North Carolina
DEPARTMENT OF TRANSPORTATION

Feasibility Study Process

What is a Feasibility Study?

A Feasibility Study is a preliminary engineering and funding evaluation of a candidate State Transportation Improvement Program (STIP) Project. It is the initial step in the planning and design process and not the product of exhaustive environmental or design studies.

What is the Purpose?

The purpose of the feasibility study is to describe the proposed scope of improvements, provide the associated costs and impacts, and identify potential concerns or problems within the project area.

How is it different from a STIP Project?

A Feasibility Study is a high-level engineering study that develops conceptual designs of potential improvements in order to determine the anticipated costs and impacts for programming purposes.

Once programmed it becomes a STIP project in which the department performs exhaustive environmental and design studies as well as comprehensive public involvement to satisfy the NEPA planning process and complete the ultimate design to be implemented in the construction phase.

How does a project become a Feasibility Study?

Projects that score highly during the Prioritization Process that don't get programmed into the STIP or have insufficient information to be appropriately programmed may become Feasibility Studies. This allows the department to study projects that are most likely to be programmed in the next few prioritization cycles.

Other studies are on a case-by-case basis based on discussions between Programming, Division, and local officials.

Does a Feasibility Study have to be on a CTP/LRTP?

No.
However, it is preferable because they need to be on a CTP/LRTP in order to be programmed into the STIP.

Is it only for highway projects?

It is primarily for roads, but multi-modal aspects such as transit, bike, pedestrian, and rail are also incorporated into the study when appropriate.

How long does a Feasibility Study take?

1.5 to 3 years, depending on the complexity of the project.

Feasibility Study Process

Research Project:

- Background Information
- Aerial Photography & Mapping
- GIS Databases
- Historic Properties
- Wetlands
- Endangered and/or Threatened Species

Feasibility Study Process

Request Technical Project Input from:

- Transportation Planning Branch
- Traffic Engineering Safety Systems Unit
- Congestion Management Section
- Local Governments
- RPO /MPO
- NCDOT Division
- NCDOT Rail, Bicycle & Pedestrians

Feasibility Studies

Analysis of Data and Information:

- Crash Analysis
- Detailed Capacity Analysis
- Evaluation of Environmental Concerns
- Evaluate Community Impacts

  Including Historic Properties, Public Parks, Schools, etc.

Feasibility Studies

Conceptual Design & Cost Estimates:

- Develop Alternatives
- Prepare Conceptual Designs
- Hold a Conceptual Design Meeting
- Prepare Right-of-Way Estimate
- Prepare Utility Estimates
- Prepare Construction Estimate

Feasibility Studies

Feasibility Study Report Preparation

- Compile Study Findings & Cost Estimates
- Develop Project Recommendations
- Prepare Feasibility Study Draft Report
- Draft Feasibility Study Review
  - By Division and Board of Transportation Members
- Finalize and Distribute Final Report

What are the Pros & Cons of a Feasibility Study?

Pros: Provides a preliminary cost and design data without the expense of a full study. A Feasibility Study gives enough information to make an educated decision on prioritizing and programming a project.

Cons: It is only a conceptual design with minimal public input and without environmental field studies. The cost estimates are preliminary and not a definite answer of what it will cost as other issues may arise during later planning and design stages.

Total Project Costs

Corridor	Section	Right of Way	Utility	Construction	Total Cost
A	Section 1	$10,700,000	$900,000	$58,100,000	$69,700,000
	Section 3	$28,800,000	$600,000	$116,200,000	$145,600,000
	Section 4	$9,000,000	$300,000	$47,800,000	$57,100,000
	Section 5B	$7,600,000	$200,000	$9,500,000	$17,300,000
		$56,100,000	**$2,000,000**	**$231,900,000**	**$290,000,000**

Corridor	Section	Right of Way	Utility	Construction	Total Cost
B	Section 2	$3,900,000	$300,000	$58,700,000	$62,900,000
	Section 3	$28,800,000	$600,000	$116,200,000	$145,600,000
	Section 4	$9,000,000	$300,000	$47,800,000	$57,100,000
	Section 5A	$14,000,000	$200,000	$32,100,000	$46,300,000
		$55,700,000	**$1,400,000**	**$254,800,000**	**$311,900,000**

Study Alternatives: Potential Impacts Table

Alternative		1	2	3	4
Length (miles)		6.30	6.21	6.10	6.14
Bridges (square feet)		759,400	654,500	625,800	699,000
Wetlands (acres)		49.7	39.5	35.2	35.8
Floodway (acres)		47.4	38.9	38.3	44.7
Bald Eagle Occurrence		Y	Y	N	N
Relocates	Residential	56	78	77	56
	Businesses	7	7	10	10
	Churches	4	4	4	3
Environmental Justice Occurrence		24	24	54	30
Cell Towers		2	2	2	1
CWMTF/FEMA (acres)		19.2	19.2	0.0	0.0
Battlefield (acres)		2.4	0.0	0.6	2.4

For more information please contact

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