



## Eastern Rockingham Corridor Study Richmond County STIP Project U-5706

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### **MERGER MEETING** **Concurrence Point 1 – Purpose and Need** May 10, 2017

#### **PROPOSED ACTION**

The Eastern Rockingham Corridor Study is included in NCDOT's 2016-2025 State Transportation Improvement Program (STIP) as U-5706. The project would connect US 74 Business in the southeast part of Rockingham to US 1 and Aberdeen Road (SR 1426) in the city's northeastern area. The total length of the project is about 3.5 miles.

#### **PROJECT PURPOSE**

The purpose of the proposed project is to provide direct connectivity between commercial areas along US 74 Business and residential areas northeast of central Rockingham and reduce conflicts between through traffic and local traffic on Long Drive.

#### **PROJECT NEED**

The needs to be addressed by the proposed project include:

- Lack of direct connectivity between commercial areas along US 74 Business and residential areas northeast of central Rockingham, which limits north-south mobility between these areas. Currently, the trip between these two areas requires out-of-the-way travel along Long Drive, where high traffic volumes and the presence of employment and activity centers lead to stop-and-go travel conditions at peak times.
- Traffic congestion on Long Drive and conflicts between local and through traffic on Long Drive. Both of these issues are evidenced by the notably high crash rates on Long Drive and the types of crashes that typically occur on this roadway.

#### **Existing Conditions and Traffic Patterns**

As shown in Exhibit 1, the project study area extends from the eastern edge of central Rockingham into the suburban area to the east. Exhibit 2 shows the environmental features in the vicinity of the project. Residential development characterizes much of the area north of US 1, while commercial development characterizes much of the US 74 Business corridor in southwestern Rockingham. The US 74 Business corridor is the major commercial center for Richmond County. The City of Rockingham and Richmond County are both characterized by minimal population growth, with total populations virtually unchanged over the last thirty years. However, one of the only parts of Richmond County to have experienced population growth in recent years is the area north and east of the project study area. Census data from the American Community Survey's 1-Year Estimates show the population of the Census Tract north

of US 1 and east of Ledbetter Road has grown by over 36 percent since 2009, making this area the fastest growing part of Richmond County. Currently, travel between growing residential areas northeast of Rockingham and the commercial centers along US 74 Business corridor typically follows an indirect path along US 1 or the Richmond Road Extension, to Long Drive, to US 74 Business. There are a number of north-south 2-lane road segments between the Richmond Road Extension and US 74 Business, but these segments do not connect to provide a more direct path between these areas.

Long Drive, a three-lane roadway with a continuous two-way center turn lane classified by NCDOT as a major collector, is currently the primary travel route between the residential areas northeast of central Rockingham and the retail and other commercial centers along US 74 Business. The segment of Long Drive between US 1 and US 74 Business is also a destination itself, with two of the region's major employers located there. The first is a Perdue Farms plant, which is the largest employer in this otherwise economically struggling region. According to local officials, the plant has a \$260 million impact on the area and generates over \$1 million in tax revenue. The second is Richmond Memorial Hospital, the area's major healthcare center. As described below, there is substantial existing traffic congestion on Long Drive as this corridor serves both local traffic and traffic using Long Drive to travel between residential areas northeast of Rockingham and the commercial areas in southeastern Rockingham.

### **Traffic Volumes and Congestion**

A traffic capacity analysis was performed for the years 2016 and 2040 using the current road network and lane configurations to determine level of service. Level of service (LOS) is a performance measure describing operational conditions of a traffic stream along a roadway or at an intersection. Levels of service are defined from LOS A to LOS F, with LOS A representing little-to-no delay and LOS F representing heavy congestion and large delays. Generally, LOS A through LOS D is considered acceptable, while LOS E and LOS F are unacceptable.

The traffic study included analysis of eight signalized intersections and four unsignalized intersections in the study area. Results of the analysis using 2016 traffic volumes indicates unacceptable levels of service at the following signalized intersections:

- Intersection of Long Drive at East Washington Street operates at a LOS F
- Intersection of Long Drive at County Home Road operates at a LOS E (capacity)
- Intersection of Long Drive at Rockingham Road operates at a LOS E (AM only)
- Intersection of US 74 Business at Rockingham Road (and entrance to Lowe's) operates at a LOS F

Results of the analysis using forecasted 2040 No-Build traffic volumes indicates that, in addition to the above conditions:

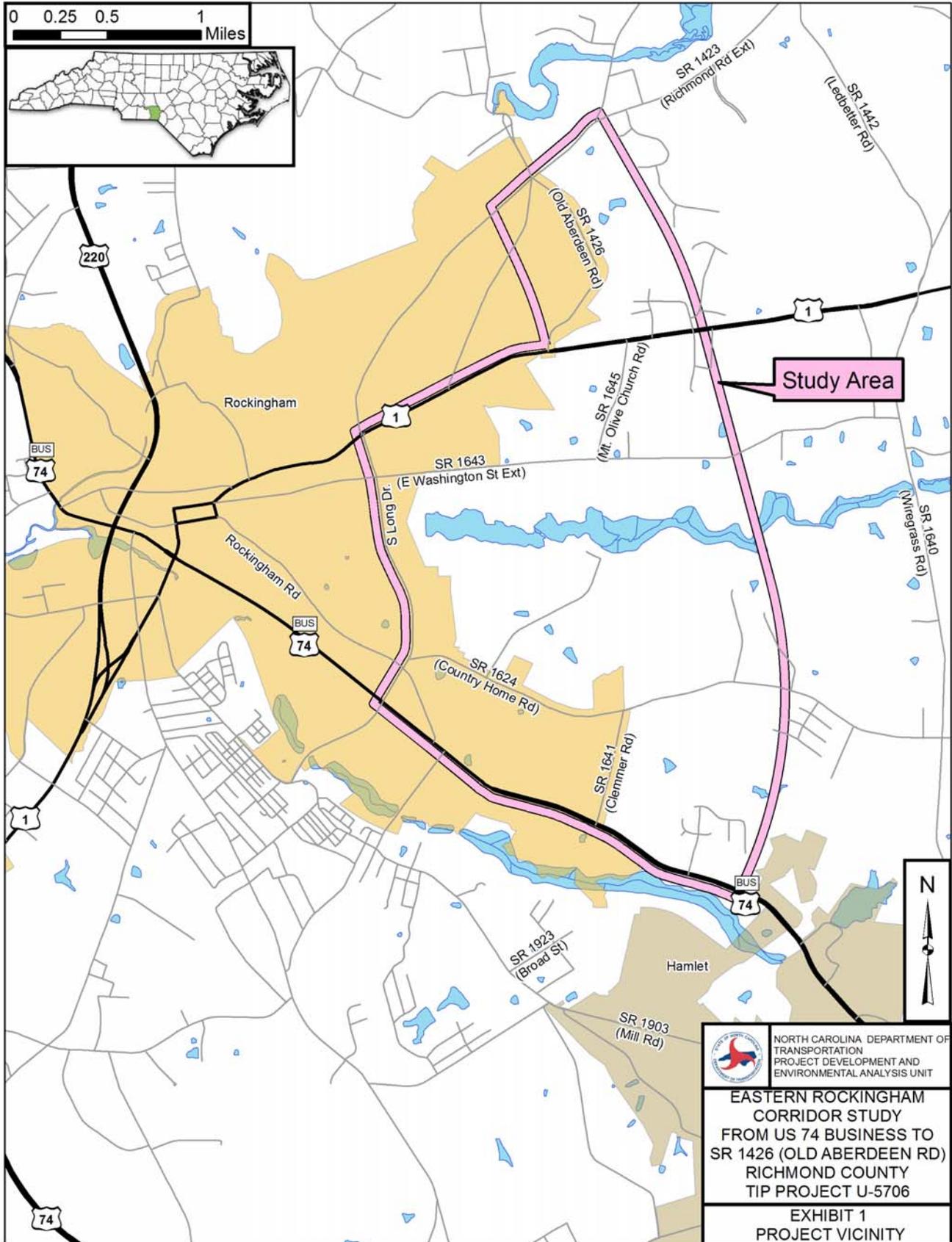
- Intersection operation of Long Drive at County Home Road will worsen to LOS F
- Intersection of Long Drive at Rockingham Road operates at unacceptable LOS E (AM and PM)

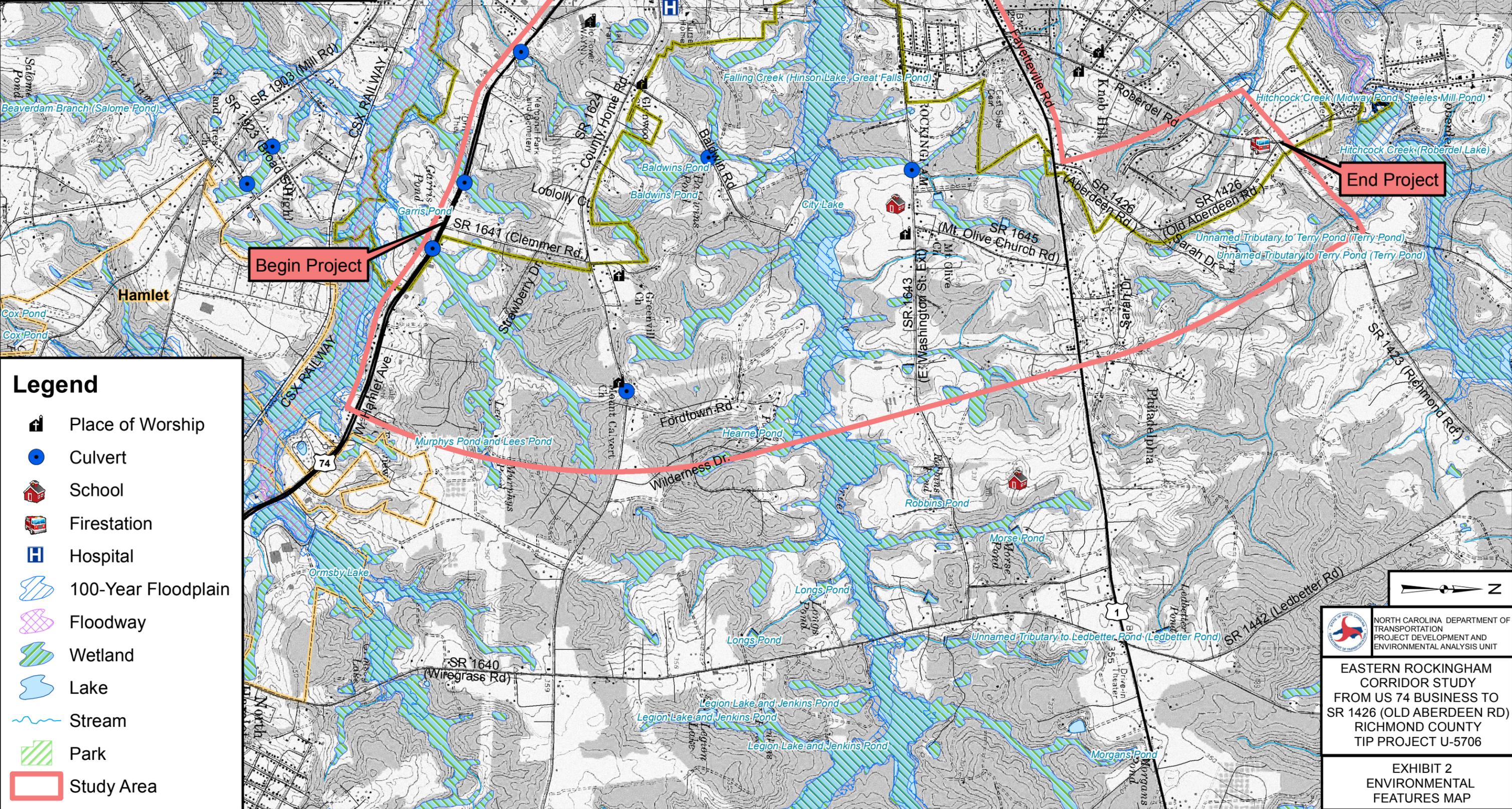
### **Safety**

NCDOT analyzed data on the accidents that have occurred along Long Drive between US 74 Business and US 1, from April 2011 to March 2016. During this time period there were 176 accidents recorded along this segment of Long Drive. This equates to an overall crash rate of

about 649 per 100 million vehicle miles (MVM) traveled. This is more than twice as high as North Carolina's statewide rate for similar facilities (319 per 100 MVM). The crash rate on Long Drive is also almost twice as high as the critical crash rate for similar roadways (378 per 100 MVM).

The most common types of accidents along Long Drive are angle collisions and rear end collisions, each of which account for a little over one third of the total number of crashes. Another 15 percent of the accidents were left turn collisions. These types of crashes typically occur along congested roadways.





### Legend

- Place of Worship
- Culvert
- School
- Firestation
- Hospital
- 100-Year Floodplain
- Floodway
- Wetland
- Lake
- Stream
- Park
- Study Area



NORTH CAROLINA DEPARTMENT OF  
TRANSPORTATION  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS UNIT

**EASTERN ROCKINGHAM  
CORRIDOR STUDY  
FROM US 74 BUSINESS TO  
SR 1426 (OLD ABERDEEN RD)  
RICHMOND COUNTY  
TIP PROJECT U-5706**

EXHIBIT 2  
ENVIRONMENTAL  
FEATURES MAP

