and the minimum average driving speed during that period 8.6 mph. These low speeds are consistent with anticipated conditions based on the roadway characteristics, and well within the design speed proposed for the Project. With the Project, there would not be sight distance constraints between the Project driveway traffic and westbound traffic, as both are on the same side of the crest (hill). For eastbound drivers, and with respect to the sight distance between eastbound Country Club Drive traffic as it comes over the hill and traffic entering or exiting the Project, as noted above, the available sight distance is a function of approach speed and object height. Consistent with the approved design exception, the Project would construct and improve the profile of Country Club Drive by lengthening the crest vertical curve, improving the stopping sight distance of a 6-inch object to 27.5 mph. This improvement would meet the County's sight distance requirements at this location. It also addresses the transition from the full width Rural Residential Collector improvements southernmost Project driveway to the existing nonconforming roadway to the west. Project improvements would provide a 30 mph stopping sight distance for a pedestrian or a vehicle at this Project driveway, consistent with observed existing speed conditions and the County's sight distance requirements. As shown, the observed 85th percentile eastbound speed is 22.1 mph, which is well below the 27.5 mph design speed provided by the design exception. It is also noted that the Project would underground currently above-ground utilities along Project frontage, and also would coordinate landscaping installation and maintenance at Project entries to retain open sight lines (e.g., shrubs will not exceed County-specified allowable heights and trees will be placed so that trimming of understory can maintain sightlines). Sight lines would be open at the Harmony Grove Road and Country Club Drive intersection in both directions. The Project would not be installing any uses that

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	could block views at the Country Club Drive and Harmony Grove Road intersection, where abutting uses are owned by others.

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 • The design exception request is presented in Appendix J of the traffic impact analysis (TIA) report, not Appendix I. • Although the design exception request is described as a request to reduce the design speed, in fact it is a request to allow reduced sight distance along Country Club Drive. If granted, the exception would result in safe operation along that road only at 27.5 MPH or less. The County of San Diego website for the DEIR provides pertinent sight distance information (a "letter" and a "study") under the heading, "Additional Items." O3b-13 The letter was a statement from the firm of Project Design Consultants that: *. . . there will be a minimum adequate unobstructed sight distance in both directions from future Private Roads "A" and "C" along Country Club Drive and from Country Club Drive along Harmony Grove Road, per Design Standards of Section 6.1 Table 5 of the County of San Diego Public Road Standards approved March 2012.* This statement is, of course, inconsistent with the apparent need for the design exception described above. In fact, the contents of this letter differ from the information presented on the related "study," which consists of two plan sheets labeled "Intersection Sight Line Exhibit." Sheet 1 shows sight lines at the two project access intersections, while Sheet 2 illustrates the sight distance at the intersection of Harmony Grove Road/Country Club Drive. Sheet 1 (showing the project access intersections) is of particular interest. That sheet indicates that the assumed design speed on Country Club Drive is 30 MPH, although no basis for that assumption is presented. We note that the San Diego County requirements for evaluation of corner sight distance are presented in Table 5 of the *Public Road Standards* (County of San Diego, Department of Public Works, March 2012). According to that table: *The design speed used to determine the minimum sight distance requirement shall be the greater of the current prevailing speed (if known) and the minimum design speed of the respective road classification shown in Tables 2A and 2B.* Apparently, the current prevailing speed on Country Club Drive is unknown, so the design speed determination must be based on the County designations presented in Tables 2A and 2B of the *Public Road Standards*. According to DEIR p. 2.2-14, Country Club Drive would be improved to a "public enhanced Residential Collector," with three paved travel lanes. Additional details regarding the proposed improvements are presented in the LLG report (p. 59). As described there, the improved road will have the following features: O3b-14 • A 3-foot parkway on the west side of the road, • A 10-foot parkway on the east side, • Two 8-foot shoulders, • Two 12-foot travel lanes, • A 14-foot center turn lane/striped median, and • The paved width will be 54 feet within a 67-foot dedicated right-of-way.	The Project would improve the intersection by additionally "squaring it off" as the Project would eliminate the angle at which Country Club Drive currently accesses the intersection from the south, which would potentially contribute to more open sight lines. The intersection itself additionally controls traffic flow due to its signal. It is anticipated that traffic will follow the signal demands to slow, stop, and go—thereby eliminating cross-traffic conflicts. Finally, it is noted that some of the existing "visual noise" noted in the comment at this intersection may now be gone following completion of the County equestrian park located in the southwest quadrant of the intersection. **Response to Comment O3b-14** The comment asserts that the design speed for the portion of County Club Drive where full Project improvements (three lanes, parkway, shoulders, etc.) would be implemented should be 45 rather than 30 mph based on those improvements. The comment is noted, but it does not change the proposed design elements or their footprint. Relative to travel speeds north of the driveway, it is possible that reaching 45 mph on a short stretch of road with a signalized intersection preceded by a bridge *could* occur. Regardless, speeds on that portion of the road are not material to the issue of sight distance, as it is a straight-away and sight lines are open. Please see Response to Comment O3b-13 regarding the area where there is a curve and small hill.

The LLG report (p. 59) goes on to say:

> *This configuration is similar to a "Community Collector With Continuous Left Turn Lane (2.1B), which is identified as having an "LOS E" threshold at 19,000 ADT.*

Critically, Table 2A of the *Public Road Standards* shows that a "Community Collector With Continuous Left Turn Lane (2.1B)" has a minimum design speed of 45 MPH. This is, obviously, substantially different from the 30 MPH assumption in the sight distance analysis presented on the San Diego County website.

A 45 MPH design speed would call for minimum corner sight distance of 450 feet (compared to 300 feet for 30 MPH) and 275 feet for the requested 27.5 MPH design speed. Therefore, the requested design speed exception would be equivalent to a sight distance reduction of almost 40 percent from the required value. O3b-14

Allowing such a dramatic reduction in corner sight distance would be inappropriate. Moreover, the failure to provide adequate sight distance constitutes a significant impact with respect to "Traffic Hazards Due to an Existing Transportation Design Feature," which was not identified in the DEIR.

In fact, the DEIR statement presented above (DEIR p. 2.2-14) claiming that the project, ". . . was designed in conformance with applicable County standards and requirements and would not significantly impact the safe movement of users along the area roadways" is simply false.

7. ***Harmony Grove Road/Country Club Drive Intersection Sight Distance*** – Sheet 2 of the sight distance study described above concerns the intersection of Harmony Grove Road/Country Club Drive. That exhibit purports to demonstrate that adequate corner sight distance will be available to northbound drivers on Country Club Drive approaching Harmony Grove Road, based on a design speed of 45 MPH. The exhibit illustrates the sight lines for such drivers, looking in both directions down Harmony Grove Road. However, the analysis neglects the fact that the sight lines pass well south of the southerly edge of Harmony Grove Road for a substantial distance in both directions. Consequently, numerous possibilities exist with respect to potential roadside obstructions that would reduce or eliminate the available sight distance – signal poles, utility poles, pedestrians, signs, landscape materials, electrical transformers and other utility boxes, etc. O3b-15

   Attachment E presents a pair of recent (November 2016) street-level views from Google Earth showing the southeast corner of the intersection from the approximate perspective of a driver waiting on the northbound approach to the intersection. Although it was not possible to obtain a view from the exact location required by County standards, as set forth in Table 5 of the *Public Road Standards* (i.e., ". . . at least 10 feet from the edge of the major road pavement") – one is too close to the intersection and the other is too far back – it is clear that numerous potential obstructions are present at the corner that were not considered in the sight distance analysis.

   In short, the claim that adequate corner sight distance will exist at this location has not been adequately proven. It appears that field investigations would reveal obstructions to driver sight lines that are not apparent on paper.

8. ***Deficient Construction Traffic Analysis*** – The DEIR "Transportation/Traffic" section contains no meaningful analysis of construction traffic impacts. Oddly, the only mention of O3b-16

Response to Comment O3b-15

As a point of clarification, the photographs in the Commentor's Attachment E appear to be of views easterly from the southeast corner of the intersection, not the northeast. Please see Response to Comment O3b-13. As noted, this is a signalized intersection. Drivers are directed to stop or move forward based on the changing lights. It is likely that drivers preparing to cross the intersection would actually be stopped closer to the white line indicated in the first photograph. Regardless, given the controlled nature of the intersection, travelers would be expected to have a view to vehicles along the roadway moving east-west along Harmony Grove Road and the time to react to them.

Response to Comment O3b-16

The County disagrees with this comment. Project phasing shows the majority of construction activities occurring prior to any dwelling units being occupied. See, for example, the information provided on Tables 7 in both the Air Quality and Greenhouse Gas studies, which shows that architectural coatings (final finishes) do not begin until 4 months preceding complete construction end. It is during this period of time that some homes may be occupied, if finishes, sales, and occupation all occur. This is similar to HGV, in that mass grading and backbone infrastructure were accomplished prior to homes being occupied.

According to Real Estate Economics' new home market survey spanning the entire greater San Diego market area, dated "Third Quarter 2017," HGV reports 259 sales and 162 closings. Averaging closings over the 10 quarters since homes went up for sale in May 2015, the average number of closings per month is identified as 16.2 residential units. In the most conservative scenario, if the Project sold and closed on 22 homes during the 4-month period starting when architectural finishes begin to be applied, then the following activities could also be occurring: building construction, paving and architectural coating. Based on the California Emission Estimator Model (CalEEMod) calculations provided during DEIR review for construction worker trips, these three categories of activity would total 430 workers and vendor trips during the overlapping period (see Section 3, *Construction Detail*, of Appendix A to EIR Appendix J, as well as a summary Table O3a-1 provided in Response to Comment O3a and also included below). Based on residential trips associated with the Project (10 trips per home per day), 220 residential trips could occur

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	under a reasonable sales assumption (based on an average of the past six 10 quarters of sales closings of HGV, located contiguous to the site). Please also note that construction activities generally require workers to be on site when construction begins (often at 7:00 a.m. in the morning). This is usually before peak hour trips that result in the greatest congestion. Specific to this Project, the most impactful construction traffic is generally related to soil import/export, as it can require numerous trucks added to off-site ADT on an ongoing basis during grading activities. As stated in EIR Chapter 1, *Project Description*, the Project has been designed for grading to balance on site. As a result, no import or export truck activity is anticipated that could significantly adversely impact traffic volumes on roads currently operating at capacity. As clarified above, even when three potentially overlapping phases (including the building construction phase with the largest number of worker and vendor trips) are combined with potential occupied residences, it would not generate more traffic than the approximately 4,500 ADT the Project will generate once constructed. Similarly, in the most conservative scenario, if the construction periods that overlap with each other are added together, it would generate fewer ADT than any of the residential triggers required for offsite roadway mitigation as identified in Subchapter 2.2 of the EIR and not assumed as Project design. As such, no capacity impacts are anticipated to occur during any construction phase. All appropriate work zone traffic control plans would be prepared to ensure efficient ingress/egress of trucks and equipment, and to maintain access to the degree possible to Country Club Drive during construction. Similarly, no significant impacts related to construction-period vehicular impacts would occur to air quality. This response is incorporated into the Final EIR through the integration of comments and responses. No additional changes are required to EIR text. The reader is referred to Response to Comment O3a-41 regarding greenhouse gases (GHGs).

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 construction-related traffic impacts occurs at DEIR p. 2.2-17, under the heading, "Traffic Hazard to Pedestrians or Bicyclists or Equestrians." The two-sentence "analysis" of construction impacts consists of the following conclusory statement, which is derived from nearly-identical text in the LLG traffic impact analysis report (LLG p. 63): *The Project would be constructed in phases, and each phase would consist of sub-phases, none of which would generate more traffic than the ADT identified for the Project overall. As such, no capacity impacts are anticipated to occur during any construction phase, and all appropriate work zone traffic control plans would be prepared during construction.* This statement is unsubstantiated, as no analysis was documented that would allow such a conclusion to be reached. For example, how much traffic will be generated during each phase and sub-phase of construction? What analysis was performed with respect to construction-related capacity impacts? Furthermore, the reference to "ADT" (i.e., average daily traffic) reinforces the inadequacy of the DEIR analysis, as intersection impacts are evaluated based on peak-hour conditions, not daily (ADT) conditions. Full consideration of construction-related impacts at the study intersections would identify both the number of construction-worker vehicles and the volume of heavy trucks in each phase. Further, appropriate factors would be applied to convert the truck volumes to "passenger car equivalents," in recognition of the reduced operating characteristics of heavy vehicles (e.g., greater size, slower acceleration, increased braking distance, etc.). In this case, no evidence is presented to document the number of peak-hour employee and truck trips that would occur during the construction period. Without that basic information, it is simply impossible to make a determination regarding the significance of project impacts. The DEIR must be revised to incorporate a credible analysis of the project's construction-related impacts. O3b-16 9. ***Vehicle-Miles-Traveled*** – The project-related vehicle-miles-traveled (VMT) estimate is documented in DEIR Appendix J. (Reference: HELIX Environmental Planning, Inc., *Harmony Grove Village South Project - Greenhouse Gas Analyses Report*, April 2017) According to p. 26 of the report presented in Appendix J: *The Project would generate approximately 4,500 average daily trips (ADT) (Linscott, Law & Greenspan Engineers [LLG] 2017). CalEEMod estimated that the Project would result in an annual total of 11.08 million miles traveled each year. This total annual VMT was based on the average trip length calculated for this Project which was 7.88 miles per trip (LLG 2016; see Appendix C). Trip rates were based on the Traffic Impact Analysis (TIA), which estimated 9.93 daily trips per dwelling unit.* O3b-17 The document referenced above as "LLG 2016" is presented as Appendix C to DEIR Appendix J. Derivation of the average trip length of 7.88 miles is presented in Attachment A to the LLG document presented as Appendix C to DEIR Appendix J (specifically, "Attachment A – SANDAG Series 12 Traffic Model Data"). (Reference: LLG, Memorandum dated June 8, 2016, "Harmony Grove Village South Traffic Study – Average Trip Length," which is located in Appendix C to DEIR Appendix J: HELIX Environmental Planning, *Greenhouse Gas Analyses Report – Harmony Grove Village South Project*, April 2017.)	**Response to Comment O3b-17** The County disagrees that there is a "lack of consistency (and accuracy)." The cited differences are the result of differing approaches describing trip generation and vehicle miles traveled and the Project has taken a conservative approach. The average trip length calculated from the San Diego Association of Governments (SANDAG) model is derived from two factors: ADT volumes and vehicle miles traveled (VMT). VMT is calculated by taking the length in miles of all roadway links in the model and multiplying it by the project trips assigned to each of those links. Once the total VMT is calculated, the average trip length is reverse engineered to arrive at the "average" length of each of those assigned trips. The inputs into the model are specific to the Project land use type: single-family residential. The model, however, is not sensitive to the quantity of single-family units, but only sensitive to the land use type. Thus, the exact ADT and VMT that are generated within the model do not need to be specific to the land use quantity so long as they are specific to the land use type. Following that, the 7.88 average trip length in miles is representative of the single-family residential land use type and is then post-processed to be applied to the total Project trip generation of 4,500 ADT. The VMT calculations utilized a custom SANDAG model run using 450 residential units, consistent with the Project description and land use analyzed in the traffic study. Once the land use is inputted into the model, the SANDAG post-processing algorithm assigns the total vehicular trips expected to leave the Project site to the street system. The algorithm accounts for the synergy of land uses in the surrounding area and multi-modal opportunities. Under the SANDAG model, this would reduce the number of trips generated by the approximately 450 residential uses. The trip generation included in the traffic study, however, is more conservative in that it is calculated in a vacuum and does not include any reductions for proximity to nearby land uses and alternative transportation means. This results in the SANDAG model effectively generating less ADT than that shown in the EIR traffic study (i.e., 3,549 ADT versus 4,500 ADT). This phenomenon, however, has no effect on the average trip rate derived from this methodology.

COMMENTS	RESPONSES
 **Comment Letter O3b** *Ms. Carmen Borg* *June 2, 2017* *Page 13* Page 122 of the Appendix J pdf summarizes the results of applying the SANDAG model. It shows a daily VMT of 27,975 and average daily traffic (ADT) of 3,549. Dividing 27,975 by 3,549 yields the 7.88 mile average trip length. However, the LLG traffic study shows (correctly) that the project ADT will be 4,500 trips per day, not 3,549 trips per day. If you divide 27,975 by 4,500, you get an unrealistically low average trip length of only 6.22 miles. Looking at this differently, if you divide 3,549 daily trips by 450 DU, you get a daily trip rate of 7.89 trips per day, compared to the 10.0 trips per day used in the LLG traffic analysis and the incorrect value of 9.93 trips per day referred to on p. 26 of DEIR Appendix J (p. 39 of the pdf). O3b-17 This lack of consistency (and accuracy) is both puzzling and disturbing. Moreover, DEIR p. 2.2-18 incorrectly states that because of the proposed project's "proximity to a variety of service and employment uses," it: *. . . would be expected to incrementally reduce the average VMT [vehicle-miles-traveled] for the average commuter residing at HGV South from 7.9 to 7.88 miles per trip.* O3b-18 First, the reference to VMT is incorrect. The parameter referred to in the statement is the average trip length, which is one component of VMT, but is clearly not VMT. Second, a reduction from 7.9 to 7.88 is virtually no reduction at all, since the difference of 0.02 mile (i.e., 106 feet) is inconsequential. In fact, it would be preferable to simply round-off 7.88 to 7.9, as that would more accurately reflect the level of precision of the estimate. Third, as noted in the LLG memo documenting the VMT estimate (i.e., Appendix C to DEIR Appendix J), 7.9 miles is simply the standard trip length value for residential uses, as presented in the *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (San Diego Association of Governments, April 2002). In effect, the proposed project will have an average trip length that is virtually identical to the default value for the San Diego region. O3b-19 Fourth, because there are currently no commuters at HGV South (average or otherwise), no reduction in VMT is possible. All VMT associated with the proposed project will represent additions to vehicle-miles-traveled within the study area. O3b-20 Finally, we note that Appendix A to DEIR Appendix J presents the "CalEEMod and Roadway Model Output Data" associated with the emissions calculations. "Page 34 of 45" (pdf p. 88) shows trip length assumptions listed under the heading, "4.3 Trip Type Information." As previously discussed, a value of 7.88 miles was used for "H-W or C-W" (i.e., Home-Work or Commercial-Work) trips. The other trip purposes, though, have different trip lengths: • 7.30 miles for Home-Shop (H-S) or Commercial-Customer (C-C) trips, and • 7.50 miles for Home-Other (H-O) or Commercial-Nonwork (C-NW) trips. O3b-21 No basis is presented for these trip length assumptions. In summary, it is obvious that significant problems exist in the derivation of the VMT estimate. These issues must be resolved or adequately explained.	The trip rate is based on the land use type and the travel patterns of that land use. Any quantity of single-family residential units generated in the location of the Project site would ultimately have arrived at the 7.88 mile-average trip length. The 7.88 miles is representative of single-family residential units specific to the Project location. Although the SANDAG model assumes 450 single-family residences generate 3,549 net ADT due to post-processing trip reductions, the VMT calculations were conservatively arrived at by using the gross 4,500 ADT trip generation from the EIR traffic study. This method is consistent with VMT calculations for other development projects in the County, including the nearby Valiano project. Therefore, it is correct to take the 7.88 miles and multiply it by the 4,500 gross ADT from the EIR traffic study to arrive at 35,460 VMT per County standards of practice. **Response to Comment O3b-18** Thank you for identification of this wording error. The text in the FEIR on page 2.2-19 has been revised to state: "…would be expected to incrementally reduce the average trip length for the average commuter residing at HGV South from 7.9 to 7.88 miles per trip." **Response to Comment O3b-19** The comment is noted, but the text as written is retained. The text notes that this is an "incremental" reduction. **Response to Comment O3b-20** As stated by the commenter in Response to Comment O3b-18, the reference to VMT was (inadvertently) used incorrectly. Please see the Response to Comment O3b-18. The average trip length would be incrementally reduced from that assumed for the region as a whole. It is immaterial whether or not there are existing uses on site relative to this conclusion. **Response to Comment O3b-21** The commenter has accurately noted an error in the CalEEMod assumptions regarding assumed trip lengths for Home–Shop and Home–Other trip types,

COMMENTS	RESPONSES
	which the County appreciates having an opportunity to rectify. The modeling has been revised in response to this comment, as documented in the table attached here and was part of an RDEIR recirculation on GHGs that occurred in February to April 2018.

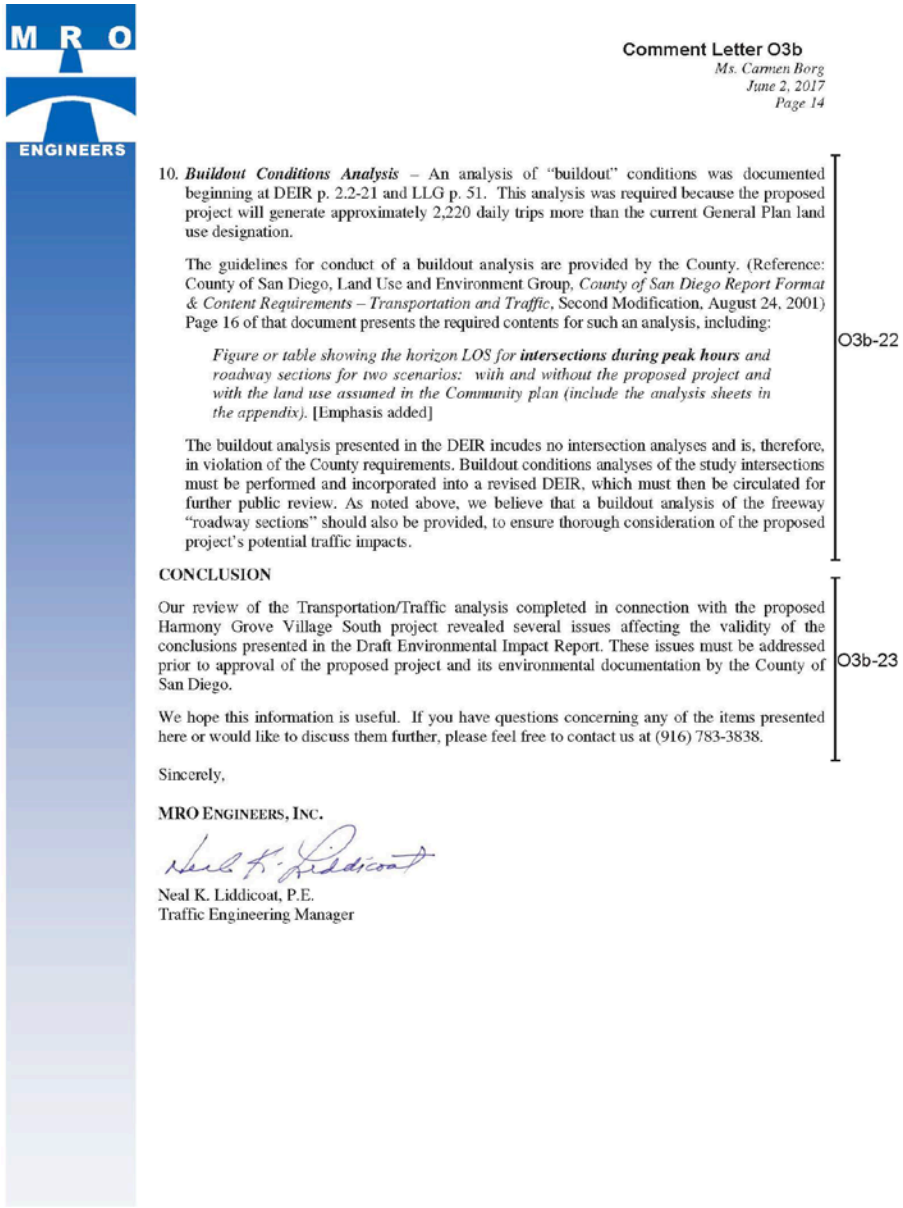
4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	7.88	7.88	7.88	33.00	48.00	19.00	66	28	6
Condo/Townhouse	7.88	7.88	7.88	41.60	18.80	39.60	86	11	3
Parking Lot	7.88	7.88	7.88	0.00	0.00	0.00	0	0	0
Single Family Housing	7.88	7.88	7.88	41.60	18.80	39.60	86	11	3
Strip Mall	7.88	7.88	7.88	16.60	64.40	19.00	45	40	15

As described in the Information for the Reader and Part I of Appendix J, the Project would result in operational emissions of 5,222 MT CO_2e per year, an increase of 134 MT CO_2e over what was previously reported in the DEIR. These emissions will be mitigated through purchase of credits as described in EIR Subchapter 2.7, *Greenhouse Gas Emissions*.

In conclusion, the County disagrees that "significant" problems existing in the derivation of the VMT estimate. Rather, the identified issues relate to a single minor wording error and clarification, as described in the Responses to Comments O3b-18 through 21. These issues have been appropriately resolved and adequately explained.

COMMENTS	RESPONSES



Comment Letter O3b
Ms. Carmen Borg
June 2, 2017
Page 14

10. ***Buildout Conditions Analysis*** – An analysis of "buildout" conditions was documented beginning at DEIR p. 2.2-21 and LLG p. 51. This analysis was required because the proposed project will generate approximately 2,220 daily trips more than the current General Plan land use designation.

The guidelines for conduct of a buildout analysis are provided by the County. (Reference: County of San Diego, Land Use and Environment Group, *County of San Diego Report Format & Content Requirements – Transportation and Traffic*, Second Modification, August 24, 2001) Page 16 of that document presents the required contents for such an analysis, including:

> *Figure or table showing the horizon LOS for* ***intersections during peak hours*** *and roadway sections for two scenarios: with and without the proposed project and with the land use assumed in the Community plan (include the analysis sheets in the appendix).* [Emphasis added]

The buildout analysis presented in the DEIR incudes no intersection analyses and is, therefore, in violation of the County requirements. Buildout conditions analyses of the study intersections must be performed and incorporated into a revised DEIR, which must then be circulated for further public review. As noted above, we believe that a buildout analysis of the freeway "roadway sections" should also be provided, to ensure thorough consideration of the proposed project's potential traffic impacts.

O3b-22

CONCLUSION

Our review of the Transportation/Traffic analysis completed in connection with the proposed Harmony Grove Village South project revealed several issues affecting the validity of the conclusions presented in the Draft Environmental Impact Report. These issues must be addressed prior to approval of the proposed project and its environmental documentation by the County of San Diego.

We hope this information is useful. If you have questions concerning any of the items presented here or would like to discuss them further, please feel free to contact us at (916) 783-3838.

O3b-23

Sincerely,

MRO ENGINEERS, INC.

Neal K. Liddicoat, P.E.
Traffic Engineering Manager

Response to Comment O3b-22

Per County guidelines, projects conforming to the General Plan do not require buildout analyses. Projects that propose to change the County's General Plan, Circulation Element or zoning above the current density or intensity are required to provide a focused buildout analysis of Mobility Element roadways. Given the Project does not conform to the General Plan, a buildout Year 2035 street segment LOS analysis of Mobility Element roadways is provided in the EIR traffic study consistent with this practice. The purpose of this analysis is to conclude whether the proposed land use changes are consistent with the County's Mobility Element. If not, the Project may be required to make changes to the Mobility Element. As shown in the EIR traffic study, no changes are needed to Mobility Element roadways.

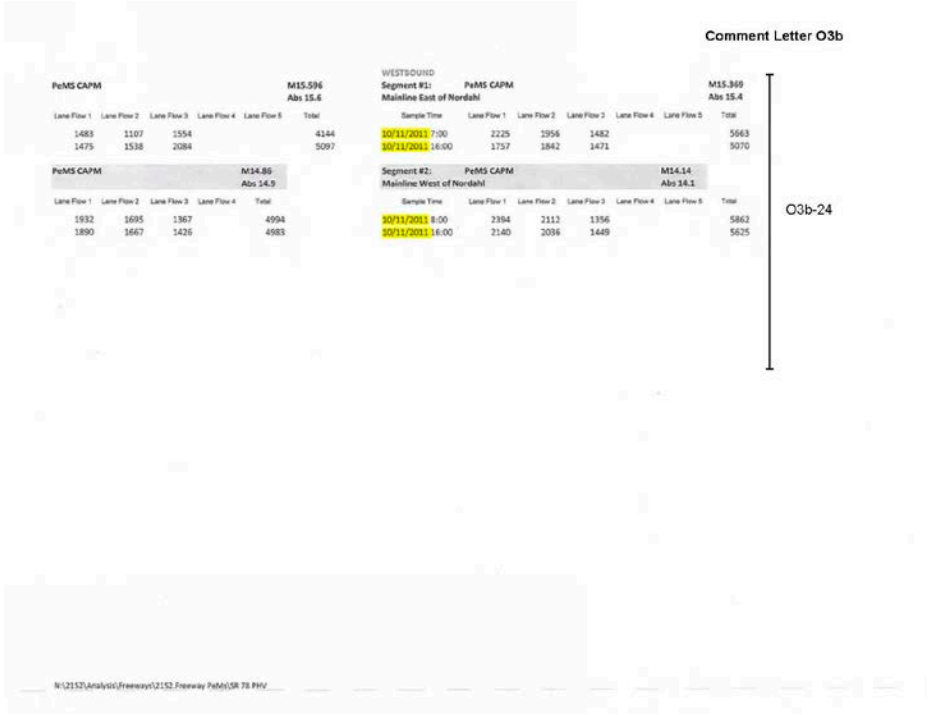
In addition, the County disagrees with this comment. The EIR/TIA evaluated the standard buildout analysis consistent with GPA evaluations. Horizon year intersection analyses and freeway analyses are typically not included and were not required during the County's review.

Response to Comment O3b-23

The County acknowledges the conclusion comments; however, they do not raise new issues concerning the substantive environmental analysis within the EIR. As such, the commenter is referred to the substantive responses provided in Responses to Comments O3b-1 through -22 of this letter. As a reminder, please also see the attachments to the final TIA (A through F) as cited in responses above.

COMMENTS	RESPONSES
Comment Letter O3b ATTACHMENT A CALTRANS PeMS DATA O3b-24	**Response to Comment O3b-24** This attachment provides a comparison of the existing baseline traffic volumes used in the Final TIA analysis and recently collected traffic data. The findings from this comparison validate the existing baseline analysis in the Final TIA. Please also see Response to Comment O3b-4.

COMMENTS	RESPONSES
Comment Letter O3b LINSCOTT LAW & GREENSPAN engineers TECHNICAL APPENDICES HARMONY GROVE VILLAGE SOUTH County of San Diego, California April 6, 2017 *Prepared for the County of San Diego* PSD2015-SP-15-002 LLG Ref. 3-14-2314 O3b-24 Linscott, Law & Greenspan, Engineers 4542 Ruffner Street Suite 100 San Diego, CA 92111 858.300.8800 t 858.300.8810 f www.llgengineers.com	

COMMENTS	RESPONSES
	

Comment Letter O3b

PeMS CAPM — M15.596 Abs 15.6

Lane Flow 1	Lane Flow 2	Lane Flow 3	Lane Flow 4	Lane Flow 5	Total
1483	1107	1554			4144
1475	1538	2084			5097

PeMS CAPM — M14.86 Abs 14.9

Lane Flow 1	Lane Flow 2	Lane Flow 3	Lane Flow 4	Total
1932	1695	1367		4994
1890	1667	1426		4983

WESTBOUND

Segment #1: PeMS CAPM Mainline East of Nordahl — M15.369 Abs 15.4

Sample Time	Lane Flow 1	Lane Flow 2	Lane Flow 3	Lane Flow 4	Lane Flow 5	Total
10/11/2011 7:00	2225	1956	1482			5663
10/11/2011 16:00	1757	1842	1471			5070

Segment #2: PeMS CAPM Mainline West of Nordahl — M14.14 Abs 14.1

Sample Time	Lane Flow 1	Lane Flow 2	Lane Flow 3	Lane Flow 4	Lane Flow 5	Total
10/11/2011 8:00	2394	2112	1356			5862
10/11/2011 16:00	2140	2036	1449			5625

O3b-24

N:\2152\Analysis\Freeways\2152 Freeway PeMs\SR 78 PHV

COMMENTS

RESPONSES

Comment Letter O3b

TABLE 6–3
EXISTING FREEWAY MAINLINE OPERATIONS

Freeway Segment	Dir.	# of Lanes [a]	Hourly Capacity [b]	Volume [c]	Peak Hour Volume [d]		V/C [e]		LOS [f]	
					AM	PM	AM	PM	AM	PM
State Route 78										
1. West of Nordahl Rd	EB	3M+1A	7,200	159,000	4,994	4,983	0.694	0.692	C	C
	WB	3M	6,000		5,862	5,625	0.977	0.938	E	E
2. East of Nordahl Rd	EB	3M+1A	7,200	164,000	4,144	5,097	0.576	0.708	B	C
	WB	4M+1A	9,200		5,663	5,070	0.616	0.551	B	B

O3b-24

Footnotes:

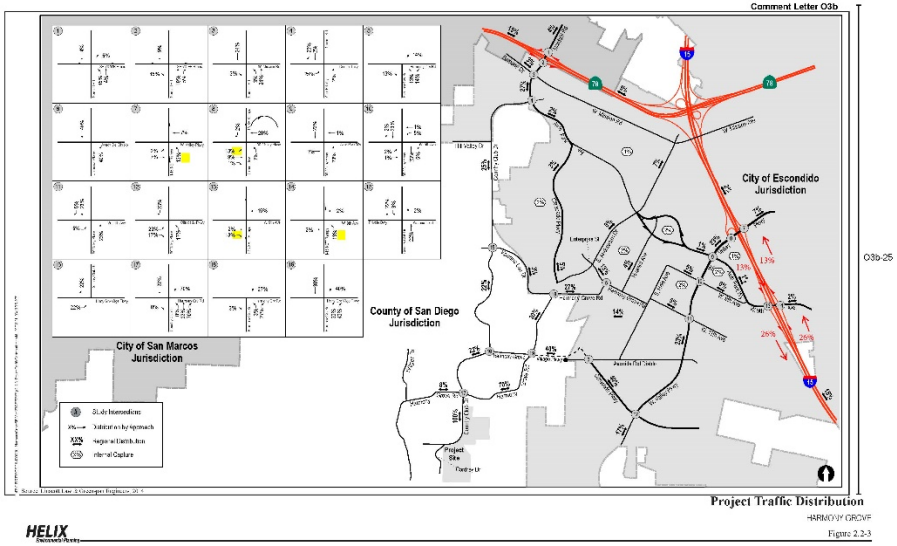
a. Lane geometry taken from PeMS lane configurations at corresponding post miles including SR 78 recent improvements.
b. Capacity calculated at 2000 vehicles per hour (vph) per lane for mainline lanes and 1200 vph for auxiliary lanes, from *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
c. Existing ADT volumes taken from most recent Caltrans traffic volumes.
d. Peak hour volumes taken from most recent PeMS traffic volumes.
e. V/C = (Peak Hour Volume/Hourly Capacity).
f. LOS = Level of Service.

General Notes:

1. M = Mainline
2. A = Auxiliary

LOS	V/C
A	<0.41
B	0.62
C	0.80
D	0.92
E	1.00
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

COMMENTS	RESPONSES
Comment Letter O3b ATTACHMENT B ANNOTATED DEIR FIGURE 2.2-3 "PROJECT TRAFFIC DISTRIBUTION" O3b-25	**Response to Comment O3b-25** This attachment is addressed in Response to Comment O3b-5.

COMMENTS	RESPONSES
	

COMMENTS	RESPONSES
 Comment Letter O3b ATTACHMENT C PAGE 5 FROM *GUIDE FOR THE PREPARATION OF TRAFFIC IMPACT STUDIES* (CALTRANS, DECEMBER 2002) O3b-26	**Response to Comment O3b-26** This attachment is a Caltrans resource document. This document is addressed in Response to Comment O3b-11.

COMMENTS	RESPONSES
Comment Letter O3b  O3b-26 **GUIDE FOR THE PREPARATION** **OF** **TRAFFIC IMPACT STUDIES** **STATE OF CALIFORNIA** **DEPARTMENT OF TRANSPORTATION** **December 2002**	

Comment Letter O3b

D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis (please note however, the micro-simulation model must be calibrated and validated for reliable results). Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the data necessary for the analysis.

A. Freeway Segments – Highway Capacity Manual (HCM)*, operational analysis
B. Weaving Areas – Caltrans Highway Design Manual (HDM)
C. Ramps and Ramp Junctions – HCM*, operational analysis or Caltrans HDM, Caltrans Ramp Metering Guidelines (most recent edition)
D. Multi-Lane Highways – HCM*, operational analysis
E. Two-lane Highways – HCM*, operational analysis
F. Signalized Intersections[8] – HCM*, Highway Capacity Software**, operational analysis, TRAFFIX™**, Synchro**, see footnote 8
G. Unsignalized Intersections – HCM*, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
H. Transit – HCM*, operational analysis
I. Pedestrians – HCM*
J. Bicycles – HCM*
K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Transportation Research Board, National Research Council, should be used.

**NOTE: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

[8] The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM.

5

O3b-26

COMMENTS	RESPONSES
Comment Letter O3b ATTACHMENT D APPENDIX C FROM *GUIDE FOR THE PREPARATION OF TRAFFIC IMPACT STUDIES* (CALTRANS, DECEMBER 2002) O3b-27	**Response to Comment O3b-27** This attachment is a Caltrans resource document. This document is addressed in Response to Comment O3b-12.

COMMENTS	RESPONSES
Comment Letter O3b # APPENDIX "C" ## MEASURES OF EFFECTIVENESS ## BY ## FACILITY TYPE O3b-27	

COMMENTS	RESPONSES

Comment Letter O3b

MEASURES OF EFFECTIVENESS BY FACILITY TYPE

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS (MOE)
Basic Freeway Segments	Density (pc/mi/ln)
Ramps	Density (pc/mi/ln)
Ramp Terminals	Delay (sec/veh)
Multi-Lane Highways	Density (pc/mi/ln)
Two-Lane Highways	Percent-Time-Following Average Travel Speed (mi/hr)
Signalized Intersections	Control Delay per Vehicle (sec/veh)
Unsignalized Intersections	Average Control Delay per Vehicle (sec/veh)
Urban Streets	Average Travel Speed (mi/hr)

Measures of effectiveness for level of service definitions located in the most recent version of the Highway Capacity Manual, Transportation Research Board, National Research Council.

O3b-27

2

COMMENTS	RESPONSES
Comment Letter O3b ATTACHMENT E GOOGLE EARTH STREET VIEWS HARMONY GROVE ROAD/COUNTRY CLUB DRIVE (NOVEMBER 2016) O3b-28	**Response to Comment O3b-28** This attachment consists of photo documentation of the Harmony Grove Road/Country Club Drive intersection. This attachment is addressed in Response to Comment O3b-15.

COMMENTS	RESPONSES
Comment Letter O3b  ATTACHMENT E Harmony Grove Road/Country Club Drive Northeast Corner O3b-28	

COMMENTS	RESPONSES
Comment Letter O3b  O3b-28 ATTACHMENT E Harmony Grove Road/Country Club Drive Northeast Corner	