

FEASIBILITY STUDY

Charlotte

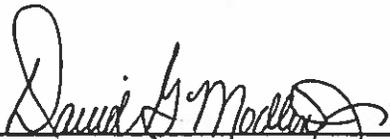
SR 2475 (Prosperity Church Road)
from SR 2467 (Mallard Creek Road) to Huck's Road Extension

Mecklenburg County

Division 10

U-3604

Prepared by
Program Development Branch
Division of Highways
N. C. Department of Transportation



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Date

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I. GENERAL DESCRIPTION

This feasibility study evaluates the widening of SR 2475 (Prosperity Church Road), from SR 2467 (Mallard Creek Road) to Huck's Road Extension, in Mecklenburg County (See Figure 1). The project is approximately 1.2 miles (1.9 km) in length. Two typical sections were studied. Alternate 1 considers a five-lane, 68-foot (20.7-meter) face-to-face, curb and gutter section with 10-foot (3.1-m) berms on a 100-foot (30.5-m) wide right-of-way with no access control. Alternate 2 utilizes a four-lane, 16-foot (4.9-m) wide raised, median-divided, curb and gutter section with 10-foot (3.1-meter) wide berms. The estimated costs of the project are as follows:

	Alternate 1	Alternate 2
Right-of-Way	\$ 1,150,000	\$ 1,150,000
Construction	<u>\$ 3,500,000</u>	<u>\$ 3,400,000</u>
Total	\$ 4,650,000	\$ 4,550,000

This study is not a detailed planning/environmental investigation. A feasibility study presents studied cross-sections for improvements, general corridors of improvements, and estimated costs of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues that deserve consideration in the planning and construction stages.

II. NEED FOR PROJECT

The studied improvements are needed to improve traffic flow through the study corridor. SR 2475 is classified as a collector on the Statewide Functional Classification System, and a major thoroughfare on the Charlotte-Mecklenburg Thoroughfare Plan.

From SR 2467 to the entrance of Mallard Crossing Shopping Center, SR 2475 has been widened to allow for two westbound through lanes, two eastbound through lanes, and a left-turn lane with a 4-foot (1.2-m) monolithic concrete median barrier separating eastbound and westbound traffic. There are 8-foot (2.4-m) shoulders, including 4-foot (1.2-m) paved shoulders, on the outside. SR 2475 is a two-lane, 24-foot (7.3-m) roadway with 12-foot (3.6-m) shoulders, including 5-foot (1.5-m) paved shoulders, between the entrance of Mallard Crossing Shopping Center and Pinewood Lane. SR 2475 is a two-lane, 20-foot (6.1-m) wide roadway with 8-foot (2.4-m) wide shoulders, from Pinewood Lane to the Charlotte City Limits. Huck's Road Extension is proposed to merge into Prosperity Church Road near the Charlotte City Limits, between Old Timber Lane and Fairlea Drive. Land use along the studied section of Prosperity Church Road is single-family residential.

East of SR 2467 (Mallard Creek Road), SR 2475 (Prosperity Church Road) becomes SR 2472 (Mallard Creek Church Road). This section of the roadway goes through an industrial park. The typical section is a four-lane, divided roadway with a 16-foot (4.9-m) raised, landscaped median and 8-foot (2.4-m) shoulders. Huck's Road Extension is proposed to be a four-lane, divided roadway with a 16-foot (4.9-m) raised, landscaped median and 8-foot (2.4-m) shoulders.

Estimated 1996 average daily traffic (ADT) on SR 2475 is 9,900 vehicles per day (vpd). In the design year 2016, the traffic volume is expected to be 23,800 vpd. The existing SR 2475 is operating at a level of service (LOS) D, and is anticipated to operate at a LOS F in the design year 2020. Widening SR 2475 to multi-lanes would allow traffic to operate at LOS A, in 1996, and LOS B in the design year.

During the period from March, 1993, through February, 1996, there were 19 accidents reported along the studied section of SR 2475. This resulted in an accident rate of 170.1 accidents per 100 million vehicle miles (acc/100mvm) compared to a statewide average of 347.8 acc/100mvm for this type of facility. Accidents involving left-turning vehicles accounted for a majority of the accidents (32%). No fatalities were reported. The recommended improvements are expected to reduce the accident rate.

III. ALTERNATES STUDIED

It is recommended that SR 2475 (Prosperity Church Road) be widened to multi-lanes, from the entrance to Mallard Crossing Shopping Center to the Charlotte City Limits. Two alternates were studied. Both alternates would require the same amount of right-of-way. Based on traffic analysis, both alternates operate at the same level of service. The four-lane, median-divided section

would cause some cars to make u-turns at median openings to access properties without a median opening. The five-lane typical section does not match the typical sections at the project terminals.

Two typical sections were studied. Alternate 1 considers a five-lane, 68-foot (20.7-meter) face-to-face, curb and gutter section with 10-foot (3.1-m) berms on a 100-foot (30.5-m) wide right-of-way with no access control. Alternate 2 utilizes a four-lane, 16-foot (4.9-m) wide raised, median-divided, curb and gutter section with 10-foot (3.1-meter) wide berms. The estimated costs of the project are as follows:

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The recommended widening would improve traffic flow through the study corridor. This project would also provide a logical link between the existing multi-lane cross-section on SR 2472 (Mallard Creek Church Road) and the proposed multi-lane Huck's Road Extension.

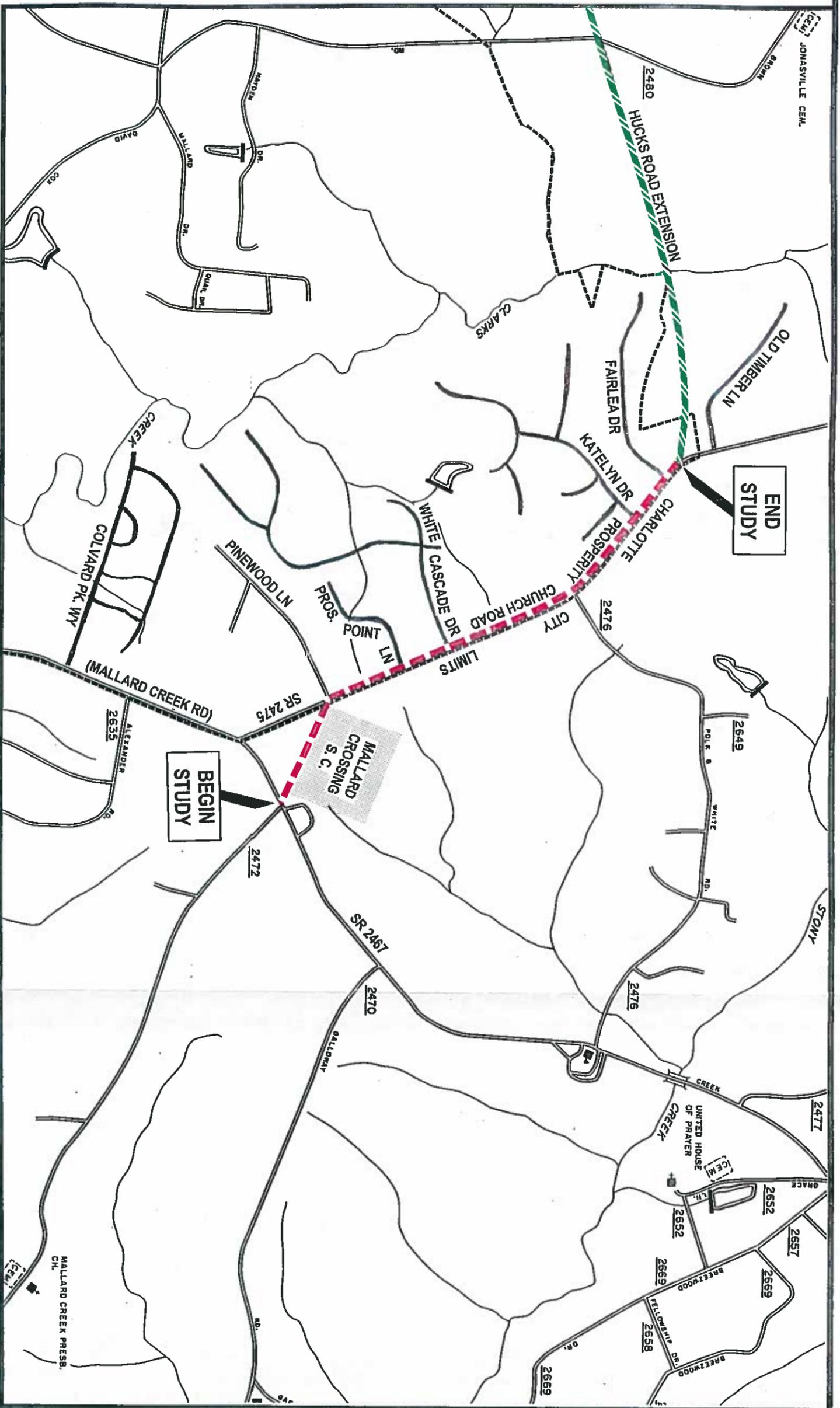
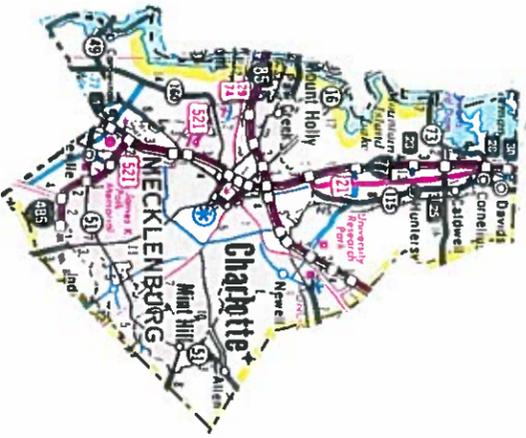
Moderate utility conflicts are expected.

IV. OTHER COMMENTS AND CONCERNS

It is estimated that this project would require the relocation of three residences and no businesses.

The studied cross-sections provide for the requested bicycle accomodation.

No historical or architecturally significant sites are known to be impacted. Based on a GIS screening, it is not anticipated that there will be a need for any environmental permits along the project corridor.



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 FIGURE 1