



May 11, 2020

Mr. Ken Norton, Contract Engineer
CITY OF HEMET
445 E Florida Ave
Hemet, CA 92543

RE: S2A Modular Manufacturing Project Comments Response Letter
19-0164

Dear Mr. Norton:

INTRODUCTION

Ganddini Group, Inc. is pleased to provide this response letter to review comments regarding the [S2A Modular Manufacturing Project Traffic Impact Analysis](#) (Ganddini Group, Inc., August 20, 2019). The original comment letter from LLG Engineers is dated April 8, 2019 and a scanned copy is included in Attachment A. The report has been revised based on the comments and responses herein.

GENERAL COMMENTS - 1ST BULLET

Based on our review, we find that the traffic impact analysis (TIA) is in general conformance with City of Hemet (County of Riverside TIA Guidelines) and standard traffic engineering/planning practice. However, there is some concern regarding the version of the Vistro software utilized (The TIA utilized Vistro 6.0 instead of the current version in August 2019 of Vistro 7.0) and the assumptions in the LOS calculations regarding signal timing. Specifically, all of the signalized study intersections were run assuming “fixed-time”, whereas the appropriate signal timing assumption would be to run “actuated” or “semi-actuated” based on the existing signal detection at each specific study intersection.

Response

The software version utilized for the analysis (Vistro 6.0) provides Level of Service and operational results in accordance with the latest edition of the Highway Capacity Manual (6th Edition) intersection delay methodology. While newer versions of the Vistro software may provide additional features, the underlying analysis methodology has not changed; therefore, the analysis is adequate and has not been revised using a newer version of Vistro. In response to the signal timing, the analysis has been revised using the appropriate actuation type.

GENERAL COMMENTS - 2ND BULLET

Regarding pedestrian crossing times in the LOS calculations, it appears that a 17 second “default” time was applied whereas, the County TIA Guidelines recommend full pedestrian crossing times unless the location has low pedestrian activity, in which 7 seconds can be utilized. As a result, given that State Street has sidewalks and many pedestrian related businesses, we would recommend utilizing the full pedestrian crossing times unless no crosswalks are present.

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Response

The 17-second default used in the analysis is more conservative than the County-recommended default for 7 seconds in areas of light pedestrian activity. The County TIA guidelines refer to minimum green time as a proxy for minimum pedestrian crossing times and state: “7 seconds each movement in areas of light pedestrian activity. In areas of heavy activity, the minimum green time shall be calculated based on the methodology in the HCM.” By entering the full pedestrian crossing times as suggested, the intersection delay calculations would reflect operations of a call on each pedestrian phase of every cycle, which rarely occurs outside of central business districts, school areas, or near other high-pedestrian generators. Nevertheless, the analysis has been revised to utilize the full pedestrian crossing times.

GENERAL COMMENTS – 3RD BULLET

It appears that the signalized LOS calculation for Intersection #2 (State/Crows Nest) did not include any crosswalks. Given that the proposed project will construct sidewalk improvements along the project frontage and that the northbound transit stop is south of the Project site, it is recommended that crosswalks be assumed along the west leg and south leg of the intersection in the LOS calculation.

Response

Intersection #2 signalized LOS calculations have been revised to include crosswalks.

GENERAL COMMENTS – 4TH BULLET

In order to provide appropriate pedestrian connection for the proposed Project to transit stops, consistent with “Active Transportation” policies, it is recommended that the existing sidewalk on the east side of State Street, south of Crows Nest Place, be extended northerly approximately 125 feet to connect to the proposed traffic signal at State/Crows Nest, which will provide a protected crossing to the west side of State Street adjacent to the project site.

Response

The recommended sidewalk extension does not correlate to a project impact under CEQA, nor is it a typical development condition. In general, most cities do not require projects to construct parkway improvements, such as landscaping and sidewalks, beyond the project frontage. City staff should discuss this issue with the applicant; however, it is not noted as a required improvement in the traffic impact analysis for the project.

GENERAL COMMENTS – 5TH BULLET

In a phased traffic analysis, it is typical procedure to apply mitigation measures considered in the initial (or previous) phase to the “with Project” condition of the subsequent phases in order determine which phase is responsible for which mitigation improvement. Therefore, it is recommended that mitigation measures identified for Year 2021 (Phase 1) traffic analysis conditions be applied to the Year 2024 (Phase 2) “with project” traffic analysis conditions.

Response

The analysis has been revised as suggested such that mitigation measures identified for earlier phases are assumed to be in place for subsequent phases.

GENERAL COMMENTS – 6TH BULLET

It is our recommended practice to report the “approach delay” not “worst movement delay” at unsignalized intersections (Intersection #2). Therefore, while not significant to the impact, we recommend reporting the approach delay for study Intersection #2.

Response

To avoid confusion, the “worst movement delay” was originally reported for consistency with the Vistro summary outputs, which report the more conservative “worst movement delay.” As suggested, the report has been revised to show the “approach delay” in accordance with the Highway Capacity Manual methodology.

GENERAL COMMENTS – 7TH BULLET

Figure 11 and all subsequent traffic volume figures at Intersection #2: The EBR arrow and traffic volumes are missing. The eastbound approach correctly shows a left turn movement, but incorrectly shows a through movement, which is not possible (“T” intersection).

Response

The report figures have been revised accordingly. This was a graphic error and did not affect the Level of Service calculations.

GENERAL COMMENTS – 8TH BULLET

LOS Calculation for Intersection #5 (State/Devonshire): The SB approach lane geometry is calculated as 1 SBL, 1 SBT, and 1 SBT/R, but the appropriate lane geometry is 1 SBL, 2 SBT, and 1 SBR, as shown in Figure 3.

Response

The analysis has been revised accordingly.

GENERAL COMMENTS – 9TH BULLET

LOS Calculation for Intersection #6 (State/Florida): The LOS is calculated as an 8-phase signal with protected N/S phasing, but the intersection operates as a 5-phase signal with permissive N/S phasing. As a result, the recommended mitigation for this intersection, which is not feasible, is not satisfactory as a 5-phase signal and would need to be improved to 8-phases with protected N/S phasing.

Response

Intersection #6 signal phase has been revised to actuated and 5-phase signal with permissive north-south phasing. The revised LOS calculations indicate the intersection would operate within acceptable Levels of Service and mitigation is no longer required.

SPECIFIC COMMENTS

COMMENT 1

Page 11: Figure 3 – Existing Lane Geometry and Intersection Traffic Controls – Based on our field review of Intersection No. 4 (State/Menlo), we would not recommend that a “defacto” eastbound right turn lane be considered given that the eastbound shared roadway width is only 18 feet.

Response

The analysis has been revised accordingly.

COMMENT 2

Page 23: Project Trip Generation – It is not clear where the AM peak hour and PM peak hour car versus truck percentage splits come from. The “Light Industrial” percentage splits based on the 2003 Fontana Truck Study are 64.96%/35.04% and 43.01%/56.99%, respectively, which results in a lower trip generation forecast than provided on Table 2 in the TIA (197 AM PCE trips and 213 PM PCE trips). Therefore, while it is recommended that the TIA percentages be explained, the TIA does not need to be revised since the trip generation is greater than it should be.

Response

Baseline rates for total vehicle trips were obtained from ITE [Trip Generation Manual](#) (10th Edition) for “Land Use Code 140 - Manufacturing” (Land Use Code 130 previously listed in error). Baseline total vehicle rates were then separated into passenger car and truck rates based on data from the City of Fontana [Truck Trip Generation Study](#) (August 2003). The car and truck percentages for the AM and PM peak hours of adjacent street traffic are calculated from the summary rates shown on page 13 of the Fontana Truck Study (weighted average trips per Gross Building Area) as shown below; the daily truck rate and breakdown by axle was obtained from page 22 of the Fontana Truck Study.

Land Use	Weighted Average for Daily Trips per 1,000 GSF ¹				Car/Truck Split			
	AM Street		PM Street		AM Street		PM Street	
	All	Trucks	All	Trucks	Cars	Trucks	Cars	Trucks
Light Industrial	0.679	0.268	0.436	0.101	60.53%	39.47%	76.83%	23.17%

Source: Fontana Truck Study, page 13.

COMMENT 3

Page 53: Section 6 and/or Section 8 (Page 60) Mitigation Measures:

- Intersection #4: the mitigation can be achieved by restriping of Menlo Avenue and modifying the traffic signals in the east/west direction.
- Intersection #6: All of the mitigation identified for this intersection is not feasible. Specifically, the recommended mitigation on State Street requires the demolition of an existing building to achieve a second southbound through lane. In addition, the mitigation along Florida Avenue can not be achieved by restriping only and will require widening, which may not be feasible.

Response

Mitigation measures have been revised based on this comment and incorporation of previous signal timing/phasing comments.

- Intersection #4 mitigation was revised to restripe the eastbound and westbound approach lanes within the existing pavement width as noted in the comment.
- Intersection #6 does not require mitigation based on the revised signal phasing/Level of Service calculations resulting from revisions based on General Comment 9.

COMMENT 4

Page 54: Traffic Signal Warrant Analysis – While the graphs in Appendix appear satisfactory, we would recommend providing the traffic signal warrant analyses information provided in Vistro, which addresses the delay warrant as well as the peak hour volume warrant.

Response

Traffic Signal Warrant Analysis was performed independently of the Vistro software using CA MUTCD methodology for peak hour volumes plot for Part B. The vast majority of traffic impact studies we have reviewed or prepared do not typically include Part A as delay calculations already presented in the peak hour Level of Service analysis and only Part A or Part B must be satisfied. For the record, Part A does not appear to be satisfied for the intersection of State Street at Crows Nest Place as all three of the following criteria must be satisfied:

- Total minor street delay for one lane approach exceeds 4 vehicle hours? No - $161 \text{ vehicles per PM peak hour} \times (82.88 \text{ seconds} / 3600) = 3.7 \text{ vehicle-hours of delay}$.
- Minor street volume exceeds 100 vehicles per hour on a one-lane minor approach – Yes
- Total approach volume exceeds 650 vehicles per hour on a three-leg intersection - Yes

COMMENT 5

Page 59: Table 7 – Note (2) is cut off at the edge of the page.

Response

Table 7 has been revised accordingly.

COMMENT 6

Page 60 Section 8: STATE HIGHWAY ANALYSIS – It is recommended that a LOS Summary table (or tables) be included for the one (1) State Controlled intersection (State/Florida) that shows all of the analysis scenarios.

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Response

The report has been revised accordingly.

COMMENT 7

Page 62 Section 9: CONCLUSIONS:

- It is recommended each mitigation measure be identified as to whether it will be covered by a fee and/or fair share contribution.
- Given that there will likely be no impacts in Year 2024 once Year 2021 mitigation is applied to the “with project” traffic analysis condition in Year 2024, it is recommended that Table 8 be modified to be calculated based on 2021 traffic volume data and another table be provided for Year 2024 fair share calculations should there be mitigation for Year 2024.

Response

The report has been revised accordingly. All mitigation measures occur in Year 2021 and there are no additional Year 2024 improvements.

COMMENT 8

Page 66: Table 9: The top row of Table 9 should include the analysis Year.

Response

Table 9 has been revised accordingly.

COMMENT 9

Page 67: Figure 38: Figure 38 should be updated based on previous comments. In addition, the WB mitigation at Intersections #4 and #6 is either incorrect or missing and Intersection #2 shows a “Stop” sign and traffic signal. Lastly, it is not clear what is meant by the symbol, which indicates “other development improvement” as there is no mention of any planned improvements in the document.

Response

Figure 38 has been revised based on previous comments. Project improvements related to direct impacts/project design features are shown in red outline (signal at intersection #2 and project driveways). Improvements related to cumulative conditions have been relabeled and are shown in blue.

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CONCLUSION

We trust these responses and the revised report will adequately address the review comments. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Sincerely,



Perrie Ilercil, PE (AZ)
Senior Engineer



Giancarlo Ganddini, TE, PTP
Principal

ATTACHMENT A
Original Comment Letter