City of Hallandale Beach
Transportation and Mobility Department
Traffic Engineering Review
Pembroke Plaza

Summary Report

Project's Name: Pembroke Plaza
Location: 837 W Pembroke Road, Hallandale Beach FL 33009 (SE corner of Pembroke Road and NW 9th Avenue)
DRC Submittal: 3rd
Review Date: 3/10/2026

Project Description and Land Use

The Traffic Impact Study prepared by Kimley-Horn and Associates, Inc. for Group Eco Development evaluates the effects of a proposed mixed-use retail and fast-food restaurant known as Pembroke Plaza, located on the southeast corner of Pembroke Road (State Road 824) and NW 9th Avenue. The proposed site is described as a development consisting of 5,218 SF of Retail and 2,305 SF of Fast-Food Restaurant with Drive-Through on a vacant site.

Site Access and Driveway Configuration

Primary vehicular access is proposed via two driveways: (1) a right-in only driveway on Pembroke Road (SR 824) and (2) a right-out only driveway on NW 9th Avenue. Pembroke Road (SR 824) is under the jurisdiction of the Florida Department of Transportation (FDOT).

Transit Facilities

The site location is served by Broward County Transit (BCT) Routes 5 and 6.

- Route 5 operates on Pembroke Road, and the nearest bus stop is approximately 175 feet across the street from the proposed site. Another bus stop is also located west of the site at approximately 550 feet.

- Route 6 operates on NW 8th Avenue, and the nearest stop is approximately 850 feet from the site.

Pedestrian Activity and School Zone

Pedestrian crossing counts were collected on November 13, 2025, from 7:00 AM to 7:00 PM. The study indicates peak pedestrian activity occurs between 7:00 AM to 8:00 AM and 2:00 PM to 3:00 PM.

Using ITE pedestrian trip generation rates, the study estimates 7 AM peak hour pedestrian trips and 48 PM peak hour pedestrian trips generated by the proposed development.

The study estimates future total pedestrian demand at the crosswalk north of the site of 48 pedestrians in the AM peak hour and 82 pedestrians in the PM peak hour.

The report states that the proposed development is within a designated school zone with a 15 MPH speed limit during school zone hours of 6:30 AM to 7:45 AM and 1:45 PM to 3:00 PM, operating year-round. Nearby pedestrian generators identified in the study include McNicol Middle School and Hallandale High School.

Traffic Data Collection and Background Traffic Volumes

Consistent with the study methodology, the analysis uses field traffic counts and FDOT data as the basis for existing conditions and forecast. Turning Movement Counts (TMC) were collected on Thursday, November 13, 2025, during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (2:00 PM to 6:00 PM) at six (6) intersections within the study area.

The following intersections were included in the data collection and operational analysis:

1. I-95 northbound ramps and Pembroke Road
2. I-95 southbound ramps and Pembroke Road
3. NW 8th Avenue and Pembroke Road
4. NW 9th Avenue and Pembroke Road
5. Dixie Highway and Pembroke Road
6. NE 1st Avenue and Pembroke Road

Future background traffic volumes were developed for the **2030** buildout year by applying an annually compounding background growth rate of 1 %, which was calculated using FDOT historical AADT trend information included in the study appendices. Committed Development traffic data was also included in the future background volume development.

Trip Generation, Internal Capture, and Pass-By Capture

Trip generation was developed using the Institute of Transportation Engineers (ITE) Trip Generation Manual (12th Edition) for LUC 822 (Strip Retail Plaza < 40 KSF) at 5.218 KSF and LUC 934 (Fast-Food Restaurant with Drive-Through) at 2.305 KSF.

The study reports a gross trip generation of 1,483 daily trips, 98 AM peak hour trips (50 in, 48 out), and 106 PM peak hour trips.

Internal capture reductions were applied using ITE Trip Generation Handbook (3rd Edition) and NCHRP Report 684 methodology, with the following internal capture percentages:

- Strip Retail Plaza (<40 KSF) (LUC 822): 25 % Daily, 10 % AM, 39 % PM
- Fast-Food with Drive-Through (LUC 934): 11 % daily, 3 % AM, 18 % PM

Pass-by capture reductions were applied to the fast-food use (LUC 934) only, using 53 % daily, 50 % AM, and 55 % PM.

After internal capture and pass-by reductions, the study reports net new external trips of **771** daily trips, **56 AM peak** hour trips (29 inbound, 27 outbound), and **47 PM peak** hour trips (23 inbound, 24 outbound).

Operational Analysis Summary

Operational analysis for the study intersections was performed using Highway Capacity Manual (HCM 2000) procedures implemented in Synchro 12. The report summarizes intersection performance for Existing Conditions (2025), Future Background Conditions (2030) without the project, and Future Total Conditions (2030) with the project. The Synchro summary results show that overall intersection operations remain acceptable in the Future Total (2030) condition, with all analyzed intersections operating at LOS D or better in the AM and PM peak periods.

Analyzed Intersections:

I-95 NB Ramp and Pembroke Road

The study reports acceptable overall operations in the Future Total (2030) condition, with an overall delay of 17.1 seconds (LOS B) in the AM peak and 17.4 seconds (LOS B) in the PM peak.

I-95 SB Ramp and Pembroke Road

The study reports acceptable overall operations in the Future Total (2030) condition, with an overall delay of 21.9 seconds (LOS C) in the AM peak and 21.5 seconds (LOS C) in the PM peak.

NW 8th Avenue and Pembroke Road

The study reports acceptable overall intersection operations in the Future Total (2030) condition, with an overall delay of 24.5 seconds (LOS C) in the AM peak and 27.2 seconds (LOS C) in the PM peak. A minor queue storage issue is identified for the northbound left turn in the PM peak, where the 95th percentile queue increases from approximately 300 feet under existing conditions to 316 feet under the Future Total (2030) condition. However, the project traffic assignment and volume development sheets indicate that no net new project trips are assigned to the northbound left turn movement at this intersection. As such, the proposed development does not contribute to the northbound left queue issue.

NW 9th Avenue and Pembroke Road

The study reports strong overall intersection operations in the Future Total (2030) condition, with an overall delay of 9.5 seconds (LOS A) in the AM peak and 6.4 seconds (LOS A) in the PM peak.

Dixie Highway and Pembroke Road

The study reports that overall operations remain acceptable at the intersection level in the Future Total (2030) condition, with an overall delay of 43.1 seconds (LOS D) in the AM peak and 37.0 seconds (LOS D) in the PM peak.

NE 1st Avenue and Pembroke Road

The study reports acceptable overall operations in the Future Total (2030) condition, with an overall delay of 30.5 seconds (LOS C) in the AM peak and 35.3 seconds (LOS D) in the PM peak.

Drive-Through Queuing Analysis

A drive-through queuing analysis was completed. The study reports a 95th percentile queue of 2 vehicles at the drive-through window. The drive-through lane length from the furthest window to the end is approximately 115 feet, which the study indicates can store approximately 5 vehicles using 22 feet per vehicle. The study concludes that the provided storage is sufficient to accommodate the projected queue without interfering with traffic operations.

On-Site Trash Collection Operations

The study describes solid waste collection operations as a front-loading garbage truck entering the site via the Pembroke Road ingress driveway, servicing the dumpster located on the south side of the site, and exiting via the NW 9th Avenue egress driveway.

Conclusions

The Traffic Impact Analysis evaluated the transportation effects of traffic generated by the proposed development located at 837 Pembroke Road, at the southeast corner of NW 9th Avenue and Pembroke Road in Hallandale Beach, Florida.

Intersection operations were analyzed using Synchro 12 with HCM 2000 procedures for Existing (2025), Future Background (2030), and Future Total (2030 with project) conditions.

A Roadway Link Capacity and Significance Analysis was completed to determine whether any roadway links within the study area would be considered significantly impacted with the addition of project traffic. The study identified that none of the analyzed roadway links are projected to be significantly impacted by the project traffic.

The study also identifies a minor queue storage deficiency at NW 8th Avenue and Pembroke Road in the Future Background PM peak hour condition, where the northbound left-turn 95th percentile queue is shown to exceed the available storage. However, the project traffic assignment and volume development sheets indicate that no net new project

trips are assigned to the northbound left-turn movement; therefore, the proposed development does not contribute to the northbound left queue issue.

Site access is proposed via one right-in only driveway on Pembroke Road (SR 824) and one right-out only driveway on NW 9th Avenue.

A drive-through queuing analysis was completed and the study reports that the 95th percentile queue is 2 vehicles and that the available stacking length is sufficient to accommodate the projected queue without interfering with traffic operations.

The study concludes that the overall LOS of all analyzed intersections operates at LOS D or better during the Future Total AM and PM peak hours.