

**Transportation Impact Assessment  
for  
Briar Chapel  
Chatham County, North Carolina**

**Prepared for:  
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## Executive Summary

The proposed Briar Chapel Development is a mixed-use project to be developed in accordance with the Chatham County Compact Community Ordinance. The development is located in northeast Chatham County primarily west of U.S. 15-501 between Mann's Chapel Road to the north and Andrews Store Road to the south. There is a small office component on the east side of U.S. 15-501 in the vicinity of Andrews Store Road. The proposed development consists of approximately 1880 single-family homes, 515 multi-family housing units, 252,000 square feet of retail space, 270,000 square feet of office space, two schools serving a total of 1300 students, and a county park. The development is expected to be completed (built-out) in 2014.

Kimley-Horn and Associates was retained to determine the potential transportation impacts of this development in accordance with the traffic study guidelines in the NCDOT *Policy on Street and Driveway Access to North Carolina Highways* and to identify mitigation measures required to address these impacts in accordance with Sections 11.1 and 11.2 of the Compact Community Ordinance. The report, which presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated transportation demands in accordance with the Compact Community Ordinance is attached in the appendix to this application.

The principal arterial road in the vicinity of the project is U.S. 15-501, designated a major thoroughfare in the Durham, Chapel Hill, Carrboro (DCHC) MPO Thoroughfare Plan. Under North Carolina Department of Transportation (NCDOT) project R-942B, U.S. 15-501 is currently being widened from a two-lane road to a four-lane median divided cross-section from Chapel Hill south through the project area. As part of the NCDOT project new traffic signals are being installed on U.S. 15-501 at the Lystra Road and Jack Bennett Road intersections and all of the existing and new signals incorporated into a coordinated closed-loop traffic signal system. The project is being built to address existing capacity needs and provide additional capacity for future development of northeast Chatham County. The construction is projected to be completed in October 2004.

In accordance with the Compact Community Ordinance, the project has multiple points of access, with two full-movement access points on U.S. 15-501 and one full-movement access point within one mile of U.S. 15-501 on Mann's Chapel Road.

The project is designed in accordance with the Compact Community Ordinance and the NCDOT *Traditional Neighborhood Development Guidelines* that call for compact, interconnected, transit-friendly development. The project is designed with an interconnected network of streets, sidewalks and trails that provide extensive interconnectivity and multiple paths to and from most of the development, both internally and externally, for vehicles, pedestrians, and bicyclists. Exceptions are principally due to environmental and topographic constraints. There is no transit service currently in the area but the street pattern and access points provide well for future transit when it is extended to serve the

area. Locations for transit stops have been tentatively identified; to be confirmed and/or amended in conjunction with service providers.

The project is expected to generate 31,226 external vehicle trips daily at build out. These trips have been assigned to the surrounding road network. The resulting traffic volumes have been used to analyze the impacts of the project on the road network. The analysis is based on the existing conditions assuming no transit service in the area. When the project is served by transit in the future, the number of vehicle trips will be reduced. The analyses indicate that all of the intersections in the vicinity of the project will operate at acceptable levels of service with the following improvements (in addition to the improvements being made by NCDOT):

U.S. 15-501 and Mann's Chapel Road - add northbound and southbound through lanes on U.S. 15-501, extend the dual left turn lanes on Mann's Chapel Road to provide 500 feet of full-width storage

U.S. 15-501 and Taylor Road – construct dual exclusive left turn lanes and one through-right lane on the eastbound approach of Taylor Road and one exclusive left turn lane and a through-right lane on the westbound approach of Taylor Road, install traffic signal with pedestrian signals

U.S. 15-501 and Andrews Store Road - construct separate left and through-right lanes eastbound and westbound, install traffic signal with pedestrian signals

U.S. 15-501 and Mt. Gilead Church Road - add westbound right turn lane on Mt. Gilead Church Road (needed for background traffic).

Mann's Chapel Road and Andrews Store Road – extend planned NCDOT right turn taper to provide 150 feet of full-width storage

Hamletts Chapel Road and River Forrest Road - install four-way stop

Lystra Road and Jack Bennett Road - add northbound right turn lane on Jack Bennett Road (needed for background traffic), install traffic signal when warranted

Lystra Road and Farrington Road – add southbound right turn lane on Farrington Road (needed currently), modify signal phasing to provide protected left turn phase for the eastbound Lystra Road approach

U.S. 15-501 and Vickers (East Access Road) – construct separate left and through-right lanes eastbound, install a traffic signal with pedestrian signals

Mann's Chapel Road and North Access Road – construct separate left-through and right turn lanes northbound, install traffic signal when warranted

Andrews Store Road and South Access Road – construct separate left and through-right lanes southbound, construct exclusive eastbound left turn lane and exclusive westbound right turn lane on Andrews Store Road, install traffic signal when warranted

Andrews Store Road and Second South Access Road - construct separate left and right turn lanes southbound, construct exclusive eastbound left turn lane and exclusive westbound right turn lane on Andrews Store Road

With these improvements the impacts of the development will be mitigated in accordance with Section 11.2 of the Compact Community Ordinance. A detailed description of the methodology, analysis and recommendations for transportation improvements is contained in the technical report entitled “Briar Chapel Transportation Impact Assessment” which is part of the appendix to this application.

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