PANG ENGINEERS, INC.
TRAFFIC AND TRANSPORTATION CONSULTANTS

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2020010 (2)
May 1, 2020

Law Offices of Brian Gaffney APC
446 Old County Rd, Suite 100-310
Pacifica, CA 94044
ATTN: Brian Gaffney
Attorney at Law

Re: Cypress Point TIA
Moss Beach
San Mateo County, California
PLN2018-00264

Dear Mr. Gaffney:

We have "peer reviewed" for the proposed Cypress Point "Affordable" Apartment Residential Development at the northeast corner of Carlos Street and Sierra Street in Moss Beach and San Mateo County, CA, the following documents:

1. Traffic Impact Analysis (TIA), dated April, 2019 by Kittelson & Associates, Inc. in Oakland, California;
2. State of California, Department of Transportation (CalTrans) letter response, dated April 9, 2018;
3. CalTrans letter response, dated August 29, 2018;
4. San Mateo County Civil Comments-Traffic, dated September 24, 2018;
5. Executive Summary of the "Connect The Coastside" Report, January 15, 2020.

Our comments, questions, concerns, TIA omissions, and/or constructive suggestions are to gain a better understanding of the project impacts for the Transportation and Traffic elements. Several items are enumerated, and include but are not limited to this partial list, e.g. Trip Generation, Trip Distribution and Assignments, count data, Level of Service (LOS) analysis, parking, access and circulation, proposed Mitigation Measures at the critical intersections, Vehicle Miles Traveled (VMT), and other miscellaneous items.

The proposed project is a 71 Dwelling Unit (DU) "affordable" apartment complex on 10.875 acres of vacant land. It is assumed that the development is "apartments", since the TIA utilizes Land Use 220 or "apartments" within the Institute of Transportation Engineers (ITE) Trip Generation Manual.

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1. TRIP GENERATION

The TIA project trip generation estimates referenced the 9th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual, which subsequently has been updated to the 10th Edition around April, 2018. As the TIA was initiated with critical intersection counts collected during April, 2017, it is understandable that the 9th Edition was utilized at that time. However, with the subsequent delay in the release of various draft versions of the TIA in January, 2018, as evidenced by the CalTrans comment letter of April 9, 2018, and the July 2018 Planning Permit Application Referral noted in the CalTrans letter of August 29, 2018, and then the release of the latest version of the TIA dated April, 2019, there is a concern about the accuracy of the TIA trip generation estimates given the lack of review for compatibility and comparison with the latest or 10th Edition.

The TIA omits the daily weekday trip generation estimates for the proposed project.

Here are other potential comparisons for weekday daily, AM and PM peak hours, and Saturday peak hours:
DAILY:
9th Edition Estimate = 473 trips (average method); missing from TIA;
9th Edition Estimate = 554 trips (with "equation");
10th Edition Estimate = 520 trips (average method);
10th Edition Estimate = 496 trips (with "equation");

AM:
9th Edition Estimate = 37 trips (average method); shown in TIA;
9th Edition Estimate = 39 trips (with "equation");
10th Edition Estimate = 33 trips (average method);
10th Edition Estimate = 35 trips (with "equation");

PM;
9th Edition Estimate = 45 trips (average method); shown in TIA;
9th Edition Estimate = 57 trips (with "equation");
10th Edition Estimate = 40 trips (average method);
10th Edition Estimate = 44 trips (with "equation");

SATURDAY Peak Hour:
9th Edition Estimate = 37 trips (average method); shown in TIA;
9th Edition Estimate = 49 trips (with "equation");
10th Edition Estimate = 54 trips (average method);
10th Edition Estimate = 44 trips (with "equation").

Best practice would have been for the TIA's AM peak hour estimate to utilize the higher of the average vs equation methods or 39 trips, to represent a conservative approach. However, the 37 AM peak hour trips in the TIA are slightly LESS than the 39 trips for the 9th Edition. The estimates could be slightly reduced if the 10th Edition is utilized from 37 in the TIA to 35.

The PM peak hour estimate should also have utilized the higher of the average vs equation methods or 57 trips. The 45 trips in the TIA are LESS than the 57 trips for the 9th Edition. The estimates could be reduced if the 10th Edition is utilized from 45 in the TIA to 44.

The Saturday peak hour estimate should have utilized the higher of the average vs equation method or 49 trips. The 37 trips in the TIA are LESS than the 49 trips for the 9th Edition. The estimates would be increased if the 10th Edition is utilized from the 37 in the TIA to 54.

The TIA's trip generation numbers are different from the ITE manual. The TIA analyses failed to: (1) include the estimated DAILY trips for the proposed project (an omission); (2) use the HIGHER of the average vs equation methods; and (3) use the updated 10th Edition from ITE.

Because of these errors and omissions, the TIA's estimates of Project trip generation are unreliable, and unless corrected, should not serve as the basis for conclusions about Project traffic impacts.

2. TRIP DISTRIBUTION AND ASSIGNMENTS

The Project Trip Distribution along State Route 1 is shown on Table 4, page 26 of the TIA. The TIA states that "the distribution of Project trips was derived from existing travel volume data and from knowledge of the local travel times". The problem with this statement is that there is no disclosure of the time frame of the CalTrans SR 1 "seasonally" adjusted volume estimates referenced. Thus, the peer reviewer does not know if trip volume estimates were based on the April, 2017 critical intersection counts, or something else, such as a travel demand model? That foundational information must be provided to properly assess the trip distribution.

Additionally, the TIA fails to provide a "Figure" which shows the percent of traffic distribution to the local streets. Table 4 only indicates the traffic distribution along SR 1.

Further, the TIA fails to disclose the project driveway volumes shown at an "unnumbered" intersection with Carlos Street. This is important information to assess the estimated trip generation percentages from the north and south on Carlos Street. While TIA Figure 7 on page 27 shows the estimated project trip distribution, there is no driveway "intersection" disclosure as previously noted. Thus, project traffic volumes on the local streets are impossible to discern without the percentages.

The potential redistribution of the estimated project trips, along with the desire to update or revise the trip generation estimates with new information, has a direct bearing on the trip assignments at the project driveway, as well as at all critical intersections.

Because of these omissions, the TIA's estimates of Project trip distribution are unreliable, and unless corrected should not serve as the basis for conclusions about Project traffic impacts.

3. COUNTS

Appendix 2 of the TIA contains the counts at the critical intersections which were collected during April, 2017. At this point, these traffic counts are three years old. Thus, they cannot be relied upon for assessments of traffic impacts.

Rather than reliance on outdated traffic counts to accurately estimate traffic impacts, the counts should be redone to reflect more typical current expected 2020 traffic patterns (excluding the coronavirus issues), and be conducted to reflect traffic when school is open as well as a typical Summer weekday and weekend day (Saturday) traffic. Along with the outdated counts, the "seasonally" adjusted volumes utilized in the TIA remains unclear as to how they were determined. Additional clarity is required to evaluate traffic impacts to also reflect the Summer months recreational traffic and school period traffic on certain movements.

Since there is the potential for a lot of variation in the actual counts, the TIA should include both a typical school day and a Summer day be counted to adequately assess the traffic impacts.

There were several Summer months over the last three years available for additional counts. There could have been selected counts performed, especially at the critical intersections that are shown in the TIA to be significantly impacted.

The school year and Summer month traffic volumes should be compared and the HIGHER one or "worst" case utilized for the Level of Service (LOS) calculations at the critical intersections.

4. LEVEL OF SERVICE (LOS)

The errors and omissions from the TIA's estimated project trip generation, omissions from the TIA's trip distribution and assignment discussion, the lack of any "growth" factors due to the delay of nearly 3 years for "existing" and Summer traffic counts, and the omission of an updated list of "approved" projects, all are factors which make the TIA's LOS calculations unreliable.

On that basis, ALL of the LOS calculations should be redone based on proper trip generation estimates, accurate trip distribution and assignments, and updated traffic counts as discussed above. In the absence of modified LOS calculations, the TIA's current LOS results should not serve as the basis for conclusions about Project traffic impacts.

Additional comments are provided in the Traffic Mitigation section.

Notwithstanding the above flaws, the LOS calculations shown in the TIA indicate significant traffic impacts at some of the critical intersections, and should not be ignored.

5. PARKING

The proposed on-site parking on the Site Plan indicates 142 stalls, or 2 stalls per apartment dwelling unit. That is 15 parking stalls in excess of the San Mateo County code requirement of 127 stalls. See TIA Table 18, page 60.

The TIA utilized the 4th Edition of the Parking Generation Manual. Since 2017 there is a 5th Edition released in April, 2019 available. What is troubling is that the TIA utilizes Land Use #221 and not Land Use #220 available in the 5th Edition. Thus, this portion of the TIA should be updated, e.g. Table 19, page 61.

Further analysis is required to include not only the average parking generation rates but also the 85th percentile values, and compare that with the San Mateo County code requirements.

Notably, if the goal is to reduce the project traffic impacts with less traffic, then the increase in the project parking supply above the San Mateo County code requirements will have the opposite effect.

6. ACCESS AND CIRCULATION

Based on the review of the Site Plan (page 12), we understand that only one driveway is proposed to provide project vehicular access to and from Carlos Street. The driveway is in close proximity to Intersection #3, SR-1/Carlos Street, as well as Intersection #4, Carlos Street/Sierra Street. There is an emergency access to Lincoln Street to the east (page 46).

A more detailed Driveway/Carlos Street intersection design or sketch is required to indicate how the project vehicular operations will be implemented.

There are likely to be significant adverse traffic impacts from the proposed project Driveway/Carlos Street intersection operations. These operational issues should be analyzed further before project approval. Currently, operational traffic issues from inadequate sight distance, inadequate turning radii, and others, have not been adequately analyzed, mitigated, or avoided.

7. MITIGATION MEASURES

The proposed Mitigation Measures are in the TIA starting on page 49.

In reference to the significant traffic impacts based on the LOS calculations for the Existing Conditions or TRAF-1, the TIA discusses mitigations TRAF-1A and TRAF-1B.

TRAF-1A
Intersection #7 or SR-1/California Avenue-Wienke Way for the PM peak hour and Saturday peak hour:

The conversion of the existing two-way STOP control into a roundabout or signalized intersection is the proposal with a determination upon the completion of the Intersection Control Evaluation (ICE) study required by CalTrans. This is an unresolved mitigation measure as there has not been a completion of the ICE study nor any information regarding the potential "fair share" cost sharing aspects with the proposed development. In the absence of this information about who will pay or the ICE results, the mitigation's feasibility is unknown.

The ICE study and the Connect to Coastside Study recommendations, when completed, should be included in an updated TIA analysis.

Without the ICE Study and without a "fair share" cost sharing agreement, this proposed mitigation measure is incomplete, unenforceable, and cannot be relied upon for a conclusion of a less than significant traffic impact.

TRAF-1B
"Develop a Transportation Demand Management (TDM) Plan for the review and approval by San Mateo County".

In the absence of a TDM Plan, it is impossible to assess its feasibility or how it will potentially mitigate acknowledged significant traffic impacts.

The TIA indicates that "the effectiveness of a TDM plan cannot be guaranteed" (page 50). CalTrans has also commented on this issue, as well as prior San Mateo County Civil (Traffic) responses and suggestions. Thus, the proposed mitigation measure does not resolve the significant traffic impacts that have been identified.

In reference is to the significant traffic impacts based on the LOS calculations for the Background Conditions or TRAF-2, the TIA discusses mitigations TRAF-2A and TRAF-2B.

TRAF-2A
Intersection #7 or SR-1/California Avenue-Wienke Way for the PM peak hour and Saturday peak hour:

Similar to TRAF-1A and 1B above, those comments are repeated herein.

TRAF 2B:
Intersection #3 or SR-1/Carlos Street for the Saturday peak hour.

Three potential mitigation measures were considered (page 52):
1. Closing Carlos Street between SR-1 and the Project to all but emergency vehicles;
2. Connecting Carlos Street with 16th Street instead of SR-1;
3. Grading the east side of SR-1 to provide clear sight distance.

The TIA does not identify "feasible" mitigation measures for Item #1 above.

Item #2 above has geometric and topographic challenges, and right of way issues, which remain unresolved.

Item #3 above is a challenge to obtain the clear sight distance requirements. However, merely stating that a topographic map will be required is insufficient. There are other CalTrans issues not studied nor adequately discussed including but not limited to a "fair share" agreement for the right of way, and intersection and street improvement costs.

The TIA has not identified cost sharing for any of the above three mitigations, and that undermines the feasibility of the proposed mitigation measures as discussed above.

Also, the TDM Plan is once again mentioned and the prior response stated above in TRAF 1B applies.

In reference to the significant traffic impacts based on the LOS calculations for the Cumulative Conditions or TRAF-3, the TIA discusses mitigations TRAF-3A, TRAF-3B, and TRAF-3C.

TRAF-3A
Intersection #3 or SR-1/Carlos Street for the AM, PM and Saturday peak hours.

The TIA proposes to implement the TDM program or TRAF-1B, which has not as yet been developed nor submitted, is an unacceptable mitigation measure for the reasons above.

TRAF-3B
Intersection #6 or SR-1/Vallemar Street-Etheldore Street for the Saturday peak hour.

The TIA proposes to implement the TDM program or TRAF-1B which has not as yet been developed nor submitted, is an unacceptable mitigation measure for the reasons above.

An additional mitigation measure of a new traffic signal was analyzed and the peak hour signal warrant was not satisfied. Therefore, this is NOT an adequate proposed mitigation measure.

TRAF-3C
Intersection #2 or SR-1/16th Street for the PM peak hour and Cumulative with Project Condition.

The TIA proposes to implement the TDM program or TRAF-1B which has not as yet been developed nor submitted, is an unacceptable mitigation measure. The traffic signal peak hour warrant is not satisfied. Therefore, there is no mitigation measure that reduces the traffic impacts to less than significant.

In reference to the significant traffic impacts based on Design Features or TRAF 4, the TIA discusses mitigation TRAF-4A.

TRAF 4A
The SR-1/Carlos Street intersection (#3) has restricted sight distance along the east side of SR-1.

The proposed mitigation measure of TRAF-1B or a TDM program is unacceptable for the reasons above. The TIA fails to provide a design of this intersection to resolve the sight distance issues, along with a "fair share" agreement as to the future costs of any proposed intersection improvements, and other sight distance and intersection street improvements.

In reference to the safety of public transit, bicycle and pedestrian facilities or TRAF-5, the TIA discusses mitigations TRAF-5A and TRAF-5B.

TRAF 5A
Sidewalk construction mitigation measure should be a condition of development.

TRAF-5B
The proposed mitigation measure of distributing information is a given and not a true mitigation measure. The TIA fails to provide a sketch detailing the bus stop locations with signing, crosswalk markings if deemed feasible, and the correction with actual physical improvements of the inadequate sight distance along SR-1.

Additional continuing collaborative efforts with Sam Trans at a minimum should be required for all project related bus route changes, and the TIA should include analysis of impacts on traffic of such bus-related mitigation measures.

8. VEHICLE MILES TRAVELED

The concept of Vehicle Miles Traveled (VMT) should either complement or replace the LOS analysis depending upon the transition by San Mateo County to this type of analysis. However, it is important to note that VMT analysis does not eliminate nor remove the significant traffic impacts already noted with the LOS calculations within the TIA.

To accurately analyze traffic impacts, the TIA should provide estimates of the VMT for this proposed project to complement the results and traffic impacts from the LOS calculations.

9. OTHER

A. Queues (TIA, page 63)

The TIA contains the queue calculations for the 95th percentile analysis at the request of CalTrans. It appears that the analyses are adequate assuming that the inputs were consistent. Nevertheless, there are issues previously mentioned with the trip generation, trip distribution and assignments, and "seasonally" adjusted counts that must be analyzed to properly reflect the project traffic impacts.

B. CalTrans Comments

Two CalTrans comment letters have been submitted regarding the proposed project. The first is dated April 9, 2018 and the second August 29, 2018. Our comments are as follows:

CalTrans April 9, 2018 Letter

This Caltrans letter raises the issue of Vehicle Miles Traveled (VMT) and its goal to reduce VMT while tripling bicycle, and doubling pedestrian and transit travel. Their comments are based on the January 2018 Draft Traffic Analysis.

CalTrans indicates that "improvements to SR-1 may be necessary to accommodate increased vehicle, transit, pedestrian, and bicycle trips associated with the project". There are many SR-1 challenges and multiple constraints affecting SR-1 which still MUST be evaluated before project approval. Some of the items raised by CalTrans, to the best of our knowledge, have NOT been adequately analyzed within the revised TIA of April, 2019. These include the following:

1. right of way (ROW) constraints and topography limit options for the Carlos Street/SR-1 intersection;
2. SR-1 has limited accommodations for transit users, cyclists, and pedestrians in his area;
3. sight distance and potential turning movement conflicts limit the options for intersection improvements;
4. accessing the coast or existing southbound SamTrans Route 17 bus stop, which runs on one-hour headways, requires crossing SR-1 at an unsignalized intersection;
5. accessing the northbound SamTrans Route 17 bus or the community of Montara requires walking along the shoulder of SR-1 for approximately 0.15 miles.

The TIA does not adequately address those issues. Not only should additional analyses be performed, e.g. a CalTrans ICE Study, but those items should be adopted prior to project approval.

The TIA still does not include an adequate nor detailed analysis for the issues such as the Carlos Street emergency vehicles only between project driveway and SR-1; 16th street, eastbound and westbound approaches, right turns only; and Vallemar Street/Etheldore Street, eastbound and westbound approaches, right turns only.

Also, the TIA proposes to convert the SR-1/California Avenue-Wienke Way intersection from a two-way STOP controlled into a roundabout or signalized intersection. However, while there are some LOS calculations in the Appendices of the TIA, an actual sketch or preliminary design for either a signalized intersection or roundabout has not been included within the revised TIA.

The TIA has however, included a queue analysis for vehicular storage as previously noted, but has NOT analyzed the truck U-Turn issue at critical intersections.

With respect to Multimodal Planning, Caltrans has identified a "Fair Share" contribution concept "toward multimodal and regional transit improvement to fully mitigate cumulative impacts to regional transportation". The "fair share" contribution concept has not been included within the revised April, 2019 TIA.

Additionally, CalTrans has suggested a Pedestrian Hybrid Beacon (PHB) be evaluated and considered with high visibility crosswalk at the SR-1/14th Street intersection, and the relocation of the SamTrans route 17 southbound bus stop to that location across from the existing northbound stop. Neither of those suggestions were adequately analyzed, with the PHB issue completely ignored within the revised April, 2019 TIA.

Primary and secondary effects on pedestrians, bicyclists, disabled traveler, and transit user have not been adequately analyzed within the revised TIA.

A robust TDM Program is suggested by CalTrans to reduce VMT. The revised TIA has not adequately analyzed the development of a TDM Program yet indicates that there are no guarantees involved in reducing traffic impacts.

CalTrans has noted that "any proposed non-standard design feature (such as inadequate sight distance) will have to be approved by a Fact Sheet for Exceptions to Mandatory and/or Advisory Design Standards prior to implementation." The revised TIA has not moved forward with any sketches regarding the sight distance inadequacy along SR-1.

CalTrans August 29, 2018 Letter

This Caltrans letter refers to the Application Referral. It duplicates the first letter with respect to the VMT issue, and multimodal planning. New issues include hydraulics, as well as the Travel Demand Analysis and Mitigation wherein "the July, 2018 TIA has not been updated to reflect CalTrans' comments on the January 2018 Draft Traffic Analysis". Nor has the "fair share" contribution concept been included within the revised TIA, and it is again mentioned herein.

The VMT reduction is once again mentioned and has not been analyzed within the revised TIA.

CalTrans has commented that "reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities". Yet the proposed project has a parking supply of 142 stalls or 15 stalls ABOVE the San Mateo County code required amount of 127 stalls.

The revised TIA has failed to address many of the comments from CalTrans' two letters. This points to the TIA's continued failure to adequately analyze project impacts and feasible mitigation measures.

C. San Mateo County Comments

San Mateo County has provided Civil (Traffic) comments. Nine items were listed, and the key items are:

Item #4: "the proposed turn restrictions as mitigation measures are not acceptable. Please provide alternative mitigation measures to address project significant impact at Highway 1 and Vallemar/Etheldore and Highway 1 and 16th." (Not included within the revised TIA);

Item #5:"the closure of Carlos Street to all motor vehicles other than emergency vehicles is not acceptable as a mitigation measure. Please provide other mitigation measures to address the project's significant impacts." (Not included within the revised TIA).

Item #6: SamTrans bus stop relocation is not a County project. It is up to the applicant to coordinate with SamTrans and provide all the necessary approvals from SamTrans to the County for review and consideration before the TIA can be approved. Please provide alternate mitigation measures in case SamTrans does not approve the proposed rerouting." (Not included within the revised TIA).

Item #7: "Please provide documentation that supports the premise that a fully funded project is currently moving forward. Absent an assurance that a fully funded project is in the process of being implemented, the applicant will be responsible for mitigating the project's impacts." (Not included within the revised TIA).

Item #8: "If the applicant is proposing any TDM measures as mitigation, the measures need to be clearly defined and calculations shown as how many trips will be reduced by each measure and how that will impact the operations and LOS at the applicable intersections. In addition, please provide a monitoring measure to each of the TDM measures proposed and alternate measure in case the monitoring shows that TDM is not as effective as assumed."
(Not included within the revised TIA).

The revised TIA has failed to address many of the San Mateo County Civil (Traffic) comments. This points to the TIA's continued failure to adequately analyze project impacts and feasible mitigation measures.

D. Traffic Infusion on Residential Environment (TIRE)

The Executive Summary of the Connect The Coastside Report refers to the extensive community outreach program. Curiously, the TIA does not include mitigation measures for street segments e.g. along Carlos Street, as that street serves the proposed project and has a traffic impact on the existing residential developments. A Traffic Infusion on Residential Environmental (TIRE) analysis which requires Average Daily Traffic (ADT) volumes for both a typical weekday and weekend day for two scenarios i.e. during the school year and for a Summer day, should be performed. The analysis and evaluation would include the comparison of the TIRE Index and the change in the index with the proposed project. The potential traffic impacts on at least two segments along Carlos Street, e.g. near the project site north of Sierra Street, and also north of Etheldore Street should be included. This evaluation would reveal whether or not the Carlos Street segments would be adversely impacted on those two segments.

SUMMARY

This "peer review" of the April, 2019 TIA, CalTrans' two comment letters, and the San Mateo County Civil (Traffic) comments for the proposed 71 dwelling units "affordable" apartment residential development, included a summary review of the Traffic Impacts that were listed as significant and unavoidable.

Additional clarification is required as to how these Traffic impacts will be mitigated appropriately and conditioned as part of the approval of the proposed project, with the comments and concerns previously indicated.

The estimated trip generation, trip distribution and assignments, traffic counts, the Level of Service (LOS) calculations for several scenarios, parking, access and circulation, the TRAF Mitigation Measures, Vehicle Miles Traveled (VMT), and residential street segments, all have some errors and omissions as noted above, which require further evaluation/clarification and should be analyzed in more detail.

Of particular concern is that many of the comments from Caltrans and the San Mateo County Civil (Traffic) comments do not appear to have been included in the revised April, 2019 TIA.

Our review indicates that there are potentially significant deficiencies, omissions, and inaccuracies within the TIA. It is our opinion that the deficiencies, omissions, and inaccuracies would require revisions and amplifications to arrive at an acceptable and complete evaluation of the traffic and transportation issues within a subsequent and additional revised TIA.

Reasonable, appropriate, and updated potential mitigation measures, along with conditions of development, any "fair share" contributions, and with the appropriate findings and conclusions, should be included within any revised evaluations.

Very Truly Yours,

Gay Lawrence Pang
Civil Engineer #20,203
Traffic Engineer #073

Documents Reviewed

1. TIA dated April, 2019
2. CalTrans comment letter dated April 9, 2018
3. CalTrans comment letter dated August 29, 2018
4. San Mateo County Civil (Traffic) comments dated September 24, 2018
5. Executive Summary-Connect The Coastside, dated January 15, 2020