

MIAMI BEACH

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TRANSPORTATION DEPARTMENT

MEMORANDUM

TO: Michael Belush, AICP, Planning and Zoning Manager

FROM: Jose R. Gonzalez, PE, Director

DATE: November 15, 2016

SUBJECT: 5th Street and Lenox Avenue— Traffic Impact Study

The Transportation Department has coordinated the review of the supplemental analysis to evaluate various driveway configurations for the proposed 5th Street and Lenox Avenue retail development submitted by the applicant as part of the Planning Board application for the 5th Street and Lenox Avenue Retail Development. Florida Transportation Engineering, Inc. (FTE) was retained by the City to perform a peer review of the Traffic Impact Study (TIS) for the proposed development. Kimley-Horn and Associates, Inc. prepared and submitted the TIS for this project.

Three (3) driveway configurations were analyzed. Alternative 1 provides right-in/right-out access, Alternative 2 provides right-in/right-out and left-in access, and Alternative 3 provides full access at the proposed retail development driveway located along Lenox Avenue between 5th Street and 6th Street. It is worth highlighting that Alternative 1 was approved as part of the 5th Street and Lenox Avenue Retail Development Traffic Impact Analysis, July 2016. Alternative 2 and Alternative 3 propose an exclusive southbound left-turn lane to access the proposed redevelopment. Both of these alternatives would require the removal of the landscaped median, including six (6) mature Royal Palms, and designation of the southbound lanes to include one (1) southbound through lane and one (1) exclusive southbound left-turn lane.

INTERSECTION CAPACITY ANALYSIS

Future background conditions, growth rates, trip generation, project access, and trip distribution were gathered from the approved 5th Street and Lenox Avenue Retail Development Traffic Impact Analysis, July 2016. Volume development worksheets, trip distribution figures, and trip assignment figures for each alternative are contained in Attachment B of the TIS report.

Trip distribution and assignment were updated for Alternative 2 (right-in/right-out and left-in) and Alternative 3 (full access). Based on the trip generation, the proposed redevelopment is expected to generate a total of 157 PM peak hour inbound trips.

The project driveway was analyzed for Alternative 1 (right-in/right-out), Alternative 2 (right-in/right-out and left-in), and Alternative 3 (full access) for future total conditions during the weekday PM peak hour.

As Table 1 of the TIS report indicates, the eastbound approach at the intersection of Lenox Avenue and the proposed retail development driveway/Fifth & Alton garage is expected to operate at LOS F under all alternatives during the weekday PM peak hour. The westbound approach is expected to operate at LOS B under Alternative 1 (right-in/right-out) and Alternative 2 (right-in/right-out and left-in) during the weekday PM peak hour. Please note that the westbound approach at the study intersection is expected to operate at LOS F under Alternative 3 (full access) during the weekday PM peak hour.

QUEUING ANALYSIS

The 95th percentile queue lengths were calculated using Synchro 9.0 software, which applies methodologies outlined in the Highway Capacity Manual, 2000/2010 Editions. A 95th percentile queuing analysis was conducted using the weekday PM peak hour volumes collected at the intersection of Lenox Avenue and the proposed Retail Development driveway to determine if the expected queues at the proposed driveway can be accommodated under each alternative. As summarized in Table 3 of the TIS report, expected vehicle queue lengths are not anticipated to extend beyond the provided storage lengths.

ENTRY GATE ANALYSIS

The parking garage entry gate along Lenox Avenue to access the redevelopment provides (1) entry lanes. Appendix E of the TIS report includes the proposed site plan. The entry lane can accommodate approximately 14 vehicles (329 feet) including the service position without blocking operations on Lenox Avenue, assuming 22 feet per vehicle consistent with the passenger (P) vehicle classification as specified in the American Association of State Highway and Transportation Officials' (AASHTO) A Policy on Geometric Design of Highways and Streets, 2011.

Patrons entering the facility will gain access via a push-button ticket splitter machine. It was assumed that the average service rate at the ticket machine would be approximately 257 vehicles per hour (9 seconds per vehicle).

The 90th percentile queue length for the guest entry lane is 3 vehicles behind the service position during the PM peak hour. The site entrance is proposed to provide storage to accommodate approximately 13 vehicles behind the service position. Therefore, all anticipated queue are expected to be accommodated on-site without extending onto Lenox Avenue.

PENDING COMMENT

FTE suggests that the applicant address the following comments:

1. The report only addresses the operations at the driveway; it does not address the impact or benefits of each of the alternatives on the study intersections.
2. The volumes shown in Figure 7 of the TIS report appendices for each alternative do not match the volumes input in the Synchro file.

3. The conclusion indicates that Alternative 2 is preferred over Alternative 1 because under both configurations the EB approach is expected to operate at LOS F. However, under Alternative 2, the delay for the EB approach is increased to 190 seconds compared to 103 seconds in Alternative 1. And Alternative 3 has 130 seconds delay for WB approach in comparison to 11 seconds in Alternative 1.

4. The applicant must include a TDM plan for review and approval by the Transportation Department as part of TIS report.

RECOMMENDATION

Based on the above comments, and concerns regarding the delay, queuing, and conflicts as a result of providing left turns in and out of the proposed driveway, the Transportation Department recommends continuance of this application to allow the applicant time to address the pending comments.

cc: Josiel Ferrer-Diaz, E.I., Transportation Manager
Ali Soltani Sobh, Ph.D., Transportation Analyst

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