



**TOWN OF CUTLER BAY
EXECUTIVE SUMMARY TRAFFIC REVIEW**

Discipline: *Traffic Engineering*
By: *Gavin Jones, PE, AICP*
Date: *10/16/19*
Application: *Site Plan Approval*
Project Name: *Cutler Properties Traffic Study*
Project Number: *14-7174*

Timeline

On November 28, 2017, the Town's traffic reviewer provided a final comment memo on the applicant's original traffic analysis (dated July, 2017) for the initial single family residential proposal. That memo noted that all issues had been addressed save the one that generated Condition 4.1. The applicant's analysis was conducted consistent with accepted practices and principles. That analysis noted that all the roadway segments analyzed would provide acceptable level of service when the project is fully occupied, according to the Town's level of service (LOS) standards as defined in the Growth Management Plan. All intersections analyzed would provide acceptable level of service when the project is fully occupied except one: the roundabout on Old Cutler Road (OCR) at SW 87th Avenue. At that intersection, the typical peak hour entering volume exceeds 2,000 vehicles and the project traffic will add 6 vehicles. Drone aerial photos of this intersection did not show the congestion that the analysis software suggested.

Since November 28, 2017, and as a result of revisions to the site plan and the FLUEDRA process, the proposed development was reduced from 30 homes to 29, and the applicant agreed to utilize a single entrance on OCR rather than it plus an additional entrance on SW 184th Street at the theoretical SW 77th Avenue.

Utilizing only one entrance means that the project traffic turning movements contained in the final study version at both the OCR entrance and the intersection of OCR and SW 184th Street will change slightly (eg. Project traffic that would have made an eastbound through movement to reach the SW 184th Street entrance will now make an eastbound right turn at SW 184th Street onto OCR). The effect on turning movements of this access change is confined to these two intersections only.

In 2017 there was a discussion between the applicant's traffic analyst and the Town's traffic reviewer concerning quantifying existing peak hour traffic. The traffic reviewer accepted the applicant's approach. In July, 2017, for informational purposes only, the applicant supplied an alternate set of intersection analyses that reflected the reviewer's approach. It did not change any level of service conclusions and consequently was not included in the final report (see Comment #3 in the final review memo).

On May 29, 2019 the applicant submitted a memo that:

- Lowered the proposed development intensity from 30 homes to 29 homes;
- Utilized a more recent version of the Institute of Transportation Engineers (ITE) Trip Generation Manual to estimate the project's traffic;

- Altered the distribution of project traffic consistent with a single driveway on OCR; and
- Analyzed the OCR driveway and the OCR/SW 184th Street intersection consistent with the change in project traffic movements at those locations due to the new access, and consistent with the future background traffic volumes accepted in the 2017 final report. Both intersections will provide acceptable level of service when the project is fully occupied, as reported in the memo's Exhibit 5.

The Town's current traffic reviewer, as a check, asked in a June 4, 2019 memo to see the same project traffic adjustments at the two intersections made to the informational set of intersection analyses produced in July, 2017 (Comment #23).

On June 5, 2019 the applicant submitted alternate intersection analyses consistent with the July, 2017 informational set. It did not change any conclusions: both intersections will provide acceptable level of service.

That June 5, 2019 submittal by the applicant was accepted as complete on June 6, 2019.

In summary, the May 29, 2019 memo from the applicant is consistent with the accepted final report from 2017. The June 6, 2019 memo from the applicant is consistent with an informational set of traffic volumes that were not part of the final report. The traffic analysis for the project is complete. No other aspects of the 2017 analysis or comments on it have changed.

Concepts

Successive editions of the ITE Trip Generation Manual improve trip generation estimates because they involve either larger samples (when no long term trends in generation rates are evident) or more recent data (when trends are evident and the effect of older data is removed). The reduction in trip generation rate for single family homes from the 9th to the 10th editions reflects more recent data collected with lower trip generation rates for that particular use.

Arterial street LOS is based on average travel speed on a road segment. The average travel time includes the travel time between the intersections and the delay at the intersections. When the average speed falls further and further below the free flow speed (the speed between the intersections in uncongested traffic) the LOS letter grade moves from A towards F.

The Highway Capacity Manual (HCM) includes a technique to estimate average travel speed on a road segment given sufficient information about the road, its speed limit, the operation of the intersections along the segment, and the nature of the traffic stream. This estimation can be performed manually but various tools have been developed to perform the calculation. These tools differ from each other in how many of the variables that affect the result can be input, and how many are fixed for convenience. All of them of course require the measured traffic volume as an input. Implicit in all LOS standards and measurements is that the LOS described is for an average weekday in the peak season. Traffic counts collected in any week of the year can be converted to a peak season equivalent using information published by FDOT.

In the normal course of a traffic study, the first estimate of roadway LOS is done by comparing the estimated peak season traffic volume with the threshold volumes in LOS tables published by FDOT. This comparison provides a conservative estimate of LOS. When that comparison suggests a failing LOS, analysis with a more refined tool such as ARTPLAN is used. In this study, for this reason, three road segments were examined using ARTPLAN.