

TRAFFIC IMPACT ANALYSIS

Palm Bay Suites & Residences
SW Corner of Commerce Park Dr and Robert J. Conlan Blvd NE
City of Palm Bay, Florida
November 6, 2023

Prepared for:
Palm Bay Development Group

Bowman

Executive Summary

This report summarizes the findings of the Traffic Impact Study performed by Bowman for the proposed Hotel and Residential development to be located on four vacant lots at SW of the intersection of Commerce Park Dr and Robert J. Conlan Blvd NE. The proposed development is comprised of 300-unit multifamily (Mid-Rise) dwelling units and a 100-room hotel. Access is proposed to be provided via seven (7) driveways: two (2) along Guava Ln, three (3) along Ersoff Blvd NE, and two (2) along NE Lemon Tree St

The development is expected to be constructed and fully operational by the year 2026.

The scope and methodology of this study was based on the coordination with the City of Palm Bay, City of Melbourne, Brevard County, and the Florida Department of Transportation.

The purposes of this study are as follows: (i) determine the number of expected trips generated by the proposed site; (ii) evaluate the potential impact, if any, of the proposed development on the surrounding roadway network; and (iii) propose improvements to mitigate any anticipated impacts of the development in the study area.

The following scenarios were evaluated as part of this study: 2023 Existing, 2026 Background, 2026 Background with Improvements, 2026 Build-Out.

The study area intersections and roadways were analyzed under **2023 Existing Conditions** considering the existing traffic volumes, lane configurations, and intersection configurations. The results indicate the following:

- The intersection of Palm Bay Rd and Lipscomb St/Clearmont St currently operates with v/c ratios greater than 1.0 during the PM peak hour. All other signalized intersections in the study area currently operate at acceptable overall LOS and v/c ratios.
- The WB approach of the intersection of Lipscomb St and Commerce Park Dr currently operates at LOS E during the PM peak hour. All other unsignalized intersections in the study area currently operate with acceptable LOS for all approaches.
- All study roadway segments currently operate within the adopted level of service.

The study area intersections and roadways were analyzed under **2026 Background Conditions** to understand how the roadway network is expected to operate at the Build-Out year without the inclusion of the proposed development. The results indicate the following:

- The intersection of Babcock St and Eber Blvd is expected to operate at LOS D with v/c ratios greater than 1.0 during the AM peak hour. The intersection of Palm Bay Rd and Lipscomb St/Clearmont Stand is anticipated to operate at LOS E and with v/c ratios greater than 1.0 during the PM peak hour. All other signalized intersections in the study area are expected to operate at acceptable overall LOS and v/c ratios.
- The EB approach of the intersection of Lipscomb St and Pirate Ln is anticipated to operate at LOS F during the AM and PM peak hours. The WB approach of the

intersection of Lipscomb St and Commerce Park Dr is expected to operate at LOS F during the PM peak hour. All other unsignalized intersections in the study area are anticipated to operate with acceptable LOS for all approaches.

- All study roadway segments are anticipated to operate within the adopted level of service under 2026 background conditions.

The following improvements are recommended to mitigate Background deficiencies:

- Intersection of Palm Bay Rd & Lipscomb St/Clearmont St: Split optimization PM peak hour.
- Intersection of Babcock St & Eber Blvd/Pirate Ln: Split optimization AM peak hour.
- Intersection of Lipscomb St & Pirate Ln: Signalize intersection.
- Intersection of Lipscomb St & Commerce Park Dr: Signalize intersection.

Capacity Analyses were conducted for the **2026 Background Conditions with improvements** to determine if the recommended background improvements are expected to bring the failing intersections to acceptable LOS standards and V/C Ratios. The results indicate all intersections are anticipated to operate within the adopted LOS and with V/C ratios smaller than 1.0 during both the AM and PM peak hours with the inclusion of the recommended improvements.

The proposed development is expected to generate a total of 2,045 net new trips (1,022 entry and 1,023 exit) during an average weekday, 163 trips (52 entry and 111 exit) during the morning peak hour, and 163 trips (96 entry and 67 exit) during the evening peak hour.

The study area intersections and roadways were analyzed under **2026 Build-Out Conditions** to determine the anticipated impacts of the proposed development trips in the study area roadway network. The results indicate the following:

- All signalized and unsignalized intersections are expected to operate within the adopted overall LOS and with V/C ratios lower than 1.0 during the AM and PM peak hours.
- All study roadway segments are anticipated to operate within the adopted level of service under 2026 Build-Out conditions.

A **Signal Warrant Analysis** was conducted for intersection of Lipscomb St & Pirate Ln and for the intersection of Robert J. Conlan Blvd & Ersoff Blvd NE to determine if traffic signals are warranted at these two intersections.

- The signal warrants results indicate that warrants 2, 3 and 8 are met for intersection of Lipscomb St & Pirate Ln under 2026 Background Conditions and 2026 Build out Conditions, therefore, in accordance with the *Florida Statute 163.3180*, **the project is not responsible for mitigating these deficiencies**.
- The signal warrants results indicate that no warrants are met for the intersection of Robert J. Conlan Blvd & Ersoff Blvd NE under 2026 Background Conditions or 2026 Build-Out Conditions. Based on the results of the signal warrant analysis, a traffic signal is not warranted at this intersection under 2026 Background or Build-Out Conditions.

Turn Lane Warrant Analysis was conducted at the proposed access streets to the development along Robert J. Conlan Blvd and to determine the need for the installation of auxiliary turning lanes. The results indicate that:

- Based on the anticipated number of right turns, a right turn lane is not warranted for any of the access roads along Robert J. Conlan Blvd.
- As Robert J. Conlan Blvd is a 45 MPH divided roadway, northbound left-turn lanes should be provided at the median openings of Robert J. Conlan Blvd with Guava Ln, with Ersoff Blvd NE, and NE Lemon Tree St.

A **Non-Motorized & Transit Modes Assessment** of the study area was performed to determine how alternative transportation modes users are expected to access the site. This assessment showed that based on the number of observed pedestrian and bicycle trips in the study area and the existing infrastructure, currently no additional pedestrian facilities in the study area appear to be required. As recommended and shown in the site plan, sidewalks are proposed to be constructed along the west side of Robert J. Conlan Blvd and along both sides of Guava Ln, Ersoff Blvd NE and NE Lemon Tree St, providing full pedestrian connectivity within the portions of the proposed development.

Based on the results of analyses presented in this report, the development of the proposed Palm Bay Suites & Residences development to be located at the SW corner of the intersection of Commerce Park Dr and Robert J. Conlan Blvd NE, in the city of Palm Bay, Florida is not expected to adversely impact the surrounding roadway network.