



Technical Memorandum

To: Kathryn Lyon
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Town of Cutler Bay
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From: Carlos X. Valentin, P.E.
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Date: June 6th, 2018

Subject: **Cutler Gate Traffic Impact Study Comments and Responses (2nd Review)**

We have reviewed the traffic comments provided for the referenced project dated June 4th, 2018 prepared by The Corradino Group, Inc. Please accept this document as an Addendum to our Traffic Impact Study dated January 23rd, 2018 and Responses to Traffic Comments (1st Review) dated March 16th, 2018. We hereby offer the following responses and additional analysis in an effort to address the comments made as follows:

- The 2017 Historical AADT Report from the Florida Traffic Online website lists an AADT of 17,700 vehicles per day (vpd), with a K factor of 9%. Performing the proper calculations on these data indicate that the approximate peak hour traffic on Old Cutler Road should be near 1,593 vph.

Response: We disagree with the reviewer. As previously mentioned in our first Technical Memorandum dated March 16th, 2018, actual current year traffic counts (2018 data), as used by our firm in the roadway analysis, are more suitable than utilizing FDOT available published data (2017 data) which is sometimes unreliable based on our professional opinion and vast experience collecting traffic counts. The peak hour traffic of 1,593 vph (based on 2017 AADT and K factor) is an overestimation and does not represent current traffic conditions.

- Regardless of the historical traffic counts reported by FDOT, if we accept the applicant's turning movement counts at face value, the AM peak hour traffic on Old Cutler Road would be 1,094 times the seasonal factor of 1.01, yielding 1,105 vehicles per hour (vph). The PM peak hour traffic would be 1,248 times the seasonal factor of 1.01, yielding 1,261 vph. According to the 2018 FDOT Quality/Level of Service Handbook (Q/LOS), Table 4, the capacity of a two-lane non-state signalized arterial exceeds Level of Service (LOS) "C" above 324 vph (360-10%), exceeds LOS "D" above 1,125 vph (1,250-10%), and exceeds LOS "E" above 1,521 vph (1,690-10%). Therefore, based on the applicant's traffic counts, Old Cutler Road is currently operating at LOS E during the PM peak hour.



Response: The turning movement count is actual data and not a face value or calculated value. The PM peak hour traffic would be 1,258 vph (1,246 x1.01) and not 1,261 vph as noted by the reviewer. Please note that we do agree that using the 2018 FDOT Quality/Level of Service Handbook, Table 4, and the above PM peak hour traffic (1,258 vph), Old Cutler Road is currently operating at LOS E. However, the analysis documented in the Traffic Impact Study dated January 23rd 2018 and Technical Memorandum dated March 16th, 2018 was performed using the 2013 FDOT Quality/Level of Service Handbook which was the only available source and most recent at the time these documents were prepared. As such, the roadway analysis yielded LOS C for Old Cutler Road during both the AM and PM peak hour.

Note, the 2018 FDOT Quality/Level of Service Handbook was released on April 2018 and therefore, the use of the 2013 FDOT Quality/Level of Service Handbook is "grandfather" or exempt from using the new FDOT guideline. Lastly, the volume threshold calculated by the reviewer are not correct since it did not include the applicable Median & Turn Lane Adjustments on Old Cutler Road (i.e. +5% Exclusive Left Turn Lanes & +5% Exclusive Right Turn Lanes).

Lastly, it is expected that Old Cutler Road will maintain the existing LOS for the proposed future condition since the traffic generated by the subject project is not significant and an argument can be made that it will be "De Minimus." As a matter of fact, Miami-Dade County does not require a full traffic impact study for projects generating less than 100 vph such as the subject project.

- We agree that the proposed retail is out of scale in comparison to data points used to develop both the fitted curve equation as well as the average rate. However, the average rate always originates at the point 0, 0 on the graph, meaning that the smaller the proposed retail is, the closer it comes to generating no trips at all. One possible solution is to calculate an average rate based on data points for shopping centers closer to the size of the proposed development. Another possible solution is to use Land Use Code 814 – Variety Store, which represents retail uses more in line with the proposed size. Our recommendation is to follow the Miami-Dade County standard methodology.

Response: The size of the proposed retail (4,186 SF) is out of scale when compared to the average size of the shopping centers (over 300,000 SF) in the ITE data. The peak hour trips calculated with the ITE fitted curve equation for LU 820 (AM peak: 154 vph, PM peak: 52 vph) are out of scale and an overestimation for the proposed retail with 4,186 SF. However, it is our professional opinion as the Engineer of Record that the trip generation results using the ITE average trip rate (weighted) for LU 820 (AM peak: 4 vph, PM peak: 16 vph) yielded reasonable results for the proposed retail. Therefore, additional calculations are not needed or necessary.

Moreover, LUC 814 is not suitable for the proposed retail. LUC 814, as defined by the ITE Trip Generation Manual 10th Edition, is a retail store that sells a broad range of inexpensive items, typically referred as "dollar stores." These retail stores are sometimes stand-alone sites but may also be located within a small strip shopping center. None of these descriptors apply to the proposed retail.



Miami-Dade County does not have a standard methodology to perform a Trip Generation analysis but the ITE Trip Generation Handbook 3rd Edition does and more importantly includes a section emphasizing professional judgment (Section 1.4 Professional Judgment) that includes reasonableness, which we as engineers should always use besides focusing on simple math. Lastly, we strictly follow the ITE methodology but we also use practical experience and reasonableness when performing analyses, in this case the Trip Generation analysis.

- Miami-Dade County's standard for trip generation is to use the fitted curve equation given in the Trip Generation Manual when the R² value is 0.75 or above. This suggests that the fitted curve equation should be used for LUC 220 in the AM peak (R²=0.90) and PM Peak (R²=0.86), the average rate should be used for LUC 820 in the AM peak (R²=0.50), and the fitted curve equation should be used during the PM peak (R²=0.82). Allowing for multi-modal trips, internal capture, and pass-by trips, we have calculated 19 AM peak hour trips (6 in, 13 out) and 47 PM peak hour trips (25 in, 22 out). Table 1 and Table 2 (attached) present the calculations for trip generation. Table 3 provides the directional distribution for the recalculated trip generation.

Trip assignments and LOS calculations should be revised in accordance with the foregoing.

Response: We disagree with the reviewer. Miami-Dade County does not have a standard for Trip Generation analysis. As previously mentioned the ITE Trip Generation Handbook 3rd Edition (Chapter 4, pg. 26) does provide guidelines for the best use between the fitted curve equation and average trip rate. But also, this handbook emphasizes the importance of engineering judgment and reasonableness. As such, it is our professional opinion that the use of the fitted curve equation for LU 820 yielded unreasonable trip generation results (AM peak: 154 vph, PM peak 52 vph) and overestimates the peak hour trips for the proposed retail. On the other hand, the trip generation results using the ITE average trip rate (weighted) for LU 820 (AM peak: 4 vph, PM peak: 16 vph) yielded reasonable results for the proposed retail. Moreover, it is not reasonable that a 4,186 SF retail with only 14 parking spaces will generate 154 (AM) or 52 (PM) trips.

Note, we did not take any trip adjustments (multi-modal, internal capture, pass-by) as a conservative approach. The trip generation calculations previously provided are reasonable and remain valid. Also, the operational analysis as well as the roadway analysis yielded results within the Town's acceptable LOS threshold. Therefore, no additional calculations and analyses are needed at this time.