

**DEPARTMENT OF TRANSPORTATION
OFFICE OF ENGINEERING
PROJECT DEVELOPMENT UNIT**

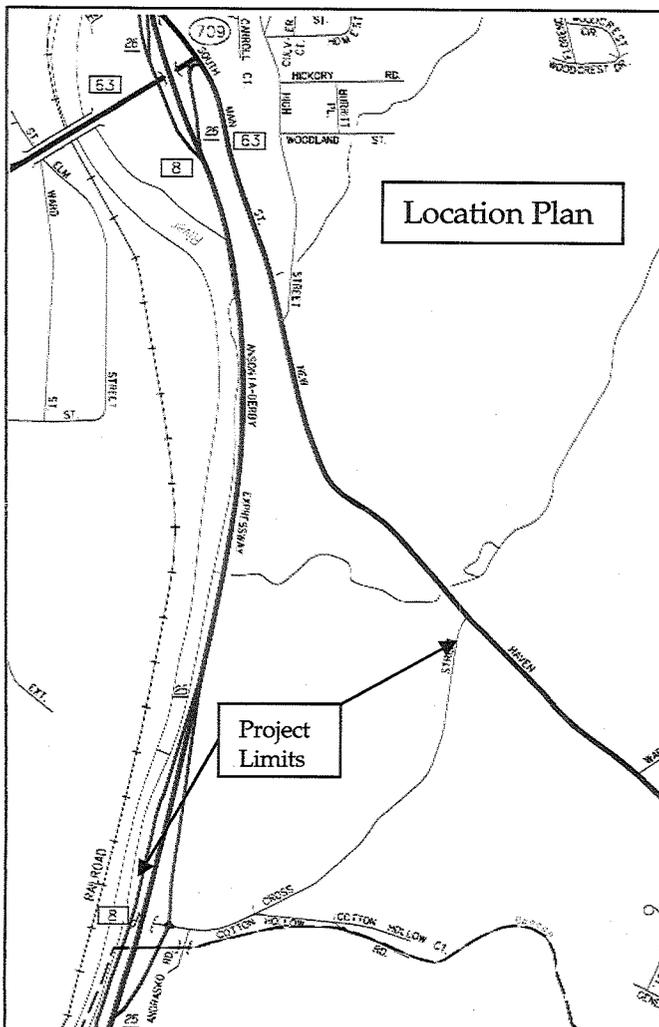
PROJECT SUMMARY REPORT (Revised 1/22/2013)

Project #87-XX01

**Major Reconstruction of Cross Street
Borough of Naugatuck**

The Borough of Naugatuck, through the Council of Governments of the Central Naugatuck Valley, has submitted an application for funding under the STP-Urban Program to reconstruct Cross Street from Interchange 25 on Route 8 to its approach to Route 63, which is approximately 4,150 feet in length. Cross Street, a two-lane collector roadway, is a regionally significant roadway since it provides a connection to the Route 8 Expressway for commuter and commercial traffic from the southeast section of Naugatuck and the Town of Bethany.

The roadside development includes primarily residential on the southwesterly section with some commercial property (moderately sized shopping plaza) in the vicinity of Route 63. There also is a middle school, an athletic field, commuter lot and a cemetery located within the project limits.



Existing Conditions

Although Cross Street widens in the vicinity of the commercial area approaching Route 63, its width is predominately 22 feet with no sidewalks. There is an enclosed formal drainage system, which may be hydraulically inadequate. The type of curbing is bituminous concrete.

The section in the vicinity of the middle school has a series of reverse horizontal curves. The minimum horizontal radius on Cross Street is approximately 300 feet. Vertically, the roadway can be characterized as having mostly uniform and moderate grades with the lower elevations near its westerly terminus (adjacent to the Naugatuck River) and with the high elevation at its terminus at Route 63. The length of the verticals curves appear to be adequate for the prevailing speeds. Due to its poor vertical and horizontal alignment and limited sight distance at Cotton Hollow Road, both Cross Street's southwest approach to the intersection and Cotton Hollow Road are stop-sign controlled.

At the commercial driveway for the shopping plaza, the proximity of the concrete retaining wall (supporting the parking area) to the roadway creates sight restrictions for egressing vehicles.

The pavement condition varies from fair to poor depending on the section of roadway. The section from Route 8 to Andrasko Road is in poor condition. The wearing surface in this section exhibits significant alligator cracking in the wheel paths and extensive block cracking. The remaining section of roadway is in fair condition with moderate block cracking and isolated sections of alligator cracking.

The deficiencies noted in the application included: inadequate sight distances in the vicinity of Cross Street School, Cotton Hollow Road & the Plaza driveway; sections of narrow roadway width (22'); inadequate storm drainage system; deteriorating stone retaining wall (supports roadway); deteriorating pavement structure; substandard guiderail and limited pedestrian facilities.

Traffic Data: The posted speed limit is 25 MPH. The most recent average and 85th percentile speeds in the westbound direction were recorded at 28 and 32 MPH, respectively. The most recent average and 85th percentile speeds in the eastbound direction were recorded at 31 and 32 MPH, respectively. The 2012 average daily traffic (ADT) volume on Cross Street varies from 6,100 vehicles per day (VPD) between Cotton Hollow Road and Meadowbrook Place to 9,700 VPD just to the east of the Interchange 25's northbound exit ramp.

In the period between January 1, 2007 and December 31, 2009, there were 11 crashes with 8 injuries recorded within the project limits. Although no accident patterns were present in the data, seven of the 11 collisions occurred between Cotton Hollow Road and the cemetery driveway.

Utilities: Within the project's limits, the overhead utilities include Northeast Utilities, AT&T Connecticut (SNET) and Comcast Cable. The underground utilities on Cross Street include water distribution by Connecticut Water Company and the Borough's sanitary and storm sewers.

Proposed Improvements

In the town's application, the proposed Cross Street improvements included full-depth reconstruction, horizontal and vertical realignments, widening to a uniform 30-foot roadway width (11-foot lanes with 4-foot shoulders), new storm drainage system, granite/concrete curbing, new retaining walls (as required), 5-foot concrete sidewalk and 5-foot snow shelf (south side of roadway), realignment of the Cross Street and Cotton Hollow Road intersection and guiderail as required.

As noted in the application, the proposed pavement structure would consist of 3" of HMA 0.5 inch Superpave on 6" of HMA 1.5 inch Superpave on 10" gravel base. However, using guidelines for a roadway with an ADT count of 6,100 vehicles per day, the estimate was based on a pavement structure consisting of 3" of HMA 0.5 inch Superpave (two equal courses) on 4" of HMA 1.0 inch Superpave on 12" of Processed Aggregate Base.

Although the application included the construction of a roundabout at Route 8's northbound ramps, it was not determined to be effective at this location and, as a result, has not been incorporated into the project.

The concept plan, which was included in the town's application, proposed significantly enlarging the horizontal curves resulting in more severe property impacts and increased vehicular speeds. However, after the review of recent speed data and it was mutually agreed that minor modifications of the existing horizontal alignments will minimize property impacts and meet a reasonable Design Speed of 35 MPH.

According to town officials, the existing drainage system is hydraulically inadequate. It has been assumed that the existing drainage system will be replaced and the location of the outlets will remain the same.

Design Elements: Cross Street

Roadway Classification: urban collector

Standards Utilized: Connecticut Highway Design Manual - 2003 – Major Reconstruction
(Intermediate)

Posted Speed Limit: 25 MPH

Design Speed: 35 MPH

	Existing	Standards	Proposed
Travel lane width	9' - 11'	11'-12'	11'
Shoulder width	0 - 1'	4'- 8'	4'
Minimum Radius e=4%	300'	345'	345'
Superelevation		4%	4%
SSD	200'	250'	250'

Design Exceptions

A design exception for superelevation transition length may be required.

Impacts

- Environmental – After the Department's Environmental Compliance Unit's Task 100 Environmental review, it was determined that no further investigations are warranted. If the scope of work should change during the design phase, further investigations may be required.
- Environmental Permits – It is anticipated that Storm Water Discharge, Flood Plain Management, Army Corps and Inlands Wetlands permit will be required.
- Utilities – It is anticipated that the overhead utilities will require relocation. Spot relocations of underground utilities due to conflicts with storm drainage installations may be required. Depending on the vertical modifications on section of Cross Street east of Cotton Hollow Road and the depth of the sanitary sewer, a section of sanitary sewers may require relocation. **Borough representatives indicate that gas service may be extended to the town's middle school.** Coordination between representatives from the Department, municipality, Connecticut Natural Gas Corporation and the Designer will be required to ensure the installation of gas service prior or in coordination with the reconstruction of Cross Street.
- R.O.W. – In addition, the proposed width of the town's ROW would be increased from 40 feet to 50 feet. It was envisioned that the ROW would generally increase equidistant on both sides. In its application, it was anticipated that the improvements would necessitate one total

becoming non-conforming due to minimum lot size, a variance will be sought. The estimate for the Right of Way Phase includes the cost of this total acquisition, assuming a variance is denied.

In the application, concrete and granite curb are included in the scope of improvements. The town will be required to show that these types of curb are town standards. If they are not town standards, the town would be required to fund 100% of the cost above the cost for bituminous concrete curbing.

PRELIMINARY COST ESTIMATE

The Project Development Unit has estimated the following phases for the proposed project as follows:

Preliminary Engineering	\$ 600,000
Rights of Way	\$ 500,000
Construction	
Construction Items	\$3,000,000
Contingencies	\$ 300,000
Incidentals to Construction	\$ 750,000
Construction Total	<u>\$4,050,000</u>
Total	\$5,150,000

FUNDING

The funding ratio under the STP-Other Urban Program is 80% federal, 10% state and 10% town for this project. The Council of Governments of the Central Naugatuck Valley's current apportionment is \$3,097,562 (federal) per federal fiscal year (FFY). Including the required matching funds, the yearly apportionment is approximately \$3,871,953 in total. It is expected that the construction phase will be phase-financed over two FFYs.

It is anticipated that the preliminary schedule would include the following:

- FFY 2013 - Preliminary Design Phase
- FFY 2015 – Final Design and ROW Phases
- FFY 2016/17 - Construction Phase

The break down of the phases is as follows:

	Federal	State	Town	Total
Prelim. Engineering	\$ 480,000	\$ 60,000	\$ 60,000	\$ 600,000
Rights of Way	\$ 400,000	\$ 50,000	\$ 50,000	\$ 500,000
Construction	<u>\$ 3,240,000</u>	<u>\$ 405,000</u>	<u>\$ 405,000</u>	<u>\$ 4,050,000</u>
Total	\$ 4,120,000	\$ 515,000	\$ 515,000	\$ 5,150,000

SUBMITTED BY: Thomas E. Borden DATE January 22, 2013
 Thomas E. Borden

**CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING AND CONSTRUCTION
ENGINEERING SERVICES
PROJECT DEVELOPMENT UNIT**

REPORT OF MEETING

DATE OF MEETING: January 22, 2013

TOWN: Borough of Naugatuck

LOCATION OF MEETING: Department of Transportation Headquarters, Newington

SUBJECT OF MEETING: Scope Confirmation for the Reconstruction of Cross Street

ATTENDANCE:

James Stewart	Borough of Naugatuck – Public Works Director	(203) 720-7071
Wayne Zirolli	Borough of Naugatuck – Borough Engineer	(203) 720-7005
Keith Rosenfeld	Borough of Naugatuck – Town Planner	(203) 720-7040
Andy Carrier	VHB Consulting – Liaison	(860) 632-1500
Joe Perrelli	COGCNV	(203) 757-0535
Hugh Hayward	DOT – Local Roads	(860) 594-3219
Scott Roberts	DOT – Local Roads	(860) 594-3232
Tony Estanislau	DOT – Local Roads	(860) 594-3230
Edgar Wynkoop	DOT – Planning – Field Coordination	(860) 594-2036
Peter Talarico	DOT Project Development Unit (PDU)	(860) 594-3358
Thomas Borden	DOT Project Development Unit (PDU)	(860) 594-3485

BACKGROUND

The Borough of Naugatuck, through the Council of Governments of the Central Naugatuck Valley (COGCNV), submitted an application for funding under the STP-Urban Program to reconstruct Cross Street from the Route 8 exit (Exit 25) to Route 63. Representatives from the Borough of Naugatuck, COGCNV and the Department of Transportation met previously to develop the scope of the proposed improvements.

TRANSACTIONS:

A brief review of the existing conditions, the proposed improvements, the estimated costs, projected impacts, permitting and funding issues was given. A revised Project Summary Report has been attached for more detailed information on these issues. The revision notes a change in the pavement structure from 4" of HMA 0.5 inch Superpave (two equal courses) on 4" of HMA 1.0 inch Superpave on 12" of processed aggregate base, which was discussed at the meeting, to 3" of HMA 0.5 inch Superpave (two equal courses) on 4" of HMA 1.0 inch Superpave on 12" of Processed Aggregate Base. (The cost estimate was based on the revised pavement structure.)

The following issues were discussed further:

- It was noted that the Connecticut Natural Gas Corporation (CNG) may expand their services to Cross Street. Coordination with CNG officials, the Designer and town officials will be required during the design of the project to ensure the gas main's installation prior to or in coordination with the construction phase of this project. Funding for this work is not participating.

- Town officials clarified that precast concrete curbing is the town standard for curbing. Should they elect to use granite stone curbing rather the town standard, the town would have to pay the difference in cost. It was agreed not to revise the cost estimate at this point, as it will be revised at the time of the PD review.
- Due to the realignment of Cotton Hollow Road, the property on the southeast corner of the intersection will become non-conforming. The ROW estimate assumes that a variance is denied and a total acquisition will be required. It was noted that if there was a total acquisition of this property, the assumed length of the retaining wall could be shortened.
- The town may elect to resurface and install sidewalks on the remaining section (approximately 250') of Cross Street to Route 63. It was noted that the Designer should avoid impacts to parking in regards to the location of the sidewalks. **A determination regarding the project limits should be finalized prior to holding a public informational meeting.**
- The federal fiscal year (FFY) starts on October 1st and ends September 30th. The fiscal years for both the state and town start on July 1st and end June 30th.
- Under the STP-Urban Program, the funding percentages for all three project phases, Preliminary Engineering (Design), Right of Way and Construction are 80% federal, 10% state and 10% municipal. Funding under the STP-Urban Program is on a reimbursable basis.
- It was noted that the Preliminary Engineering (PE) Phase is now separated into two sub-phases, Preliminary Design (PD) and Final Design (FD). The PD Phase starts once the project is funded and would be utilizing FFY 2013 funds. Town officials may elect to use town funds from their July 2013/June 2014 fiscal year to fully fund their share of the PE Phase. The FD Phase and the ROW Phase start once the design has formally been accepted (Design Approval).
- Since the estimated cost of the Construction Phase (\$4,050,000) exceeds the regional planning agency's STP Urban Program's apportionment (approximately \$3.4M with matching funds), the construction phase will be "phase-financed" over two federal fiscal years (FFY).
- It was noted that the city will be required to administer both the Design and Construction Phases. The Department will administer the Right of Way Phase.
- Town officials noted that they intend to hire consulting firms to perform the design and to inspect the construction phase of the project. It was noted that the town is required to utilize the Qualifications Based Selection (QBS) Process as a basis for selecting firms for the design services and for the inspection services. The same consulting firm should not provide both services.
- The municipality must hold a public informational meeting to make public its intention to reconstruct Cross Street. Prior to the meeting, the municipality must place an article in the predominate paper in municipality (inviting the public to attend or comment) and invite abutting property owners in writing. Town officials plan to schedule the public informational meeting within the next month or so. It was agreed that a link to our informational meeting guidelines will be sent to the town's public works director.

- After the public informational meeting and the two-week comment period, a formal Resolution of Support from the Board of Mayor and Burgesses is to be submitted to the Department. Once the resolution is received, the Department internally generates a Recommended Project Memorandum (RPM) to start the project initiation process. COGCNV and the Department place the project on the TIP and STIP, respectively. The project is formally initiated and funding is allocated to the project.

A general timetable was discussed. It is anticipated that the Preliminary Design Phase would use FFY 2013 funds, Final Design & the Right of Way Phases would use FFY 2015 funds, and the Construction Phase could use FFY 2016 and 2017 funds, depending on property acquisitions and environmental permitting.

SUBMITTED BY: Thomas E. Borden DATE January 25, 2013
Thomas E. Borden