



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

W. LYNDO TIPPETT
SECRETARY

October 12, 2004

MEMORANDUM

TO: Calvin W. Leggett, P.E.
Manager, Program Development Branch

FROM: Derrick W. Lewis, P.E.
Feasibility Studies Engineer

SUBJECT: Multilane improvements to NC 133 from SR 1100/SR 1190 on Oak Island to NC 211, Brunswick County.

As requested, we have performed a cursory evaluation of the multilane widening of NC 133 from SR 1100/SR 1190 on Oak Island to NC 211. The recommended cross section is two variations of a four-lane divided section with a 23-foot raised grass median. Alternative 1 considered curb and gutter in order to minimize property impacts and Alternative 2 used open shoulders to filter storm runoff, which would address potential environmental concerns. Considering that the vast majority of the traffic in the NC 133 / SR 1190 / SR 1100 intersection travels between NC 133 and SR 1190 (72% to 89%), it is recommended that the intersection be realigned to accommodate this traffic as a through movement.

Alternative 1

The first alternative investigated is a four-lane divided curb and gutter section; 74-foot face to face of curbs with a 23-foot raised grass median. The recommended right of way width for this alternative is primarily 100-foot wide symmetrical about the centerline increasing to 150 feet asymmetrical about the centerline across the Intracoastal Waterway. Additional right of way will be needed to accommodate the approach fill sections to the bridges across the Intracoastal Waterway. The purpose of this alternative is to minimize the right-of-way impacts to businesses along this section of NC 133. This alternative is expected to result in 9 residential and 12 business relocations as a result of this improvement. The estimated total cost of these improvements is \$53,400,000 with \$12,900,000 for right of way and \$40,500,000 for construction.

**Alternative 2
(Recommended)**

Considering the environmentally sensitive nature of this coastal area, it is possible that ditches may be placed on the shoulders to filter the storm water runoff. In order to accommodate this, a four-lane divided shoulder section with a 23-foot raised grass median, 12-foot travel lanes, and 4-foot paved shoulders was also investigated. The recommended right-of-way width is 150-foot symmetrical about centerline shifting to an asymmetrical right of way across the Intracoastal Waterway. Additional right of way will be needed to accommodate the approach fill sections to the bridges across the Intracoastal Waterway. This alternative is expected to result in 13 residential and 27 business relocations. The estimated total cost of these improvements is \$57,500,000 with \$17,300,000 for right of way and \$40,200,000 for construction.

It should be noted that under existing conditions, the current year Average Daily Traffic (ADT) along this section of NC 133 ranges between 26,500 vehicles per day (vpd) to 27,300 vpd. For the 2025 design year, the estimated traffic volumes on this section of NC 133 range between 38,300 vpd to 39,000 vpd. However, with the Second Bridge to Oak Island in place (TIP project R-2245), the traffic volumes expected to utilize this section of NC 133 are anticipated to decrease dramatically. Current year average daily traffic ranges from 19,100 vpd near NC 211 to 12,600 vpd across the Intracoastal Waterway. While not removing the need to expand the capacity of the NC 133 crossing of the Intracoastal Waterway, it may be possible to subdivide the project into two portions in order to address the heavier traffic projections between NC 211 and the Intracoastal Waterway.

Section A is NC 133 from the SR 1190 / SR 1100 intersection to the SR 1210/Airport Driveway Intersection, approximately 1.25 miles. This section includes the widening of the NC 133 crossing the Intracoastal Waterway. Under Alternative 1, this section is estimated to cost approximately \$38,400,000 with \$6,700,000 for right of way and \$31,700,000 for construction. Under Alternative 2, the cost estimate for this section will increase to \$39,000,000 of which \$7,000,000 is right of way and \$32,000,000 is construction. It should be noted that bridge No 13 has a sufficiency rating of 51.0 and an estimated remaining life of 48 years.

Section B is NC 133 from the SR 1210 / Airport Drive Intersection to the NC 211 intersection, approximately 2.05 miles. This section addresses the more developed sections of NC 133 in this area. Under Alternative 1, this section is estimated to cost approximately \$15,000,000 with \$6,200,000 for right of way and \$8,800,000 for construction. Under Alternative 2, the cost estimate for this section will increase to \$18,500,000 of which \$10,300,000 is right of way and \$8,200,000 is construction.

Alternative	Section A		Section B		Total Cost
	R/W Cost	Construction Cost	R/W Cost	Construction Cost	
1 (C&G/Shoulder Section)	\$6,700,000	\$31,700,000	\$6,200,000	\$8,800,000	\$53,400,000
Relocations	10 Businesses / 0 Residential		2 Business / 9 Residential		
2 (Shoulder Section)	\$7,000,000	\$32,000,000	\$10,300,000	\$8,200,000	\$57,500,000
Relocations	10 Business / 3 Residential		17 Business / 10 Residential		

As you are aware, this work is preliminary and is not the product of comprehensive environmental or design evaluations. These alignments are subject to change during later planning and design stages as more detailed information becomes available. If you have any additional questions concerning this project, please call me at 733-2039.

DWL/dl

cc: Lanny T. Wilson, Member, Board of Transportation
 Allen Pope, P.E., Division 3 Engineer
 Al. Avant
 Ray McIntyre, P.E.

