

locations

FEASIBILITY STUDY

Bridges Street
From Bonner Avenue to Arendell Street
and extend from 35th Street west to US 70
Morehead City, Carteret County
T.I.P. #U-2226

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

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The subject project is included in the 1987-1995 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.

I. GENERAL DESCRIPTION

The subject study reviewed the proposed widening of Bridges Street from just east of Bonner Avenue to Arendell Street (US 70) and also reviewed alternatives for extending west to US 70 along the Atlantic Carolina Railway. The studied sections are 2.9 miles in length and their locations are shown on Figure 1. On-the-ground photographs are shown on Figure 2.

Widening Bridges Street (Section 1) to three lanes, 44 feet face-to-face of curbs with gutter appears to be feasible. Extending the project along the railroad (Sections 2 and 3) as a two-lane roadway or desirably as a four-lane roadway is also considered feasible.

II. PURPOSE OF PROJECT

A. Existing Roadway

Bridges Street is a major thoroughfare of the Morehead City street system. Bridges Street parallels US 70 and finally merges with US 70 midway of the studied section (see Figures 1 and 3).

The subject section of Bridges Street is a two-lane roadway with a 20-foot pavement and 6 to 10-foot shoulders. Additional left turn lanes have been added at the intersection with Camp Glen Drive. It is also noted that the subject roadway transitions into a three-lane roadway, 44 feet face-to-face of curbs with gutter, on its eastern terminal.

Both horizontal and vertical alignments along Bridges Street are good.

Right of way along Bridges Street is that which is maintained, approximately 50 to 60 feet.

No roadway currently exists along the railroad from Arendell Street (US 70) west to the end of the studied sections. This area is mostly commercially developed on the south side of the railroad is mostly vacant woodland with some residential uses on the north side of the railroad.

B. Traffic, Capacity, and Accident Data

Existing traffic along Bridges Street is about 9000 vehicles per day. Projected traffic (year 2007) along the entire studied section is estimated to be 15,000 to 20,000 vehicles per day.

Existing Bridges Street is operating at a level of service C-D, but will not be able to provide a good level of service for the projected traffic volumes.

Accident records along Bridges Street for the period of January, 1984 through February, 1987 show a total of 72 accidents and no fatalities. The accident rate during this period was 12.52 accidents per million vehicle miles as compared to a statewide average of 4.49 ACC/MVM for similar roadways. Most of the accidents were "rear-end slow or stop" (41.7%) and "angle" (23.6%).

C. Need for Project

The studied project would relieve congestion along US 70 as it would divert some local traffic away from Arendell Street. The proposed project would also open the sparsely developed area north of the Atlantic Carolina Railway for economic expansion.

III. STUDIED ALTERNATIVES AND COST ESTIMATES

It is proposed that the existing section of Bridges Street (from Bonner Avenue to Arendell Street, 0.7 mile, Section 1) be widened to a minimum of three lanes, 44 feet face-to-face of curbs with gutter. This section could be constructed by symmetrical widening within a 70-foot right-of-way without any relocations.

The Town of Morehead City proposed this cross-section as it is compatible with the existing section to the east and would have minimum impact on existing development.

Cost estimates for improving Bridges Street (Section 1) are as follows:

Bridges Street:	Construction	\$ 700,000
(Section 1)	Right-of-way	\$ 490,000
	Total	<u>\$1,190,000</u>

From Bridges Street to SR 1177 (Section 2) various concepts were studied for this 1.8 mile section. These concepts included A) two lanes on the north side of the railroad, B) two lanes on each side of the railroad, and C) four lanes on the north side of the railroad.

Each of the concepts along Section 2 would require the upgrading of Bruton Street (see Figure 3) to provide for connections between US 70 East and Bridges Street, and between Bridges Street and US 70 West. This improvement would most likely be a three-lane roadway, 40 feet face-to-face of curbs with gutter within a 60-foot right-of-way.

The first concept (2-A) studied along Section 2 was a two-lane roadway to be constructed along the north side of the railroad within a right-of-way extending approximately 85 feet from the centerline of the railroad. This proposal would involve approximately 2 residential relocations.

The estimated costs for the studied two-lane roadway on the north side of the railroad plus the upgrading of Bruton Street are as follows:

Section 2-A:	Construction	\$2,010,000
(2 lanes)	Right of Way	\$1,045,000
	Total	<u>\$3,055,000</u>

The second concept (2-B) studied along Section 2 was for two lanes to be constructed on each side of the railroad to provide for a four-lane facility. This alternative was proposed by the Town of Morehead City.

This proposal would involve the use of an approximate 75-foot right-of-way south of the railroad centerline, and an approximate 85-foot wide right-of-way north of the railroad (the 10' difference between the north and south sides is to provide for a travelway for railroad service equipment). This proposal would require the relocation of approximately 8 residences and 4 businesses.

The estimated costs for the 2 + 2 lane proposal plus the upgrading of Bruton Street are as follows:

Section 2-B:	Construction	\$3,510,000
(2+2 lanes)	Right-of-way	\$4,745,000
	Total	<u>\$8,255,000</u>

Due to the high cost of right-of-way along the south side of the railroad a third concept (2-C) was studied. This concept calls for four through lanes to be constructed on the north side of the railroad.

Right of way for this proposal would be approximately 110 feet wide on the north side of the railroad and would involve approximately 8 residential relocations.

The estimate costs for constructing four through lanes on the north side of the railroad plus upgrading Bruton Street are as follows:

Section 2-C: (4 lanes)	Construction	\$3,350,000
	Right of way	\$1,900,000
	Total	<u>\$5,250,000</u>

At the request of the Town of Morehead City the cost for extending the project from SR 1177 along the railroad and then connecting to US 70 opposite NC 24 was studied. This extension (Section 3) would involve the estimated relocation of 1 residence and 2 businesses and would have estimated costs for four lanes as follows:

Section 3-A: (2 + 2 lanes)	Construction	\$ 800,000
	Right-of-way	\$1,760,000
	Total	<u>\$2,560,000</u>

Section 3-B: (4 lanes)	Construction	\$ 775,000
	Right-of-way	\$1,300,000
	Total	<u>\$2,075,000</u>

IV. SUMMARY OF COSTS AND RECOMMENDATIONS

		<u>Recommended</u>
Section 1:	1,190,000	1,190,000
Section 2-A: (2 lanes)	3,055,000	
Section 2-B: (2+2 lanes)	8,255,000	
Section 2-C: (4 lanes)	5,250,000	5,250,000
Section 3-A: (2 + 2 lanes)	2,560,000	
Section 3-B: (4 lanes)	2,075,000	
	Total	<hr/> \$6,440,000

Various combinations of widening and project length could be used for the project. The costs of these vary from \$4,245,000 for minimum improvements along Sections 1 and 2 to \$12,005,000 for the most costly improvements along Sections 1, 2, and 3.

It will take more detailed study to determine the best alternative for the project and to set a precise cost estimate. However, preliminary study would suggest that Section 1 (Bridges Street) be widened to three lanes within a 44-foot section with curbs; that Section 2 be constructed as four lanes on the north side of the railroad, plus additional turn lanes where needed, and with a curb along the north edge of pavement; and that Section 3 be constructed as a future project when needed. The estimated cost for this recommended proposal is \$6,440,000.

It is noted that with any of the alternative improvements that extensive design and traffic engineering will be required to provide a good design for the complex intersection of Bridges Street, US 70, and the proposed extension, all on top of the Atlantic Carolina Railway.

V. POSSIBLE ENVIRONMENTAL IMPACTS

No significant impacts to the natural environment are anticipated with this project.

However, the project could require the relocation of up to 9 residences and 6 businesses depending on the alternatives chosen. The recommended proposal would require the relocation of an estimated 8 residences and 2 businesses.

VI. BASIS FOR FINDING

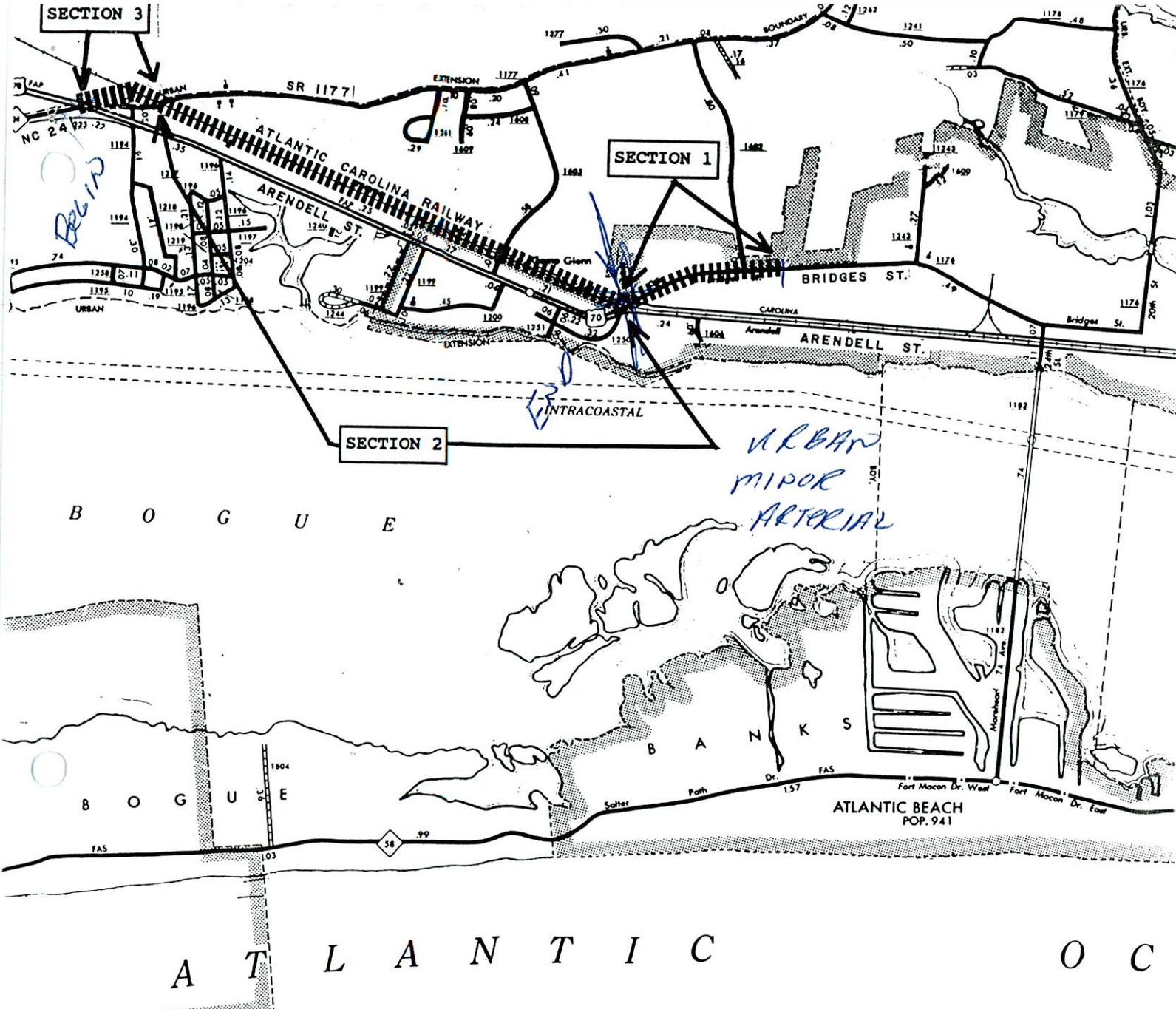
The information and recommendations of this report are based on the following:

1. Field Investigation
2. Input from the Thoroughfare Planning Unit
3. Contact with the Morehead City Town Manager
4. Conversation with the Assistant Division 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 personnel of the Right-of-Way Branch

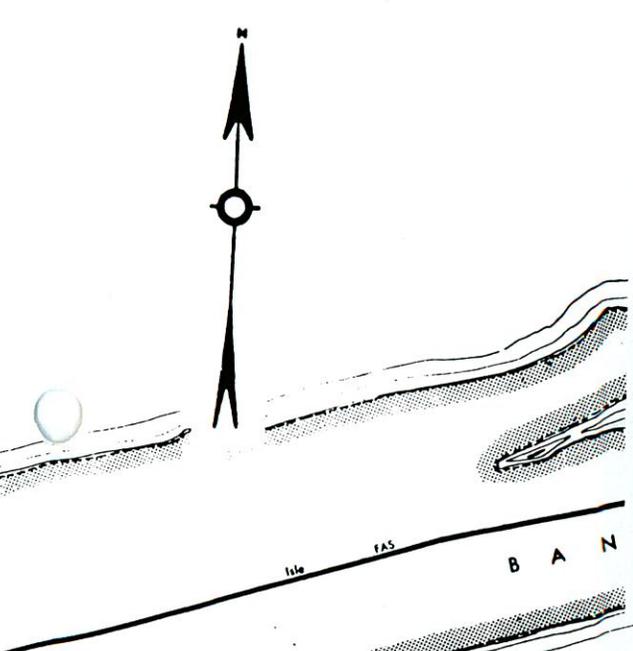
VII. ADDITIONAL COMMENTS

If the project is to be implemented at a future 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.

LVP/rm



	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH</p>	
<p style="text-align: center;">BRIDGES STREET</p> <p style="text-align: center;">FROM BONNER AVENUE TO ARENDELL STREET AND EXTEND FROM 35th STREET WEST TO US 70 MOREHEAD CITY, CARTERET COUNTY</p> <p style="text-align: center;"><i>US 70 TO Arendell</i> U - 2226</p>		
<p>5/87</p>	<p>0 _____ 1/2 mi</p>	<p>FIG. 1</p>



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BRIDGES STREET

FROM BONNER AVENUE TO ARENDELL STREET
AND EXTEND FROM 35th STREET WEST TO US 70
MOREHEAD CITY, CARTERET COUNTY

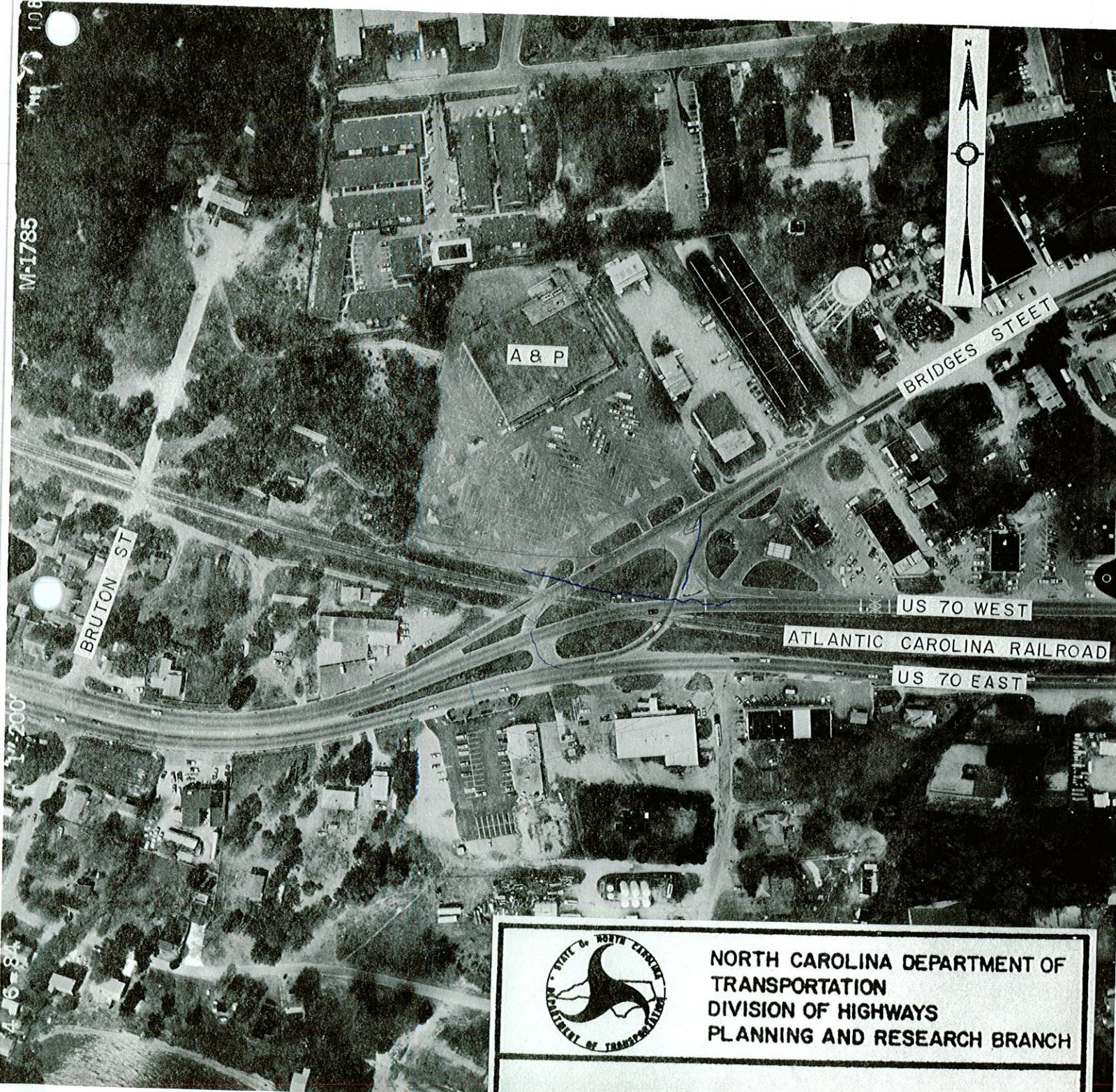
U - 2226



EXISTING BRIDGES STREET



ATLANTIC CAROLINA RAILROAD



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

BRIDGES STEET - US 70 INTERSECTION
MOREHEAD CITY, CARTERET COUNTY
PROJECT U-2226

6/87

0 ft. 200

FIG. 3