

SECTION I

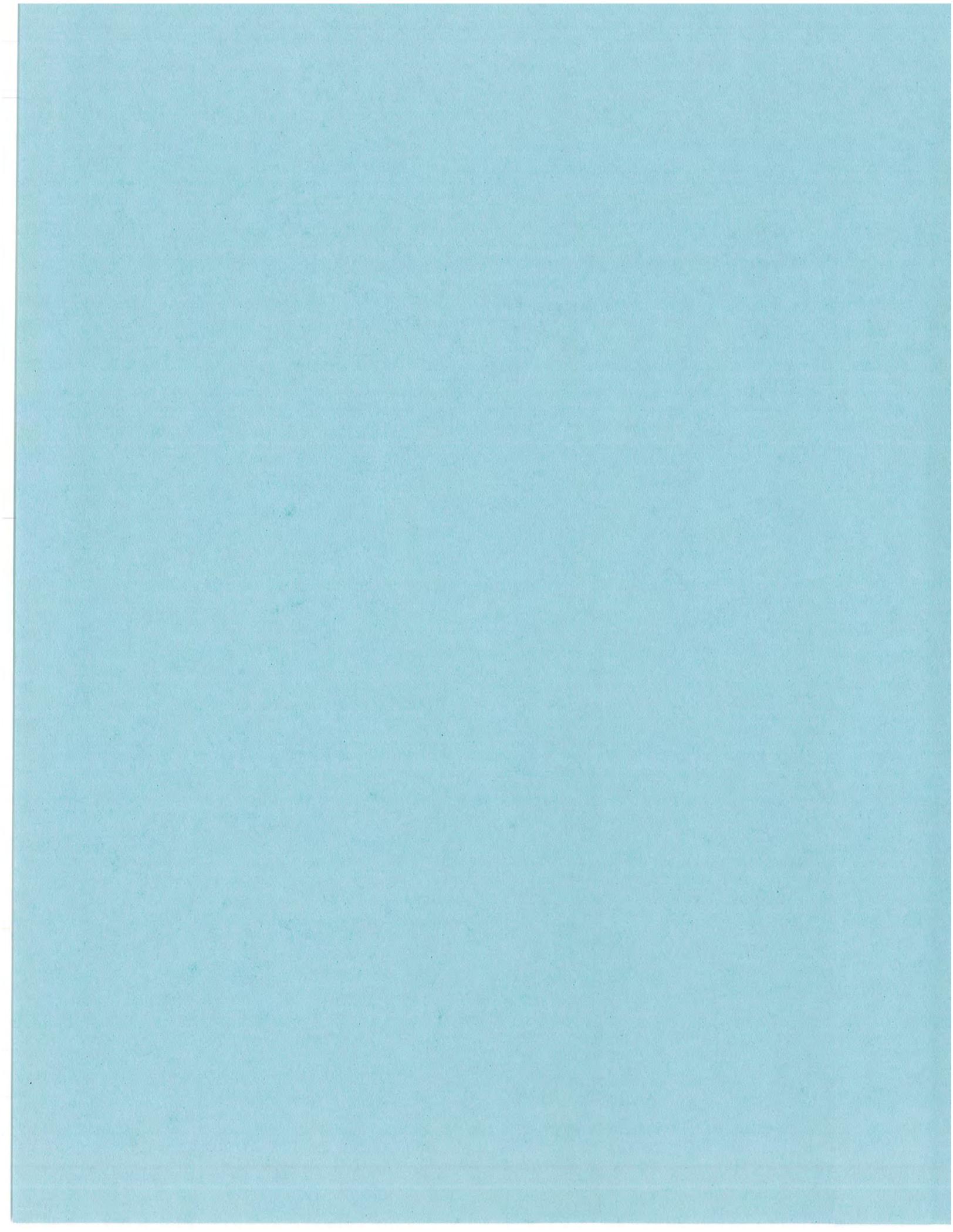
DESCRIPTION OF PROPOSED ACTION



BUILDING THE FUTURE

Winston-Salem

BUSINESS 40



**US 421 PAVEMENT REHABILITATION, REPLACEMENT OF BRIDGE NUMBERS
178, 278, 286, 288, 291, 293, 305, 312, 313, 336 AND
VARIOUS SAFETY IMPROVEMENTS**

From West of Fourth Street to East of Church Street
Forsyth County, North Carolina

FEDERAL AID PROJECT NO. NHF-0421(5)

WBS ELEMENT NO. 34872.1.1

STIP PROJECT NO. U-2827B

This document is an Environmental Assessment (EA) for the proposed improvements to US 421/Interstate 40 (I-40) Business in Forsyth County, North Carolina. The North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP) identifies the project as STIP U-2827B. The location of the project is shown on Figure 1.

This EA has been prepared by the NCDOT in coordination with the Federal Highway Administration (FHWA). It is intended to satisfy the requirements of both the National Environmental Policy Act (NEPA) and the North Carolina Environmental Policy Act. The document conforms to the Council on Environmental Quality (CEQ) guidelines [40 CFR 1508.9], which implement the procedural provisions of NEPA, and the FHWA Guidance for Preparing and Processing Environmental and Section 4(f) Documents (Technical Advisory T6640.8A, 1987). The proposed project meets the criteria for an EA as denoted in 23 CFR 771.119.

I. DESCRIPTION OF PROPOSED ACTION

A. GENERAL DESCRIPTION

The proposed project involves pavement rehabilitation of travel lanes, reconstruction of shoulders and ramps, replacement of ten (10) bridges (Bridge Numbers 178, 278, 286, 288, 291, 293, 305, 312, 313, 336), and various safety improvement on US 421/I-40 Business (commonly referred to as Business 40 by residents of Winston-Salem) from west of Fourth Street to east of Church Street. Full control of access will be maintained. Minimal additional right-of-way with easements is proposed with the project. The project length is approximately 1.2 miles long. The vicinity map for the project is shown in Figure 2.

The project proposes to improve interchange spacing and geometrics by reducing the number of interchanges from six (6) existing interchanges (two full and four partial movement), see Figure 3, to three (3) interchanges (two full and one partial movement).

B. HISTORICAL RESUME AND PROJECT STATUS

This section of US 421/I-40 Business was designed in the early 1950’s, constructed in the late 1950’s and was opened in 1958 as Winston-Salem’s East-West Expressway. This facility was designated as the first section of I-40 in North Carolina. With the relocation of I-40 south of Winston-Salem, from the US 421/I-40 split west of Winston-Salem to west of Deep River, in 1992 the original I-40 was designated as I-40 Business.

In 1992, rehabilitation of I-40 Business from US 421 to Linville Road began. Originally, NCDOT envisioned the US 421/I-40 Business project as a pavement rehabilitation effort. However, as the project evolved, NCDOT realized that minor rehabilitation would not address the safety and mobility deficiencies throughout the corridor. Thus, NCDOT incorporated more operational and safety improvements into the project scope.^{R1} The rehabilitation of US 421/I-40 Business was addressed with the projects listed in Table 1 below:

Table 1. US 421/I-40 Business Rehabilitation Projects

STIP Number	Project Limits
U-2827A	West of Vineyard Park Road Overpass to east of US 158 (S. Stafford Road)
B-2555A	East of US 158 (S. Stafford Road) to west of Fourth Street - Rehabilitation of Bridge No. 254 on US 421/I-40 Business over Miller Street and Norfolk Southern Railroad, replacement of Bridge Nos. 259 & 262 on US 421/I-40 Business over Cloverdale Avenue, Eden Terrace, Hawthorne Road and realignment of US 421/I-40 Business and rehabilitation of Bridge No. 345 on US 421/I-40 Business over Crafton Street.
U-2827B	West of Fourth Street to east of Church Street
B-2555C	Replacement of Bridge No. 345 on US 421/I-40 Business over Salem Avenue and Norfolk Southern Railroad, rehabilitation of Bridge No. 345 on US 421/I-40 Business over US 52 and 2,000 feet roadway approach work on US 421/I-40 Business
U-2827C	West of US 311 (Martin Luther King, Jr. Drive) to west of US 158 (Reidsville Road)
R-0952A	West of US 158 (Reidsville Road) to west of SR 2662 (Linville Road)

Construction has occurred on five (5) of the sections as noted in Table 2 below:

Table 2. US 421/I-40 Business Rehabilitation Projects Constructed

STIP Number	Construction	
	Began	Completed
U-2827A	November 2000	September 2003
B-2555A	November 1997	November 2000
U-2827C	July 2003	September 2005
B-2555C	April 1995	June 1998
R-0952A	June 2002	July 2006

Due to its complexity (interchange spacing, ramp geometrics, insufficient vertical clearance of structures, constructability concerns, proximity of historic properties and/or districts and major impacts to the downtown/core of Winston-Salem) the remaining section of US 421/I-40 Business from west of Fourth Street to east of Church Street (U-2827B) was deferred to allow

for a thorough analyses of the problems and possible solutions. In April 2006 FHWA and NCDOT held an Accelerated Construction Technology Transfer (ACTT) Workshop in Winston-Salem to discuss the section of US 421/I-40 Business from west of Fourth Street to east of Church Street that was still in need of major rehabilitation. The ACTT Workshop invited individuals from the FHWA, NCDOT, other State Highway Officials, North Carolina State Agencies, City of Winston-Salem, Industry Experts, Private sector design firms, and contractors with expertise in project's complexities. Ninety-three individuals attended and provided over 130 recommendations regarding the following skill sets:

- Utilities/Railroad/Right-of-Way (ROW)/3rd Party Constraints
- Historic Properties/Human Environment/Public Involvement
- Traffic Engineering/Safety/Intelligent Transportation Systems (ITS)
- Geometric/Hydraulic Design
- Structures
- Long Life Pavements/Maintenance
- Construction
- Geotechnical/Materials/Accelerated Testing, and
- Public Information

To better understand the community's concerns and to facilitate active public participation in the environmental process with the project an aggressive public involvement campaign began in May 2006. The initial outreach consisted of five (5) components: Community Outreach, Neighborhood Businesses Outreach, Downtown Businesses Outreach, Commuter Outreach and Government/Institution Outreach. With the information gathered during the initial outreach a comprehensive public involvement campaign was undertaken. The comprehensive public involvement campaign is an ongoing process which includes Corridor-Wide Meetings, Neighborhood Meetings, Stakeholder Meetings, Working Group Meetings, periodic newsletters, public notices and a project website. This public involvement campaign will continue throughout the construction of the project.

C. COST ESTIMATES

The initial cost of the proposed improvements as stated in the approved 2012-2020 State Transportation Improvement Program (STIP) was \$2,700,000 for right-of-way acquisition and \$46,350,000 for construction. The 2013-2023 Draft STIP denotes \$3,700,000 for right-of-way acquisition and \$56,350,000 for construction.

The current project cost estimate ranges from \$66,879,000 to \$74,044,000 which includes right-of-way acquisition and construction. A detailed listing of the cost estimates may be found in Section IV.T [COST ESTIMATES] of this document.

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