

FEASIBILITY STUDY

NC 59
From US 401 Business to the Hope Mills City Limit
Hope Mills, Cumberland County
U-2308

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FROM FILE

Prepared by
Planning and Research Branch
Division of Highways
N. C. Department of Transportation

Lisa S. Hilliard
Project Planning Engineer

L. Jack Ward, P.E.
Unit Head

7-5-88
Date

J. Greenhill, P.E.
Manager, Planning and Research

NC 59
From US 401 Business to the Hope Mills City Limit
Hope Mills, Cumberland County
T.I.P. # U-2308

The subject project is included in the 1988-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection. This report provides a brief initial analysis of possible improvements. The project is not currently funded. Location of the project is shown on the attached map (see Figure 1).

I. GENERAL DESCRIPTION

The proposed project consists of widening NC 59 (Hope Mills Road) from US 401 Business (Raeford Road) to the existing multilanes at the Hope Mills City Limit, a distance of 4.0 miles (see Figure 2). Construction of a five-lane, 64-foot face to face of curbs, curbed roadway appears to be feasible.

II. PURPOSE OF PROJECT

NC 59 (Hope Mills Road) is designated a major thoroughfare in the mutually adopted Fayetteville Urban Area Thoroughfare Plan and functions as a north-south route. The current traffic volume of 13,900 vehicles per day (VPD) is expected to increase to approximately 28,600 VPD by the end of the planning period (year 2008). These volumes exceed the capacity of the existing two-lane roadway. The provision of additional lanes will alleviate congestion and provide improved access to adjacent development along the project.

The project has the support of the City of Fayetteville and is also recommended by the Division Engineer. Existing pavement width along the studied project is 24 feet. Horizontal and vertical alignments are generally good. The existing maintained right-of-way is approximately 60 feet. Additional right-of-way will be required for the proposed improvements.

The speed limit in the studied area is 45 mph. Traffic signals exist at US 401 Business (Raeford Road), SR 1267 (Redwood Drive), SR 1300, (Butternut Drive) and SR 1141 (Cumberland Road). There is one bridge over Little Rockfish Creek which has a sufficiency rating of 92.6. Development along the project consists of residential, county school property and strip commercial businesses.

The accident rate along the studied section of NC 59 is 702.41 accidents per hundred million vehicle miles (acc/100 MVM). This compares to a statewide average of 363.80 for the same time period. The majority of accidents involved rear-end collisions; however, a five-lane cross section would reduce the potential for these types of accidents.

III. RECOMMENDED IMPROVEMENTS

Widening of NC 59 (Hope Mills Road) to a multilane facility is highly desirable. The recommended cross section is a five-lane (two in each direction of travel with a continuous center turn lane), 64-foot face to face of curbs, curbed roadway. A 90-foot right-of-way width will be necessary to contain the construction. The City of Fayetteville concurs with the recommended 64-foot, face to face of curbs, curbed width. Symmetrical widening of NC 59 is recommended.

The estimated cost of recommended improvements is \$12,482,500 including \$5,300,000 for construction, engineering and contingencies, and bridge widening, \$7,182,500 for right-of-way and utilities. Cost estimates were made by the Roadway Design Unit and Right-of-Way Branch.

IV. ALTERNATIVES

A multilane cross section was recommended in the Fayetteville Urban Area Thoroughfare Plan. Future traffic, intersection level of service and adjacent commercial development will require a five-lane facility. A five-lane shoulder section was also considered but rejected due to the expected additional right-of-way damage and the location of the project in an urban area.

V. POSSIBLE ENVIRONMENTAL IMPACTS

No significant environmental impacts are anticipated if the recommended improvements are made. Since no families and no businesses will be displaced, symmetrical widening is desirable. During construction of the project there may be some erosion and siltation of drainage ditches. The project may also involve wetlands and a Section 404 permit may be required. However, most impacts to animal or plant life are expected to be minor. Delay and inconvenience to the motorist will be minimized by utilizing the current two-lane cross section for on-site traffic maintenance. Some increase in noise levels may result from these improvements, but there is no reason to believe that they would be substantial. If the project is implemented at a later date, all feasible alternatives and their associated impacts will need to be evaluated in a planning/environmental document prior to that time, and a final decision made as to the most appropriate improvement.

VI. BASIS FOR FINDING

The information and recommendations of this report are based on the following:

- 1) Field Investigation
- 2) Input from Statewide Planning
- 3) Contact with the Fayetteville City Engineer

- 4) Contacts with Division Engineer, Division Traffic Engineer and Area Traffic Engineer
- 5) Aerial mapping at 1" = 500'
- 6) Accident reports from the Traffic Engineering Branch
- 7) Construction cost estimates from the Roadway Design Unit
- 8) Right-of-Way cost estimates from field personal of the Right-of-Way Branch

VII. SUPPLEMENTARY CONSIDERATION

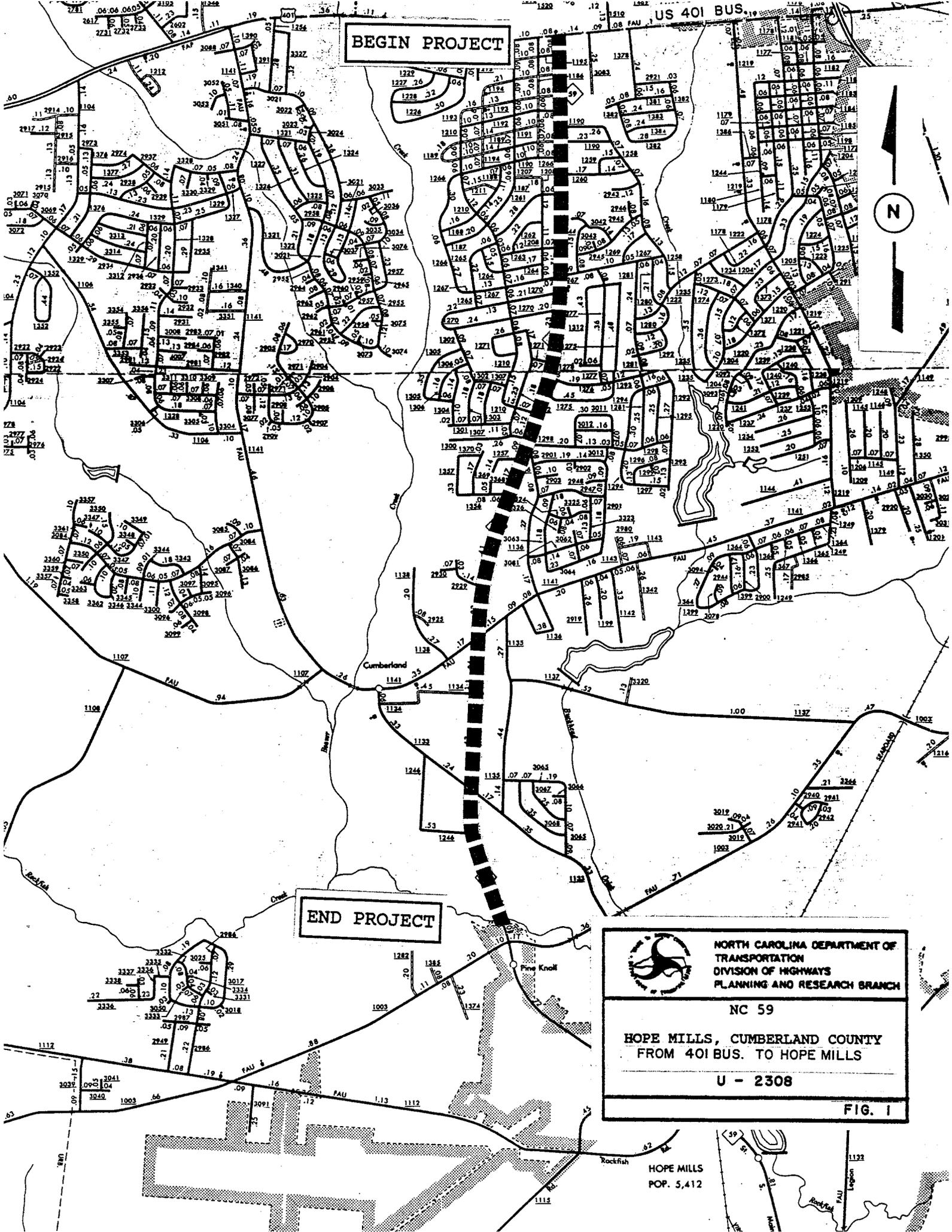
A study was done on extending Glensford Drive north of US 401 Business and forming a connector between the Cross Creek Mall area and NC 59 (see attachment). Although this connector would provide a north-south connector between Fayetteville and Hope Mills, there has been a great deal of public opposition to adding the route to the Fayetteville Urban Area Thoroughfare Plan.

VIII. ADDITIONAL COMMENTS

Intersection improvements costs for the intersection of NC 59 (Hope Mills Road) and SR 1141 (Cumberland Road) are included in this project.

The Division currently proposes to widen existing NC 59 to a 36-foot three-lane shoulder section. These improvements should be considered an initial step towards a future five-lane facility.

JT/rm



BEGIN PROJECT

END PROJECT

 NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH

NC 59

HOPE MILLS, CUMBERLAND COUNTY
FROM 401 BUS. TO HOPE MILLS

U - 2308

FIG. 1

HOPE MILLS
POP. 5,412

END PROJECT

HOPE MILLS

SR 1133

NC 59

LITTLE ROCKFISH CREEK

SR 1003

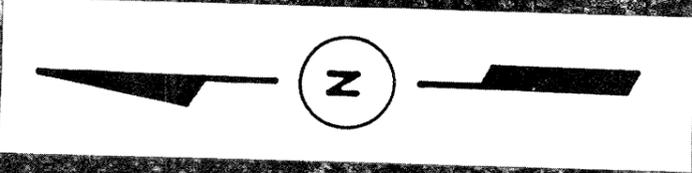
SHEET 4 OF 4



NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH

HOPE MILLS
NC 59 (HOPE MILLS ROAD)
FROM US 401 BUSINESS TO HOPE MILLS
CITY LIMIT
CUMBERLAND COUNTY
U - 2308

3/88 0 ft. 1000 FIG. 2



SR 1141

SR 1133

NC 59

SHEET 3 OF 4

DATE OF PHOTOGRAPHY 12-29-86

NC 59

SR 1267

SHEET 2 OF 4

	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH</p>
<p>HOPE MILLS NC 59 (HOPE MILLS ROAD) FROM US 401 BUSINESS TO HOPE MILLS CITY LIMIT CUMBERLAND COUNTY U - 2308</p>	
<p>3/88 0 ft. 1000 FIG. 2</p>	



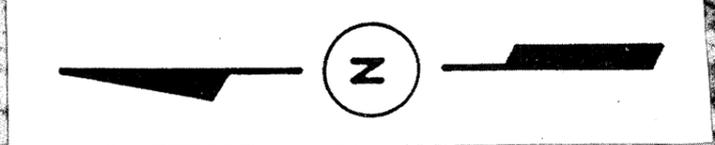
RAEFORD ROAD

BEGIN PROJECT

NC 59

US 401 BUS

SHEET 1 OF 4



DATE OF PHOTOGRAPHY 12-29-86



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611-5201

JAMES G. MARTIN
GOVERNOR

January 22, 1988

DIVISION OF HIGHWAYS

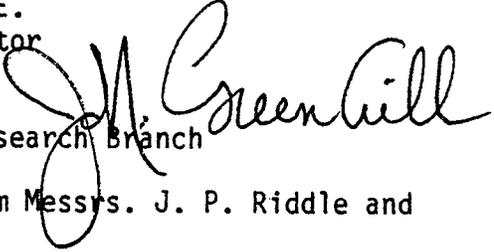
JAMES E. HARRINGTON
SECRETARY

GEORGE E. WELLS, P.E.
STATE HIGHWAY ADMINISTRATOR

MEMORANDUM TO: Mr. George E. Wells, P. E.
State Highway Administrator

FROM: J. M. Greenhill, P. E.
Manager of Planning & Research Branch

SUBJECT: Fayetteville Inquiry From Messrs. J. P. Riddle and
Joseph Riddle III



At your request, our staff has investigated the three highway matters in the Fayetteville area which the Riddles are concerned with as described in Secretary Harrington's memorandum of November 24, 1986 to you. Our comments are as follows:

(a) Glensford Drive Extensions

The Glensford Drive extensions were programmed as small urban projects (U-1356C) in early 1986. The northern extension to Cliffdale Road (see site 1 on the attached map) has just been completed and opened to traffic. This connection is opposite a proposed through street (see site 2) to serve a future commercial area between Cliffdale Road and Morganton Road.

Plans for the southern extension to Raeford Road at NC 59 (see site 3), however, were suspended in April, 1986 at the instruction of Board Member Terry Hutchens due to the considerable neighborhood objections and to the decision of Mr. Riddle not to build the connecting street between Cliffdale Road and Morganton Road as he had planned. At the time of the suspension, this extension was estimated to cost approximately \$615,000, including \$165,000 for 0.2 mile of 3-lane construction and \$450,000 for right of way.

The unfinished link to NC 59 has merit in that it would relieve high volume streets such as Raeford Road, Cliffdale Road, McPherson Church Road and US 401 Bypass by providing a direct connector for NC 59 traffic from Raeford Road to the shopping areas of Cliffdale Road, Morganton Road and US 401 Bypass. At the time of project planning, it was the Division of Highways' understanding the property which is being developed between Cliffdale Road and Morganton Road would have a through street which will

tie into Cliffdale Road directly opposite the recently completed extension of Glensford Drive. Local planning officials are now proposing the addition of the proposed connecting street between Cliffdale Road and Morganton Road as a minor thoroughfare in the Thoroughfare Plan.

The southern extension could be provided at a relatively small cost and accomplished in a short period of time by constructing it with small urban funds. There would be only one relocatee involved - a multiple use business on Raeford Road directly opposite NC 59. The alternative to this project is a proposed new thoroughfare west of NC 59 and extending southward from US 401 Bypass at Raeford Road. It would, however, have to be added to the TIP and compete with other projects throughout the state for funding. If that proposal were pursued, it would take a considerable length of time because of potential funding and environmental problems.

However, there are disadvantages of the southern extension. This extension would allow NC 59 traffic to pass through the Montclair Subdivision to get to the shopping areas on Cliffdale Road, Morganton Road and US 401 Bypass. It is more desirable to have through traffic skirting a residential area rather than passing directly through it, because of noise, residential driveways, pedestrian conflicts, etc.

The extension would substantially increase traffic passing by Montclair Elementary School which is located on Glensford Drive. This increase in traffic volume would increase the risk of a vehicular-pedestrian accident. There has been considerable publicized opposition to the extension from residents of the Montclair subdivision and parents of children attending Montclair elementary school.

Glensford Drive (SR 1592) is already used as a thoroughfare, carrying up to 8000 vehicles per day. It has an 80-foot right of way sufficient to accommodate a possible future multilane section. However, Glensford Drive and the extensions are not in conformance with the Fayetteville Urban Area Thoroughfare Plan which has been mutually adopted by Fayetteville, Hope Mills, Cumberland County and Spring Lake. The thoroughfare plan shows a new thoroughfare located west of NC 59 in the vicinity of Beaver Creek which ties into US 401 Bypass at Raeford Road. This new thoroughfare would relieve NC 59 and would pass behind the subdivisions located on NC 59.

We recommend no further consideration be given to the southern extension at this time. However, if the connecting street between Cliffdale Road and Morganton Road is built as previously planned and the southern extension is added to the thoroughfare plan and strongly supported by the local government, then we would recommend the missing link to Raeford Road be reconsidered by the DOH for possible construction.

(b) Access to US 401 Bypass From NC Natural Gas Office/Riddle Property

The request for additional access to US 401 Bypass opposite the All American Freeway interchange ramp/loop terminal (see site 4) was thoroughly investigated by the staff of the Division of Highway and the Federal Highway Administration. It was denied for a number of reasons which are covered in the attached copies of correspondence sent to Mr. Riddle.

After further review, we find no compelling reason to allow the additional access point. Although not direct and easy, reasonable access is provided to the Natural Gas office via a frontage road along US 401 Bypass (or relocated through the proposed shopping center) to a signalized intersection opposite the Cross Creek Mall entrance. Adding the access point would have an adverse impact on current and future traffic operation along heavily used US 401 Bypass. It certainly would undermine possible plans to upgrade the All American Freeway interchange in conjunction with the future widening of US 401 Bypass. The safety and movement of an extremely high volume of traffic on US 401 Bypass must override the inconvenience of existing access to the Natural Gas office and other development. Additionally, it would involve a break in the existing control of access which requires FHWA approval. The FHWA has indicated that it would not approve the break, even if the DOH approves the additional access to a limited extent, such as right turns only.

(c) New Road Between Yadkin Road and US 401 Bypass

A proposed location for a new road between Yadkin Road (SR 1415) and US 401 Bypass is shown on the attached map (see site 5). The proposed facility would utilize a road planned by the Riddles for a new shopping center (see site 6) to be located across US 401 Bypass from Cross Creek Mall.

The proposed connection is also being proposed by local government planners for addition to the Thoroughfare Plan as a minor thoroughfare. We have no objection to adding this facility to the Thoroughfare Plan; however, construction of the road in its entirety should be the responsibility of the local government and/or the developers. We believe the proposed connection would benefit the potential development more than it would benefit traffic operation along Yadkin Road and US 401 Bypass. Since some relief would be given to traffic problems along Yadkin Road and US 401 Bypass by this proposal, possible construction by the DOH could be justified; however, it is judged to have low priority among road needs in the Fayetteville area.

Assuming Mr. Riddle will build the portion within his proposed shopping center, estimated cost of constructing a 0.5-mile portion of road from the shopping center property line to Yadkin Road is \$1,500,000 to \$1,800,000, including \$600,000 for 3-lane construction (or \$900,000 for 5-lane construction) and \$900,000 for an estimated 80-foot right of way.

If you need additional information, please let me know.

RGD/rm

Attachments

cc: Mr. D. W. Bailey



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Fayetteville, North Carolina 28302
June 22, 1987

Goff

JAMES G. MARTIN
GOVERNOR

DIVISION OF HIGHWAYS

JAMES E. HARRINGTON
SECRETARY

GEORGE E. WELLS, P.E.
STATE HIGHWAY ADMINISTRATOR

Subject: Request for Break in Control
of Access on US 401 Bypass in
Fayetteville

Mr. Joseph P. Riddle, III
PO Box 53464
Fayetteville, North Carolina 28305

Dear Mr. Riddle:

This is in reply to your recent request for an additional access point on US 401 Bypass across from the entrance ramp to the All American Expressway. This request has been reviewed by our Highway Design Branch, Traffic Engineering Branch, and the Federal Highway Administration. We regret to advise that this request has been denied. I am attaching copies of correspondence received from Mr. C. J. Baldwin, Manager of our Right of Way Department, and a copy of correspondence received from our Traffic Engineering Branch. These letters outline specifically the reasons why this request cannot be granted.

If you have any questions after reviewing the attached correspondence, please do not hesitate to contact me.

Yours very truly

D. W. Bailey, P.E.
DIVISION ENGINEER

DWB:em
Attachments

c Mr. E. R. Goff
Mr. J. L. Stamp
Mr. B. B. Isom



Handwritten initials and date:
JUN 19 1987

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611

Department of
Div. of Hwys., Div. 6 Office
Fayetteville, N. C.

JAMES G. MARTIN
GOVERNOR

DIVISION OF HIGHWAYS

JAMES E. HARRINGTON
SECRETARY

June 17, 1987

GEORGE E. WELLS, P.E.
STATE HIGHWAY ADMINISTRATOR

MEMORANDUM TO: Mr. D. W. Bailey, P.E.
Division Engineer

FROM: C. J. Baldwin *CJB*
Manager of Right of Way

SUBJECT: Request for Access, State Project 8.2326302,
F. A. Project US-1604(2), Cumberland County,
(Former Claim of W. R. Company, Parcel #42)

This will acknowledge receipt of your memorandum of May 28, 1987, concerning a request by Mr. Joseph P. Riddle, III, for an additional access point on the US 401 Bypass at Fayetteville.

We have met and conferred with representatives of Highway Design, Traffic Engineering and the Federal Highway Administration, and the Department is not in a position to grant this request for an additional access point for the following reasons:

- 1) The interchange with the All American Expressway at this location is the only place in the area that enjoys a desirable level of traffic service. This exists only because of the protection resulting from the control of access which was acquired under the above project. If the Department granted the additional access point at this location, the desirable level of traffic service would be lost.
- 2) The property in question appears to have adequate access to the surrounding public road system without an additional access point being granted.
- 3) If the Department allowed a break in control, the

June 17, 1987

requested access point would in all likelihood quickly become a full direction intersection instead of a right-in/right-out traffic movement only.

- 4) The existing service road could be relocated in connection with the proposed shopping center to tie into the proposed shopping center road network behind the gas company property.
- 5) Future Project I.D. Number U-2207 involving the improvement of US 401 in this area would be severely restricted from a design criteria standpoint by allowing an additional access point at this location.
- 6) The purpose of the existing control of access at this location at the interchange of US 401 Bypass with the All American Expressway is to eliminate access to major traffic generators such as proposed shopping center development. If access was allowed at this location, it would cause the ramp terminal intersections to become functionally obsolete and create capacity restraints within the interchange area. The continuous increasing traffic demands on the US 401 Bypass in recent years has caused the level of traffic service along this facility to be decreased which has prompted the Division of Highways to schedule the previously mentioned highway improvement project because of the existing traffic congestion at this location. If the requested access point was allowed, it would only serve to hasten a total breakdown of the traffic movement at this interchange area.

Other reasons as to why the Department should not grant this request are contained in a memorandum to me dated June 15, 1987 from Mr. J. M. Lynch, P.E., State Traffic Engineer, which was copied to you.

In conclusion, it is our consensus of opinion that the Department should not allow the request for an additional access point at this location because of the foregoing reasons.

CJB:ca

cc: Mr. W. G. Marley, Jr., P.E.
Mr. J. M. Lynch, P.E.
Mr. Howard Critcher
Mr. Robert E. Scott, Jr.
Mr. Buddy Bauer

E. R. Goff
Div 6 CSIOS
Fayetteville



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611

June 15, 1987

JAMES G. MARTIN
GOVERNOR

DIVISION OF HIGHWAYS

JAMES E. HARRINGTON
SECRETARY

GEORGE E. WELLS, P.E.
STATE HIGHWAY ADMINISTRATOR

In Reply Refer to
File No. SC 7-44

MEMORANDUM

TO: Mr. C. J. Baldwin, Manager of Right of Way
Attention Mr. Carl Acker

FROM: T. A. Harris, Design Review Engineer

THRU: J. M. Lynch, P.E., State Traffic Engineer

SUBJECT: Request by Mr. Joseph P. Riddle, III, to Alter the Control-of-Access on
US 401 Bypass at the SR 1007 (All American Expressway) Interchange in
Fayetteville, Cumberland County

As requested, we are providing you with our comments and recommendations regarding the subject request.

As stated in the developer's letter of May 14, 1987, to Mr. Wayne Bailey, our Division Engineer in Fayetteville, we agree that a shopping center containing 300,000 square feet will generate a large number of vehicle trips. Based on our projections, a shopping center of this size will generate approximately 12,800 vehicles per day.

The purpose in controlling access in the general proximity of freeway and expressway interchanges is to eliminate access to major traffic generators, such as the proposed development, causing the ramp terminal intersections to become functional obsolete, creating capacity restraints within the interchange area. With the continuous increasing traffic demands on US 401 Bypass in recent years, the level of service along this facility has steadily decreased, thus prompting the Division of Highways to schedule a future roadway project to improve the traffic flow caused by the congestion along this section of roadway. We feel that if the requested access revision were to be approved, it would only serve to hasten the total breakdown of the interchange area.

There has been some discussion regarding allowing only limited movement access to lessen the negative effects caused by the creation of a multiphase traffic signal cycle. We agree that restrictions on certain movements will avoid a total capacity breakdown; however, it is felt that after opening of the proposed development, pressure will be applied on the Division of Highways to lift the restrictions, thereby creating an unbearable condition.

Baldwin

SC 7-44

June 15, 1987

Page Two

Furthermore, access to private development at this location would preclude any future possibilities of upgrading this interchange with the provisions of a ramp constructed in the northwest quadrant of the interchange. Such a revision may be possible, if and when the Cape Fear Railroad is abandoned. With a ramp located here, substantial benefits in capacity and safety would be possible.

According to the roadway project plans along US 401 Bypass, this property has access to at least two (2) full movement median crossovers, and it appears that access to SR 1415 is available on the northern property boundary. It also appears that this site may have other access points on several surrounding subdivision streets. With such an abundance of access, we do not feel that we should jeopardize the capacity at the interchange. We, therefore, recommend the request for alteration in the control-of-access be denied.

If we can be of further assistance to you regarding this matter, please advise.

TAH:th

Att.

cc: Mr. D. W. Bailey, P.E., Att.

Mr. J. L. Stamp, Att.

Mr. E. R. Goff, Att.