

# Asbury Lane Traffic Impact Analysis

Indian Land, SC

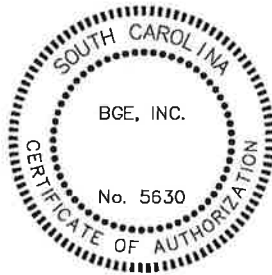
## Residential Neighborhood

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## Executive Summary

A traffic impact analysis was conducted for a proposed development in Indian Land, South Carolina for the use of single-family residential land development. The proposed development will be located on the southwest quadrant of the intersection of Possum Hollow Road and Old Bailes Road. The proposed development is expected to generate approximately 121 AM trips, 164 PM trips, and 1,644 weekday trips. Access to the proposed development will be on Possum Hollow Road and Old Bailes Road. All proposed driveways located on Possum Hollow Road and Old Bailes Road will serve as a full access driveways. For the purposes of this study, the project's full build-out conditions are assumed to be the Year 2025. A future analysis, build plus one year, was conducted for Year 2026.

As part of the analysis, the traffic generated and growth rate from the approved Bailes Ridge Apartments TIA provided was included in the analysis. The traffic generated by the Bailes Ridge Apartments was included in the Year 2025 and Year 2026 conditions. The growth rate used was matched from the approved traffic impact analysis for the Bailes Ridge Apartments. The analysis also included the Highway 160 improvements as part of the existing and future analyses.

This traffic impact analysis provides an assessment of key traffic circulation impacts in order to identify the necessary transportation infrastructure needed to accommodate the proposed development generated travel demand. The analyses contained in this report focus on traffic operating conditions at the following study intersections under the existing and future conditions:

- Possum Hollow Road at Old Bailes Road
- Possum Hollow Road at Highway 160
- Highway 521 at Possum Hollow Road
- Old Bailes Road at Olin Yarborough Road
- Old Bailes Road at Highway 160
- Barberville Road at Highway 160
- Highway 521 at Highway 160
- Old Bailes Road at Local Street B
- Possum Hollow Road at Asbury Lane
- Old Bailes Road at Local Street A

Capacity analyses were conducted for the ten study intersections for the projected weekday AM peak hour and weekday PM peak hour. Analyses were completed with the aid of *Ofiss*, a trip generation software, and *Synchro 11*, a traffic simulation and capacity software. Four future scenarios were analyzed as part of this study. The impacts of the proposed development were analyzed under the “Year 2025 Build” and “Year 2026 Build” conditions, which considers the increase in trips generated by the proposed development.

The findings for the traffic impact analysis are as follows:

The intersections of Possum Hollow Road at Old Bailes Road, Possum Hollow Road at Highway 160, Old Bailes Road at Olin Yarborough Road, Possum Hollow Road at Asbury Lane, Old Bailes Road at Local Street A and Old Bailes Road at Local Street B are expected to have an increase in delay, but remain operating at an acceptable level of service.

The intersections of Barberville Road at Highway 160 and Highway 160 at Highway 521 are expected to operate at acceptable levels of service by adjusting the traffic signal timings. Per the comments from SCDOT, the Department performs signal timings adjustments on a regular basis.

The intersection of Highway 160 at Old Bailes Road is expected to operate at a poor level of service, LOS E or LOS F, for the northbound approach due to the left-turn movement. The traffic operation improvements for the northbound approach are prohibiting the northbound left-turn movement or signalizing the intersection. Prohibiting the northbound left-turn movement is not recommended as restricting movements at the intersection could impact operations of the development adjacent to the intersection. By signalizing the intersection, the signal would be located approximately less than 700 feet from the signalized intersection of Highway 160 at Calvin Hall Road, which is less than the minimum spacing according to the SCDOT ARMS manual.

The mitigation measures, due to the development and future roadway improvements, are as follows:

**Year 2025 Build out Condition:**

1. **Highway 521 at Possum Hollow Road:** It is recommended that an eastbound right-turn lane be constructed with 100 feet of storage with an appropriate taper.

**Future Year Analysis (Build Out plus One Year):**

1. No mitigation measures are recommended.