MEMORANDUM

To: Sylvia Robles, Associate Engineer **Date:** November 22, 2019

From: Zed Kekula, Senior Civil Engineer

Subject: **The Bowery Traffic Impact Analysis Comments**

Below please find my comments to The Bowery Traffic Impact Analysis dated November 6, 2019.

1. Page 1, 3rd paragraph from the bottom, line 5: Should read "the driveway on Red Hill Avenue could Utilize one of the…".

   EPD Response: The text has been modified as noted in the comment.

2. Page 4: Split phase operation may not be the most optimal. Why can't the driveway be relocated to line up with the driveway on the north side. Furthermore, need to justify the proposed traffic signal and explain why a right-in/right-out driveway will not work. It appears the existing left turn pockets located near the proposed driveway 1 on Warner Avenue would allow motorists to do u-turns to access from the east or depart to the west from this driveway.

   EPD Response: Split phase operation is proposed at the traffic signal to increase safety for vehicles making a northbound or southbound left-turn onto Warner Avenue. Due to the offset driveway, concurrent left-turns are not recommended. The driveway cannot be relocated to line up with the driveway on the north side due to the need to optimize street frontage for Building D. A traffic signal is justified by the traffic volumes at this location. During the AM peak hour, there are 189 vehicles exiting the site at this location, which would meet the peak hour signal warrant. Furthermore, if a right-in/right-out driveway is proposed, then approximately 148 vehicles would be added to the northbound U-turn at Red Hill Avenue/Warner Avenue, which is already impacted by the project in the opening year condition. An exhibit illustrating the proposed striping for Warner Avenue has been provided in the revised study. There would not be a need for motorists to make a U-turn to access the project from the east.

3. The proposed Warner Avenue driveway traffic signal may require median modifications along Warner Avenue. Please identify what changes, if any, are being proposed to the existing raised medians islands along Warner Avenue. Any modifications may impact left turn storage and access to other adjacent sites. Furthermore, please confirm which driveway on Warner Avenue is the proposed traffic signal intended to be located.

   EPD Response: An exhibit illustrating the proposed striping for Warner Avenue has been provided in the revised study. This exhibit also illustrates changes to the raised median on Warner Avenue. The proposed traffic signal is intended to be located at the western-most driveway on Warner Avenue (Intersection #26).

4. Page 10, 2nd paragraph: City of Santa Ana uses 1,600 vehicles per hour for left turns.

   EPD Response: The analysis has been updated using 1,600 vehicles per hour per lane for all left turns at Santa Ana intersections.

5. Page 11, 2.5 Significance Criteria: For unsignalized intersections the City of Santa Ana considers an impact to occur if the intersection is operating at an unacceptable level of service and the intersections warrants a traffic signal.

   EPD Response: The suggested language was added to the significance criteria.

6. Page 12, 3.1 Existing Transportation System: Which one of the transit routes listed in this section has service every 15 minutes during the peak hours?

   EPD Response. There are three existing routes serving the project site. Each route has service every half hour in each direction, except for route 472, which runs southbound during the AM peak hour and Northbound during the PM peak hour. As a result, there is bus service every 10 minutes on Red Hill and every 15 minutes on Warner during the peak hours. When all routes are considered, the site is served by transit 10 times during the peak hour, or every 6 minutes. This additional information has been added to the text, along with a table illustrating the frequency of each route in each direction.

7. Please note the City of Santa Ana and City of Tustin have a joint project to install class II bike lanes on Warner Avenue from Wright Street to Red Hill Avenue.

   EPD Response: A note indicating the planned bike lanes was added to Table 4.

8. Page 14, Figure 4: You cannot read the values on several of the intersections such as 17, 18, 23, and 29 for the northbound movements. This is typical for many of the figures. Please double check all figures and make sure all values are readable.

   EPD Response: The figures have been modified to increase the legibility.

9. Page 14, Figure 4: The legend on the lower right hand says "In/Out Bound Distribution Percentage". Please revised since this figure shows the volumes, not percentage. Check other figures as needed as well.

   EPD Response: The figure has been corrected.

10. Page 16, Figure 5: Intersection 10: Southbound lane should be one shared-lane left and right turn.

    EPD Response: The figure has been corrected.

11. Page 16, Figure 5: Intersection 21: Westbound, missing lanes. Two left turn pockets lanes, one straight lane and one shared-lane right turn.

    EPD Response: The figure has been corrected.

12. Page 16, Figure 5: Intersection 24: Northbound lane. Does northbound right turn exist?

    EPD Response: The northbound right turn is de-facto right-turn.

13. Page 16, Figure 5: Intersection 25: Northbound lane. Does northbound right turn exist?

    EPD Response: The outside lane is greater than 19 feet, therefore a northbound de facto right-turn lane has been included at this location.

14. Page 16, Figure 5: Intersection 27: Is this project proposing to eliminate the existing left turns pockets that exist at this driveway? If so, how will eastbound access be provided to the property on the north side of the existing driveway?

    EPD Response. The project is proposing to eliminate the existing left-turn pockets at Intersection 27. All eastbound access will be diverted from Intersection 27 to Intersection 26.

15. Page 17, Figure 5b: Intersection 50: Eastbound lane. Double check eastbound right turn pocket.

    EPD Response: The outside lane is greater than 19 feet, therefore a northbound de facto right-turn lane has been included at this location.

16. Page 17, Figure 5b: Intersection 56: Only Left turn pockets were observed. Did not see any right turn pockets on Google Maps.

    EPD Response: Intersection 56 (Jamboree Road/Main Street) includes free right turns in the NB, EB and WB direction. In the SB direction there is a right-turn pocket. This has been confirmed using Google Maps and in-person observation.

17. Page 35, Table 9: Please provide pass-by trip calculations.

EPD Response: The pass-by percentages were taken from the Institute of Transportation Engineers, Trip Generation Handbook, 3rd Edition, September 2017. The pass-by percentages and source has been added to Table 9.

18. Page 53, Figure 18: Please explain how figures 14-17 are used to develop figure 18. The trips assigned in figure 14 & 15 do not add up the corresponding volumes in figure 18.

    EPD Response: Figure 18 (now figure 19 since figure numbers have increased by 1 with added geometric figure) was updated to fix some errors at the driveway intersections. The remaining volumes in figure 19 (now 20) were accurate, with the assignment from figure (14(15)+15(16))-(16(17)+17(18)).

19. Page 56, Figure 19, Intersection 26: Explain how the eastbound right turn movement becomes negative 7.

    EPD Response: Negative 7 is in error. Figure 19 (now 20) has been corrected.

20. Page 56, Figure 19, Intersection 25: Explain how the northbound u-turns becomes negative 14.

    EPD Response: Negative 14 is in error. Figure 19 (now 20) has been corrected.

21. Page 56, Intersection 27: Why are they no left turns shown? Is driveway 27 the same as the existing easterly driveway on Warner Avenue?

    EPD Response: The driveway at Intersection 27 is right-in right-out only, only the easterly driveway is full access.

22. Page 56, 62 & 68, Intersection 26: No northbound traffic is shown at all.

    EPD Response. The volume was in error and has been corrected.

23. Page 58, Table 10, Intersection #28: Based on the comment above for page 11. This driveway would not have an impact.

    EPD Response: Table 10 was corrected to show that there is not a significant impact.

24. Page 61, last paragraph, line 6: The sentence "Through vehicles on Red Hill…project driveway" is duplicated in this paragraph. Please revise.

    EPD Response: The paragraph has been revised as noted.

25. Page 64, Table 11, Intersection #28: Based on the comment above for page 11. This driveway would not have an impact.

    EPD Response: Table 11 has been corrected to show no significant impact.

26. Page 73, City of Santa Ana adopted Vehicle Miles traveled thresholds for SB 743 CEQA compliance on June 18, 2019. Attached please find our guidelines and the adopted thresholds.

    EPD Response: The document was received. Further comments on the adopted thresholds are provided in the response to Comment #27.

27. Page 73, Paragraph 3: Which one of the routes listed in this section has service every 15 minutes during the peak hours?

    EPD Response. There are three existing routes serving the project site. Each route has service every half hour in each direction, except for route 472, which runs southbound during the AM peak hour and Northbound during the PM peak hour. As a result, there is bus service every 10 minutes on Red Hill and every 15 minutes on Warner during the peak hours. When all routes are considered, the site is served by transit 10 times during the peak hour, or every 6 minutes. This additional information has been added to the text, along with a table illustrating the frequency of each route in each direction. It is our opinion that based on the existing transit serving the site, the project could be considered as located along a high-quality transit corridor.

28. Page 73: Does this project comply with SCAG's RTP/SCS?

EPD Response: Yes the project is consistent with SCAG's RTP/SCS. This is discussed in the land use section of the EIR.

29. Page 74: How was this exhibit developed? It references SCAG data. However, it does not match our City's Transit Priority Map which was also developed based on SCAG data. Based on our map it appears a VMT analysis would be required.

    EPD Response: The data in the exhibit uses the 2045 SCAG HQTA Shapefile. The 2016 Data does not include our project site. However, as noted in the response to comment #27, we believe that the project is located within a high-quality transit corridor. CEQA Guidelines Section 15064.3(b)(1) states "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact." The City's VMT guidelines state that projects located within a transit priority area would be presumed to have a less than significant VMT impact, however the guidelines are silent on high-quality transit corridors. Given that the CEQA Guidelines and OPR guidance both indicate that VMT impacts can be presumed less than significant along a high-quality transit corridor, EPD believes that a VMT analysis is not required.

30. Page 75, Grand Avenue/Warner Avenue: Double check this mitigation based on the worksheet it appears the mitigation should be a westbound protected right turn overlap, not eastbound.

    EPD Response: The noted typo was corrected.

31. Please note the Warner Avenue widening project will add a third westbound through lane on Warner Avenue at Grand Avenue. Project construction should take place in about 3 years.

    EPD Response: The third through lane at Warner Avenue/Grand Avenue has been added to the 2040 analysis.

32. Appendix C: I did not see the ICU calculation sheet for intersection 27 for Opening year + Project AM. Please double check to make sure ICU sheets are complete.

    EPD Response: Since Intersection 27 is not a signalized intersection, ICU was not used, HCM 6th edition was used instead.