



NORTH CAROLINA
Department of Transportation

STIP Program Update

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August 2021

Today's Topics

- Background
- Cost Estimation Improvement Process (CEIP)
- STIP Cost Review
- Board Considerations



Background

Low Initial Cost Development

Limited knowledge of projects at early stage when project is scored and programmed

- Lack of surveys, traffic forecast, and designs
- Project assumptions made early that could later affect cost
- Rising Right of Way and Construction costs

GIS-based Cost Estimation Tool (CET)

- Based on user input, GIS data and per unit estimates
- Does not consider project specific details

Summer 2020 Reprogramming

Project cost increases received September 2019 – June 2020, along with reduced revenues and cash issues, were largely responsible for the Summer 2020 STIP Reprogramming



Emphasized the need to improve accuracy of NCDOT's cost estimation practices

Multiple efforts currently underway

Cost Estimation Improvement Process

Cost Estimation Improvement Process

Workgroup of NCDOT staff reviewed existing cost estimation process and made recommendations for improvements

Major Findings:

- GIS-based Cost Estimation Tool results are often low
- Right of Way (ROW), Utilities (UTIL), and Construction (CON) estimates not always updated regularly and consistently distributed
- Lack of central data-repository for estimates led to multiple estimates for same project

Goals:

- Create consistent, engrained process for updating estimates throughout NCDOT
- Ensure estimates are updated on a regular basis and properly distributed to all parties
- Create a single data-repository for all estimates

Key Activities Underway

- Ensure all cost estimates are based on engineering analysis (Express Designs)
- All cost estimates will be updated at a minimum of every 2 years
 - Centrally let projects will have construction estimate updated prior to entering 12 Month Let List
 - ROW estimates will be updated prior to entering 6 month ROW list
- Ensure appropriate contingencies are accounted for at all stages
- Create a cost estimate application for storing and distributing estimates
- Value Engineering/Value Assessments

STIP Cost Review

STIP Cost Review


In Summer 2020, NCDOT staff reviewed all STIP highway cost estimates

- Recommendations made on estimates that needed updating

450+ projects

- Includes 1000+ estimates for ROW, UTIL, and CON
- Updating quantities and verifying scope accuracy
- Conducting Express Designs where needed
- Complete by Summer 2021

Division Engineers are approving all verified cost memos



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

May 13, 2021

J. ERIC BOYETTE
SECRETARY

MEMO TO: Leigh Wing, PE
STIP Eastern Region Manager

FROM: Bill Hammond, PE
Corridor Development Engineer, Division 6

SUBJECT: Cost Verification – STIP Project U-6210, Cumberland County:
SR 1104 (Strickland Bridge Road), From US 401 (Raeford Road) to SR 1107 (Fisher Road),
Widen to four lane divided.


Verified Cost Estimate

Phase	Initial Estimate ¹	Previous Verified Estimate ²	Latest Verified Estimate ³	Latest Estimate and Previous Estimate Difference ⁴		Latest Estimate Date
				(\$)	(%)	
Right-of-Way	\$11,100,000	\$15,000,000	\$15,000,000	\$0	0.0%	5/6/2021
Utilities	\$1,400,000	\$7,900,000	\$7,900,000	\$0	0.0%	5/6/2021
Construction	\$18,300,000	\$20,500,000	\$22,800,000	\$2,300,000	11.2%	5/10/2021
Total	\$30,800,000	\$43,400,000	\$45,700,000	\$2,300,000	5.3%	

The difference between the latest and previous estimated costs is:

The Right-of-Way and Utilities Estimates were previously verified on May 6, 2021 and remain the same. The difference between the current and previous Construction Estimate is due to the increased 13% E&C and the increase to the Erosion Control unit price. The initial estimates were based on the P.5.0 Cost Estimation Tool.

Latest Right-of-Way estimate prepared by: Sarah White, Right-of-Way Branch
 Latest Utilities estimate prepared by: Barry W. Whitaker, Utilities Unit
 Latest Construction estimate prepared by: Karen M. Lovering, PE, Preliminary Estimates Unit

Approved by: Drew Cox, PE, Division Engineer, Division 6 

Estimates located at:
<https://connect.ncdot.gov/site/scoping/Div06/H111244/Forms/By%20Topic.aspx>

P6.0 Funding Availability

– Committed & Non-Committed Projects

Statewide Mobility

Available Funding	Programming Status
\$9.4B	\$3.03B Over

Regional Impact

Region	Available Funding	Programming Status
A (D1 & D4)	\$588.8M	\$567.3M Over
B (D2 & D3)	\$855.1M	\$541.8M Over
C (D5 & D6)	\$1.56B	\$274.4M Over
D (D7 & D9)	\$1.17B	\$668.2M Over
E (D8 & D10)	\$1.46B	\$571.3M Over
F (D11 & D12)	\$784.0M	\$791.8M Over
G (D13 & D14)	\$609.2M	\$1.25B Over

Division Needs

Division	Available Funding	Programming Status
1	\$506M	\$106.6M Over
2	\$506M	\$412.6M Over
3	\$506M	\$242.2M Over
4	\$506M	\$147.5M Over
5	\$506M	\$203.0M Over
6	\$506M	\$465.4M Over
7	\$506M	\$0.6M Over
8	\$506M	\$348.4M Over
9	\$506M	\$105.1M Over
10	\$506M	\$277.9M Over
11	\$506M	\$334.4M Over
12	\$506M	\$277.1M Over
13	\$506M	\$270.4M Over
14	\$506M	\$194.4M Over

Available funding based on 2024-2033 timeframe

As of July 26, 2021

P6.0 Funding Availability – Committed Projects Only

Statewide Mobility

Available Funding	Programming Status
\$9.4B	\$2.29B Over

Regional Impact

Region	Available Funding	Programming Status
A (D1 & D4)	\$588.8M	\$188.4M Over
B (D2 & D3)	\$855.1M	\$353.4M Over
C (D5 & D6)	\$1.56B	\$106.4M Over
D (D7 & D9)	\$1.17B	\$480.9M Over
E (D8 & D10)	\$1.46B	\$529.2M Over
F (D11 & D12)	\$784.0M	\$326.0M Over
G (D13 & D14)	\$609.2M	\$953.0M Over

Division Needs

Division	Available Funding	Programming Status
1	\$506M	\$45.6M Over
2	\$506M	\$121.9M Over
3	\$506M	\$76.3M Under
4	\$506M	\$192.0M Under
5	\$506M	\$183.0M Over
6	\$506M	\$64.0M Under
7	\$506M	\$93.0M Under
8	\$506M	\$18.8M Over
9	\$506M	\$49.8M Under
10	\$506M	\$46.5M Over
11	\$506M	\$20.4M Under
12	\$506M	\$223.1M Over
13	\$506M	\$173.1M Over
14	\$506M	\$80.6M Over

Available funding based on 2024-2033 timeframe

As of July 26, 2021

NC Board of Transportation Considerations

Inflation

- Inflation is accounted for in the STIP by reducing available revenue to program projects
- Inflation amount is evaluated as we begin each new STIP development process
- Currently, revenue is reduced by ~\$1B to account for inflation in the STIP

The Department is working with the Board on how to handle inflation on future STIP programs.

Strategic Transportation Investments (STI) Prioritization Workgroup

The law directs the Department to use a Work Group process to develop improvements to prioritization and states the Department can have no more than 50% representation.

The workgroup provides recommendations to the BOT for consideration and approval.

The workgroup is comprised of:

- MPOs & RPOs
 - 4 each and selected by their peers
- Local Government Advocacy Groups
 - Metro Mayors Coalition, League of Municipalities, Regional Council of Governments, Association of County Commissioners, NC Rural Center

50%

- NCDOT Division Engineers
- NCDOT Technical / Modal Staff

50%

Thank you!
