

PILLAR

CONSULTANTS

August 14, 2018

INC.

RE: Holy Cross Property Traffic Impact Study
Project No. 201652.01

This is in response to comments received from the City of Oakland Park's traffic consultant, Kimley Horn, dated August 8, 2018. What follows are their comments and our responses:

3. The growth rates in Appendix B appear to be calculated based on 5 years of growth. Although the growth rates consider 5 years of data, there are only 4 years of growth between 2012 and 2016. The growth rate calculations should be revised to reflect 4 years of growth. For example, for count station 867079, the annual compound growth rate should be 9.2%. Additionally, utilizing FDOT's Traffic Trends Analysis Tool spreadsheet with historic volumes is an accepted method for determining the background growth rate rather than simply using the data from the most recent year and 4 years prior. This method should be utilized for future traffic impact studies.

Applicant's Response 7/18/18: The Annual Growth Rate calculation has been revised and now includes the latest 2017 AADT information from the Florida Department of Transportation.

Reviewer's Response 8/8/18: It is unclear what equation is being utilized to calculate the compound annual growth rate. The equation for compound annual growth is $(\text{End Year Value} / \text{Beginning Year Value})^{(1/\text{Years})} - 1$. For example, for counts station 867079, the compound annual growth calculation is $(18500/13000)^{(1/5)} - 1 = 7.31\%$. The growth rate calculations should be revised accordingly.

Applicant's Response: The Annual Growth Rate calculation has been revised and now includes the latest 2017 AADT information from the Florida Department of Transportation.

4. All analyses for Background Traffic Conditions and Total Traffic Conditions should be updated to reflect the revised growth rate per Comment 2.

Applicant's Response 7/18/18: All analyses have been updated as a result of a change in the development program and the revised Annual Growth Rate.

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Reviewer's Response 8/8/18: Refer to Comment 3 regarding the growth rate.

Response: All analyses have been updated as a result of a change in the development program and the revised Annual Growth Rate.

6. The queue length values in Tables 3 and 4 for stop-controlled intersections appear to be based on a vehicle length of 20 feet. These values should be revised to reflect a vehicle length of 25' to account for spacing between vehicles.

Applicant's Response 7/18/18: All queue lengths have been revised.

Reviewer's Response 8/8/18: The queue lengths listed for several of the signalized intersections are 50 Percentile Queues rather than 95 Percentile Queues. The HCM 6th Edition Synchro outputs need to be updated to report 95 Percentile Queues. Additionally, there are queue lengths missing for the intersections of Cypress Creek Road & Dixie Highway and Commercial Boulevard & Dixie Highway. Although the HCM 2000 Synchro reports do not include 95 Percentile Queue lengths, the Queue reports from Synchro can be utilized for these intersections. Furthermore, the queue lengths have been updated to reflect number of vehicles rather than length of queue in feet. However, the turn lane lengths are still reflected in feet. The turn lane lengths and queue lengths should be listed in the same units. Tables 3 and 4 should be revised accordingly.

Response: All queue lengths and turn lane lengths have been revised.

10. Per direction from Broward County Traffic Engineering Division, a Recall Mode of "C-Max" should be used for coordinated phases at coordinated intersections and a Recall Mode of "C-Min" should be used for major street through movements at free intersections. The Synchro analyses should be revised accordingly.

Applicant's Response 7/18/18: Done—and thanks to the reviewer for the backup information from Broward County Traffic Engineering Division.

Reviewer's Response 8/8/18: Comment partially addressed. The following Recall Modes need to be revised:

- "C-Max" for coordinated phases at intersection of Andrews Avenue & NE 56 Street for the AM peak hour in the Existing, Background, and Total Synchro analyses
- "C-Max" for coordinated phases and "None" for non-coordinated phases at intersection of Commercial Boulevard & Dixie Highway for the PM peak hour in the Existing, Background, and Total Synchro analyses
- "C-Max" for coordinated phases at intersection of Dixie Highway & NE 56 Street for the PM peak hour in the Existing, Background, and Total Synchro analyses

Response: Done.

19. At the intersection of Dixie Highway and NE 58 Street, the eastbound approach delay increases by 174% and the eastbound approach queue increases by 122% during the P.M. peak hour when compared to background conditions. This degradation of operations may result in aggressive, unsafe maneuvers at this intersection. The applicant should propose appropriate mitigation measures to address this issue which may include the construction of a eastbound left-turn lane at subject intersection.

Applicant's Response 7/18/18: The condition noted by the reviewer is no longer the case. Further, the City of Oakland Park's Code of Ordinances provides specific guidance for the addition of left-turn lanes in Section 24-83(2)(c). The three criteria given for the addition of a left-turn lane are:

"(c) A left turn lane shall be constructed at each driveway or adjacent intersection for ingress and/or egress purposes where the roadway is operating over the minimum acceptable level of service, the speed limit is forty (40) mph or higher, or the development will generate twenty-five (25) or more left turns during the peak hour, provided the other standards contained herein can be met."

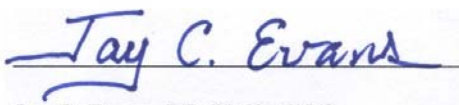
Comparing this code language to the conditions proposed, it is observed that the intersection of NE 58th Street at Dixie Highway is not exceeding "the minimum acceptable level of service, "the speed limit is well below 40 mph, and the development does not generate 25 or more left turns during the peak hour.

Reviewer's Response 8/8/18: The Code of Ordinances states that a left turn lane shall be constructed at each driveway or adjacent intersection for ingress and/or egress purposes where the roadway is operating over the minimum acceptable level of service, the speed limit is forty (40) mph or higher, or the development will generate twenty-five (25) or more left turns during the peak hour. As the eastbound approach of NE 58 Street is expected to operate at LOS F during the PM peak hour at the intersection of Dixie Highway and NE 58 Street as shown in the traffic impact study dated July 18, 2018, the criteria for a left-turn lane is met and an eastbound left-turn lane should be constructed at the intersection of Dixie Highway and NE 58 Street. Please note that Dixie Highway is an FDOT maintained roadway and coordination with FDOT will be required.

Response: As the reviewer notes, the criteria for a left-turn lane, based on the ordinance, appears to be met. However, the criteria was met under existing conditions (LOS E) prior to the proposed development. The applicant will meet with the City of Oakland Park to discuss appropriate mitigation measures to address this issue.

We appreciate the opportunity to respond to the comments. Of course, should you have any questions or comments regarding our responses, please do not hesitate to contact this office.

Pillar Consultants, Inc.



Jay C. Evans, PE, PMS, CGC
President