PRIORITIZATION 6.0
2019 BPCE TOOL

USER'S MANUAL

NCDOT

BICYCLE & PEDESTRIAN COST ESTIMATION TOOL

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DEPARTMENT OF TRANSPORTATION

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June 28, 2019

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1. INTRODUCTION

1.1. Purpose

The primary purpose of the Bicycle & Pedestrian Cost Estimation (BPCE) Tool is to provide Prioritization 6.0 submitters (Metropolitan Planning Organizations, Rural Planning Organizations, and NCDOT Divisions) a quick and easy tool to develop reasonable and comparable bicycle and pedestrian project cost estimates for submittal through the Prioritization 6.0 process.

1.2. Goals

The goals of the tool include the following:

- Be intuitive for submitters to use
- Be able to accommodate those who are unfamiliar with the project design and construction processes
- Be transparent in the calculations it runs
- Produce estimates broken into components to match the inputs needed for SPOT Online
- Produce estimates in a format appropriate for easy explanation to elected and appointed officials
- Be easy to maintain by NCDOT personnel

1.3. Methodology

The BPCE Tool represents a combination of computational technology and cost estimation philosophy. In order to leverage these two areas of expertise, the tool was developed by simultaneously coordinating the technical development of an advanced Microsoft Excel-based tool and the transportation project (theory-based) development of bicycle and pedestrian project cost estimation formulas. Critical in the development of the tool was the desire to take complex computations and simplify them using assumptions based on a minimized number and complexity of user inputs in a format that matched the business needs of the Prioritization 6.0 process.

The methodology used to develop this complex tool is summarized in the graphic on the following page.

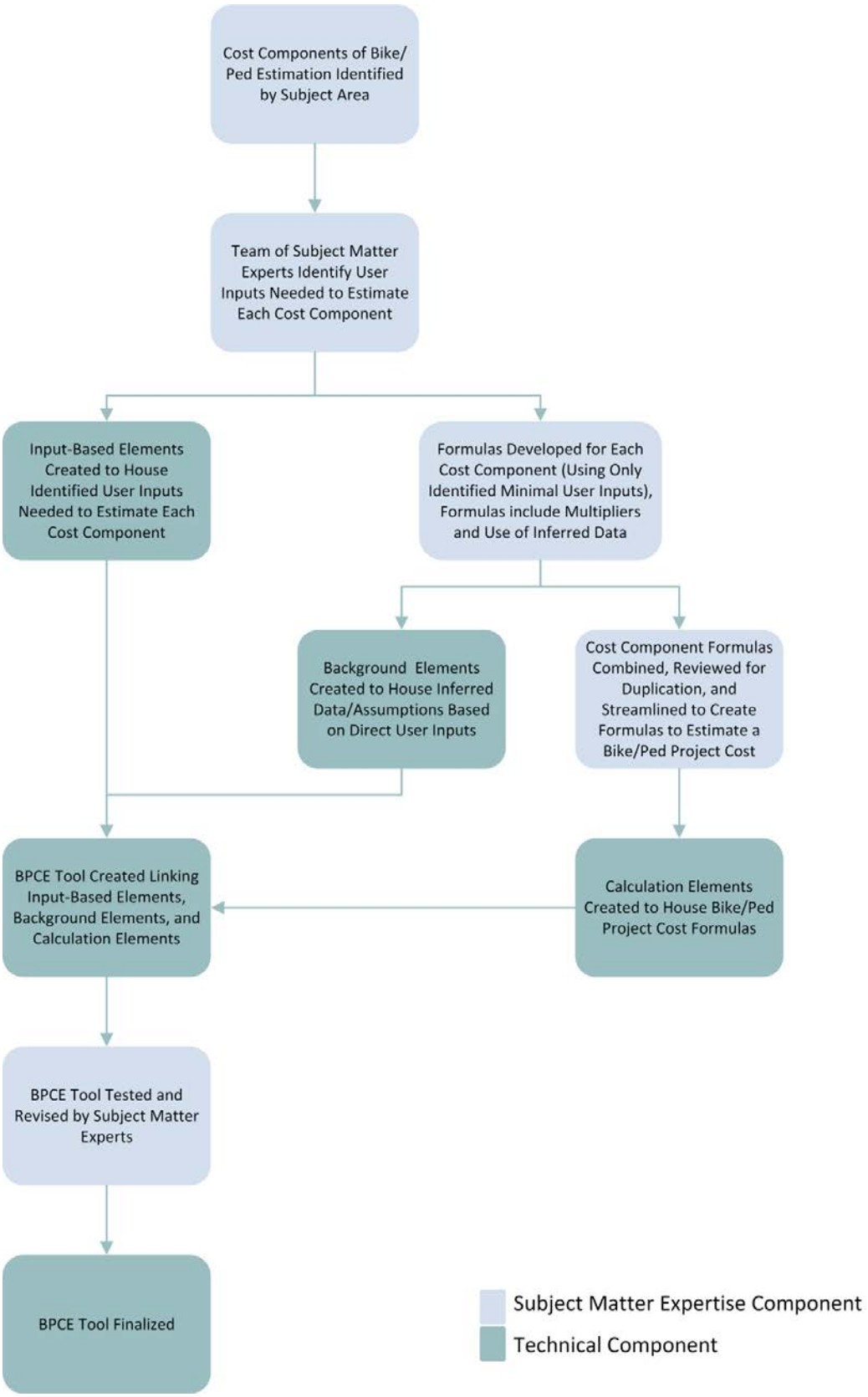


Figure 1-1: BPCE Tool Methodology

2. USER'S MANUAL

The BPCE Tool has been developed with the final user in mind, providing a set of tabs that are intuitive and user friendly. The user interaction is limited to two main tabs where the user provides all the information related to the project:

a. The **Start Here** tab is used to select the type of project the user needs to cost out. The project types are based on the Specific Improvement Types (SIT) developed as part of the Prioritization 6.0 process.
b. The **Main Input Form** tab, prompted when the user selects a SIT and project type, where the user provides specific project information required to perform the cost estimation. The Main Input Form tabs are specific to the SIT type.

After providing the information requested in the **Start Here** and **Main Input Form** tabs, the tool performs all of the calculations in the background and produces a cost estimate for the project. This process is shown in the graphic below.

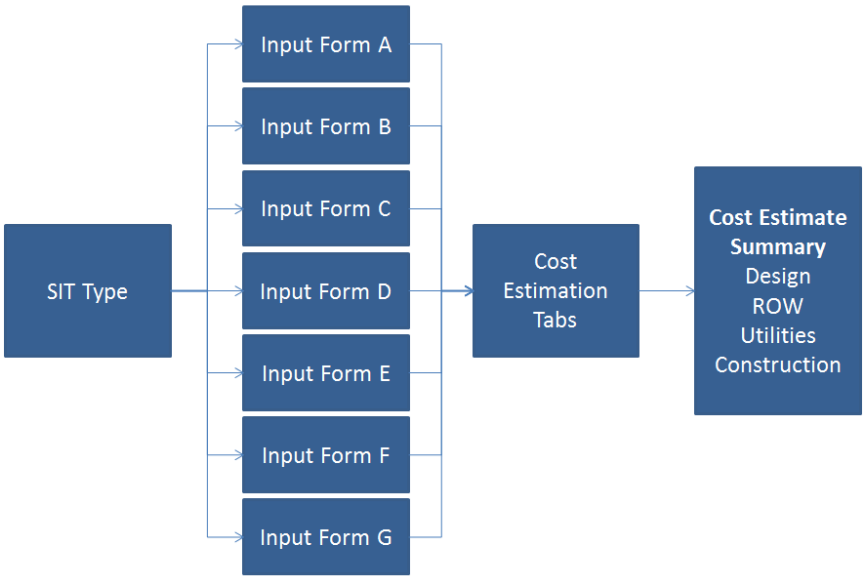


Figure 2-1: BPCE Tool User Interaction

A step-by-step of the tool functionality is presented in the following sections.

2.1. Start Here Tab

The **Start Here** tab is the initiation tab where the bicycle and pedestrian project types are selected. The **Start Here** tab features the SITs, which are different categories of improvements developed as part of the Prioritization 6.0 process. Figure 2-2 shows the first screen the user will see after opening the tool.

Figure 2-2: Start Here Tab

When the file is opened and the first tab appears, an information button pops –up, and the user needs to select "Proceed" to begin making project choices. (Note that the user may first be prompted by Microsoft Excel to "Enable Content" in order for the tool to function properly.)

Each SIT is associated with a different type of improvement. The user selects one of the SITs to initiate the cost estimation process. Definitions for each SIT have been utilized from the P6.0 Bicycle and Pedestrian Facility Terminology Tables provided by the SPOT Office. SITs and the type of improvements/projects available for each SIT are shown below.

2.1.1. Bicycle Projects

SIT 1: Grade-Separated Bicycle Facility

This SIT is specific to projects that include new grade separation components or for new grade separation stand-alone projects. Grade separation projects are generally related to tunnels or bridges. After selecting SIT 1, the user must select the applicable improvement type and appropriate input-elements on the pop-up to generate the correct Main Input Form tab. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

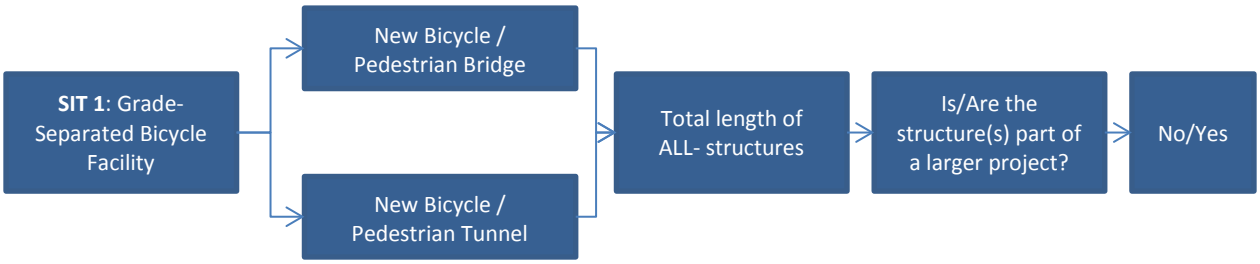


Figure 2-3: SIT 1 and Improvement Type

SIT 2: Off-Road/Separated Linear Bicycle Facility

In general, this SIT refers to improvements that are separated from surrounding traffic and that are either off-road, adjacent to the roadway, or separated by physical barriers or pavement marking buffers. After selecting SIT 2, the user must select the applicable improvement type on the pop-up to generate the correct Main Input Form tab. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

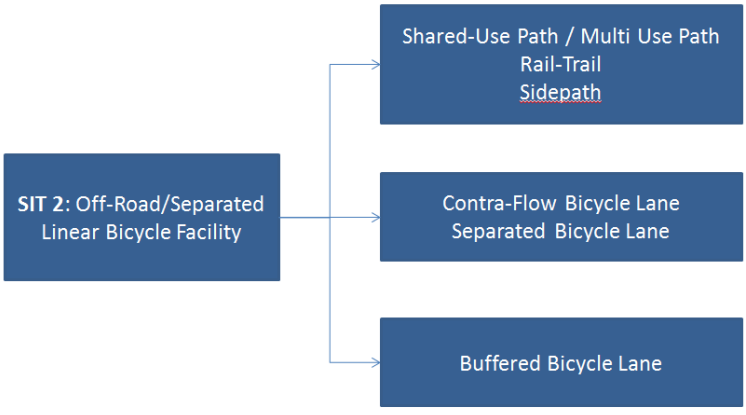


Figure 2-4: SIT 2 and Improvement Type

SIT 3: On-road Designated Bicycle Facility

This SIT is specifically related to bicycle lane improvements generally separated from traffic by pavement markings. Bicycle lanes are usually in the same direction of traffic. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

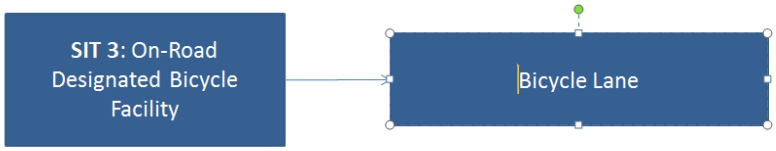


Figure 2-5: SIT 3 and Improvement Type

SIT 4: On-Road Bicycle Facility

This SIT is generally associated with improvements that share the road with surrounding traffic. After selecting SIT 4, the user must select the applicable improvement type on the pop-up to generate the correct Main Input Form tab. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

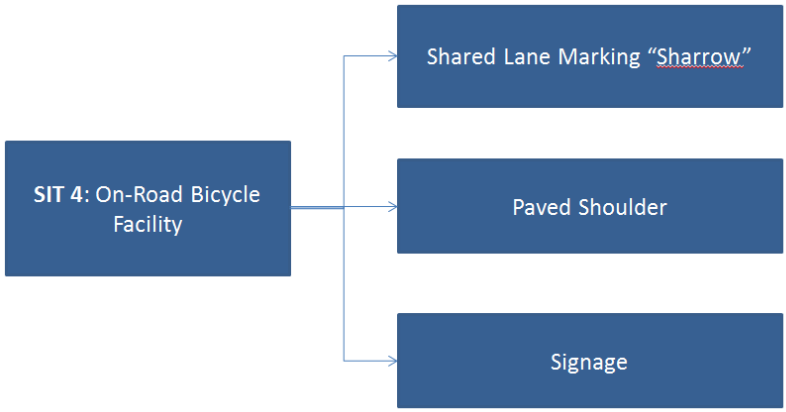


Figure 2-6: SIT 4 and Improvement Types

SIT 5: Multi-Site Bicycle Facility

This SIT refers to improvements to the bicycle infrastructure in terms of parking, lighting, wayfinding, signage, bicycle share, crossings, etc. that can enhance the bicycling experience. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

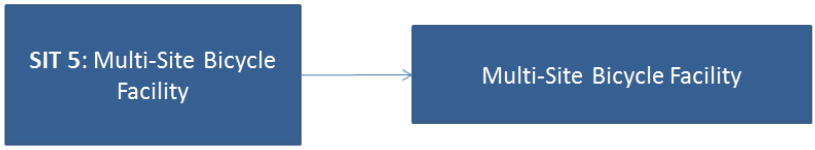


Figure 2-7: SIT 5 and Improvement Type

2.1.2. Pedestrian Improvements

SIT 6: Grade-Separated Pedestrian Facility

This SIT is specific to projects that include new grade separation components or for new grade separation stand-alone projects. Grade separation projects are generally related to tunnels or bridges. After selecting SIT 6, the user must select the applicable improvement type and appropriate input-elements on the pop-up to generate the correct Main Input Form tab. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

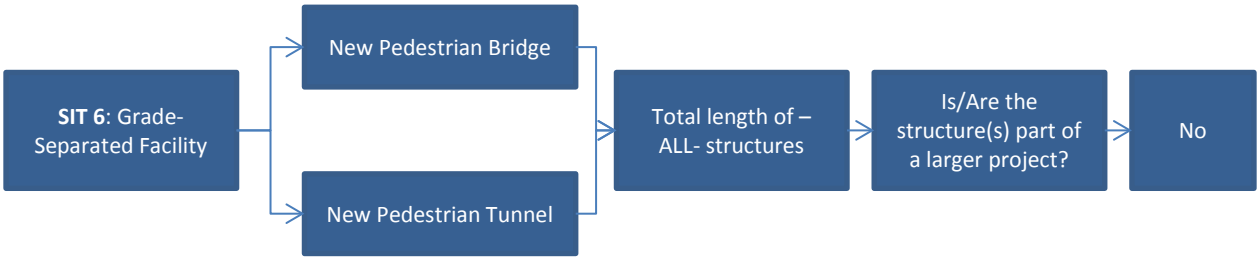


Figure 2-8: SIT 6 and Improvement Types

SIT 7: Protected Linear Pedestrian Facility

In general, this SIT refers to pedestrian improvements that are separated from surrounding traffic and are either off-road, adjacent to the roadway, or separated by physical barriers. After selecting SIT 7, the user must select the applicable improvement type on the pop-up to generate the correct Main Input Form tab. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

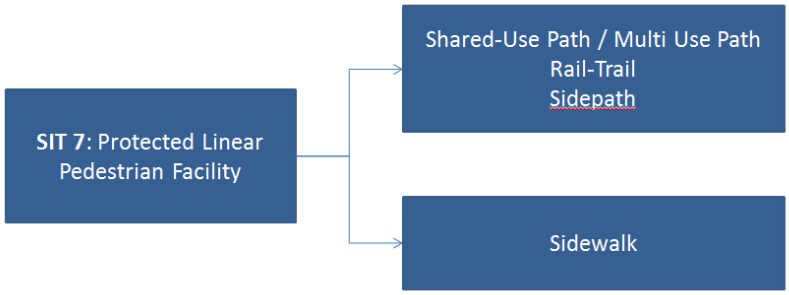


Figure 2-9: SIT 7 and Improvement Types

SIT 8: Multi-Site Pedestrian Facility

This SIT refers to improvements to the pedestrian infrastructure in terms of accessible signals, crossing islands, wayfinding, crosswalks, etc. that enhance the pedestrian experience. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

Figure 2-10: SIT 8 and Improvement Type

SIT 9: Improved Pedestrian Facility

This SIT refers to improvements to existing pedestrian infrastructure, such as widening, or adding streetscape elements to enhance the pedestrian experience. After selecting SIT 9, the user must select the applicable improvement type on the pop-up to generate the correct Main Input Form tab. The NCDOT P6.0 Bicycle and Pedestrian Facility Terminology Table provides additional information related to these improvements.

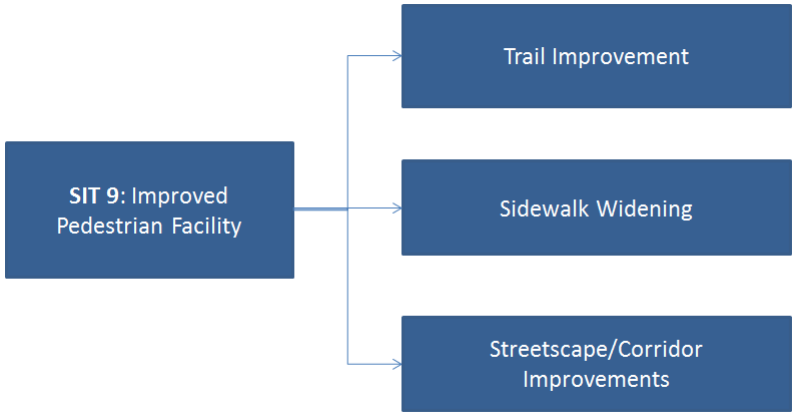


Figure 2-11: SIT 9 and Improvement Types

2.2. Main Input Form Tabs

The **Main Input Form** tab is the screen that contains all input-based elements needed for the cost estimation. The inputs are characteristics of the project that are known to the user or that are very easily found with a web search engine, such as Google Maps.

The tool uses six different Main Input Form tabs. The Main Input Form tab shown to the user is dependent upon the selections made on the Start Here tab. All of the tabs are featured in Appendix A.

The Main Input Form tabs are organized into five sections:

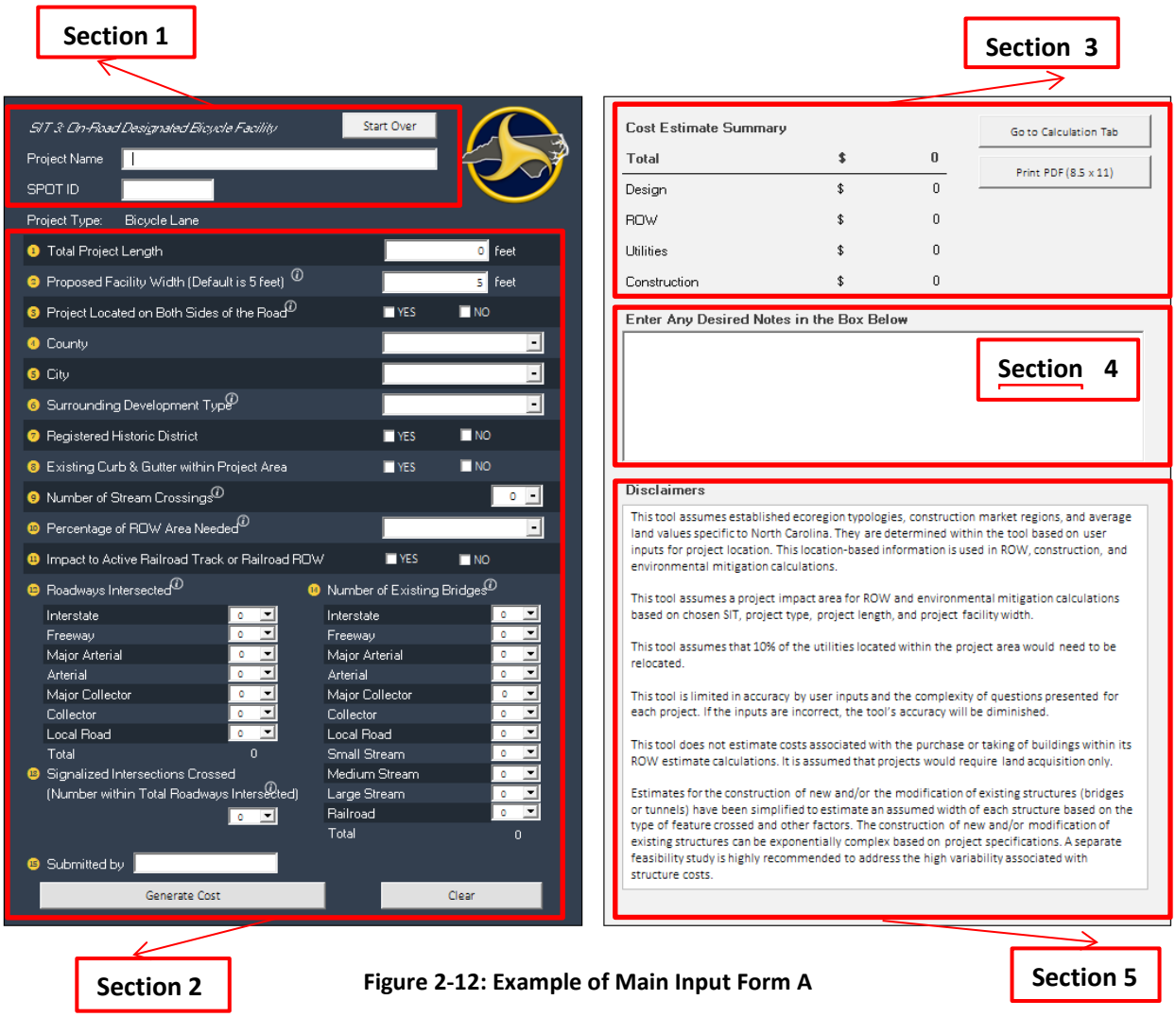


Figure 2-12: Example of Main Input Form A

Section 1: Project Information provides open fields for the user to identify the project.

Section 2: Project Specifications provides all of the inputs that can affect project cost. These elements are numbered and can be found next to the number in the yellow circle  . These elements vary in number depending on the type of project being considered.

All inputs must be entered to be able to "Generate Cost". Once all inputs are entered and the "Generate Cost" button has been activated, the "Cost Estimate Summary" will populate. The "Clear" button can be used to delete all of the inputs and enter new values to generate a new cost estimate.

The "Date" field (above the "Clear" button) will appear and populate automatically once the "Generate Cost" button has been selected.

Select the "Clear" button if inputs need to be revised.

Section 3: Cost Estimate Summary provides the total cost of the project, and four main components to produce the cost: Design, ROW, Utilities, and Construction.

The Cost Estimate Summary provides an option to "Go to Calculation Tab", if the user wants more information about factors being considered for the cost estimation.

The "Print" button generates a PDF of the Main Input Form, with input-based elements entered by the user. The PDF provides an efficient way to cost different projects and generate a record that can be saved in a project folder, eliminating the need to save different versions of the tool for different projects. The PDF is submitted to NCDOT as part of the prioritization project submission.

Section 4: User Notes provides the opportunity to enter notes related to the project if the user feels that additional information is needed.

Section 5: Disclaimers provides information about assumptions made to estimate cost based on user input.

Additional notes on these sections:

The tool will lock the (1) Total Project Length and (14) Number of Existing Bridges cells on the Main Input Form when the selection includes SIT 1 or 6 (bridge or tunnel) and the project is not part of a larger project.

The tool was created on MS Office 2016 Excel, but should be compatible with 2007, 2010, 2013, and Office 365 versions. The optimum resolution of display is 1920 x 1080 and recommended zoom level is 85%.

2.3. Calculation-Based Elements Tabs

The tool features two Calculation tabs, Calculation I for SITs 1, 2, 3, 4, 6, 7 and 9, and Calculation II for SITs 4, 5, 8 and 9. The Calculation tabs detail the results of the calculations used to produce the Cost Estimate Summary shown on the Main Input Form. The Calculation tabs are for viewing only. All inputs must be modified in the Main Input Form tabs.

The Calculation-Based elements tabs provide cost details for the following elements: Design, ROW, Utilities, and Construction. Each element is composed of disciplines needed to generate the total project cost; each discipline has an associated formula that determines the cost for that discipline.

Calculation I is composed of the following elements:

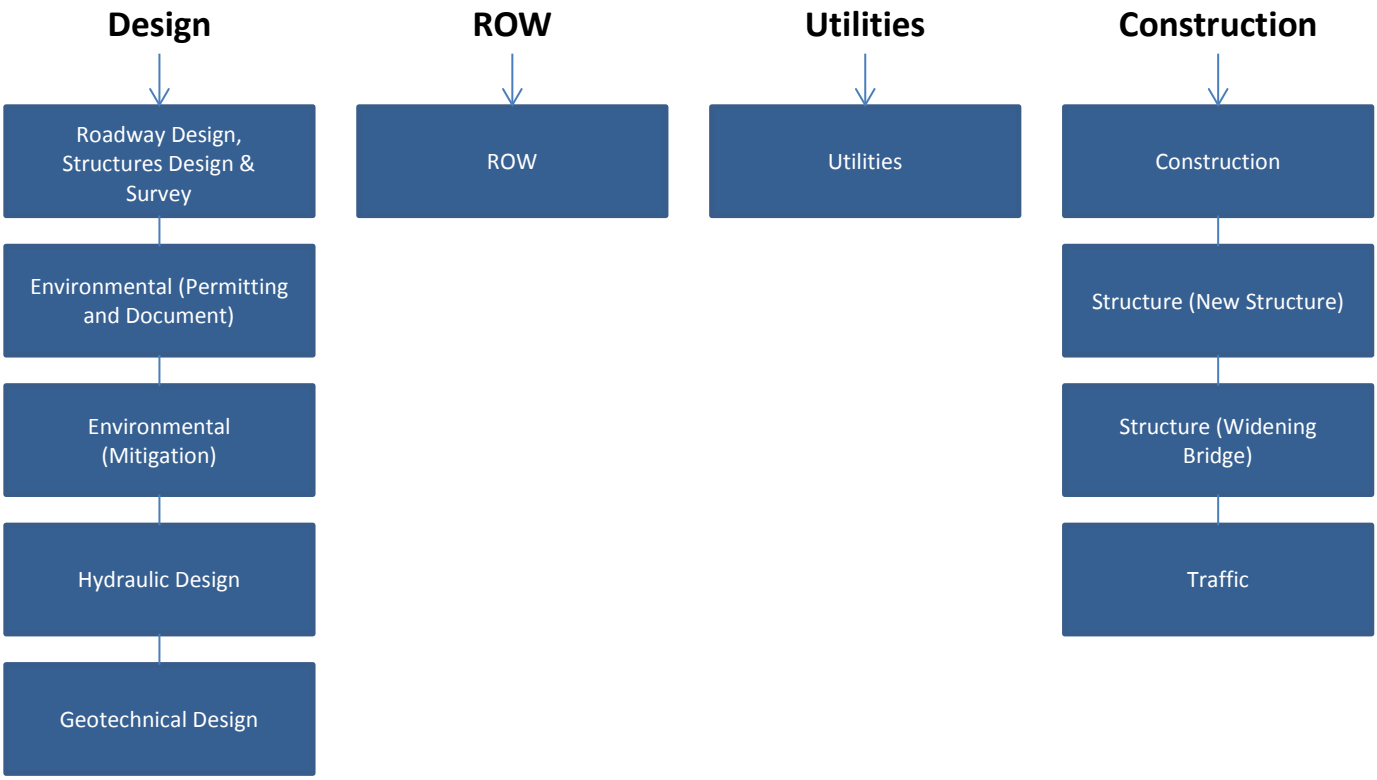


Figure 2-13: Calculation I tab components

Calculation II is composed of the following elements:

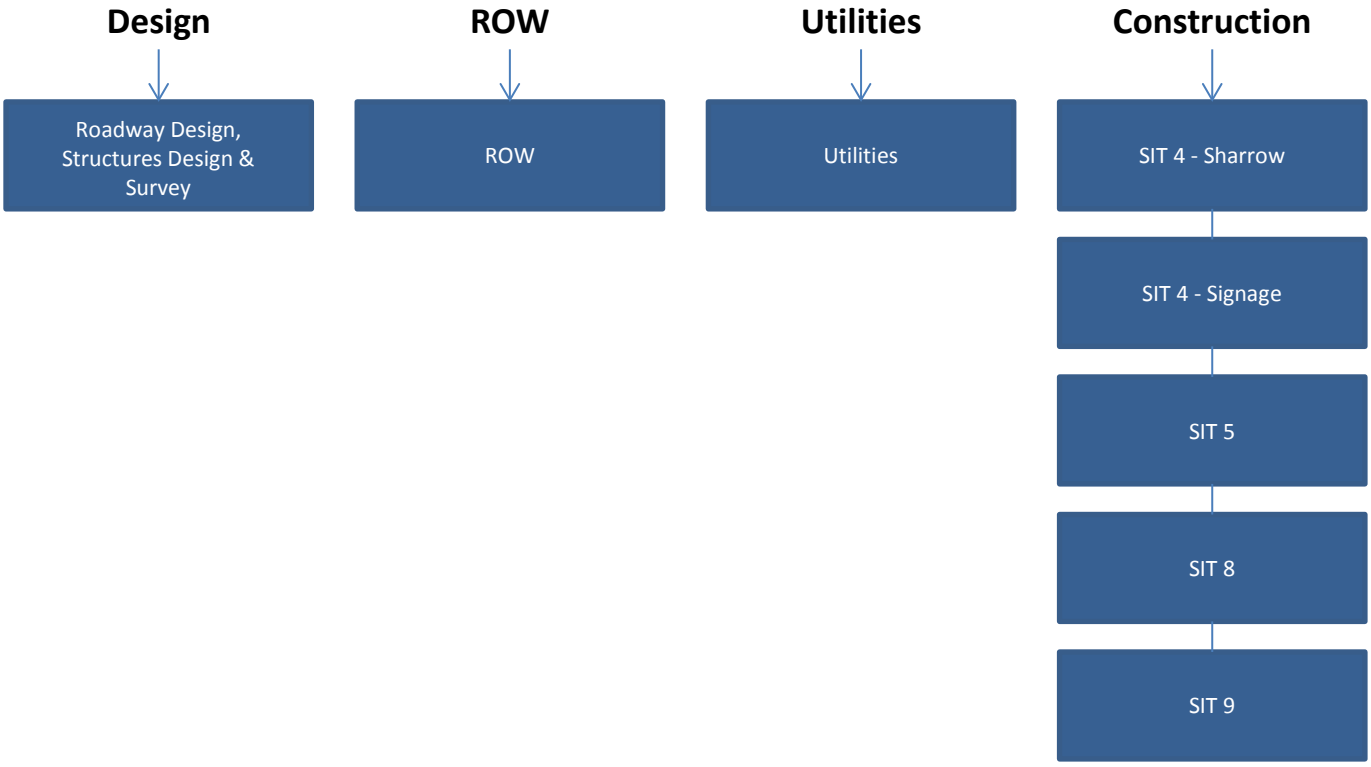


Figure 2-14: Calculation II tab components

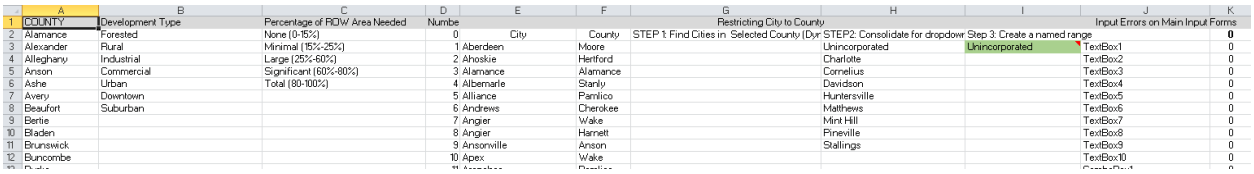
Assumptions:

- 15% Contingency is included in each one of the elements in Calculation I and in the Construction cost in Calculation II. The tool assumes 25% of the construction cost in Miscellaneous and Mobilization and incorporates this in the Construction cost formula.
- There is a minimum cost assumed for each one of the Cost Estimate components of $5,000.
- The assumptions and minimum costs could create some cost duplication when bundling projects of different facility types or different SITs.

2.4. Background Elements Tabs

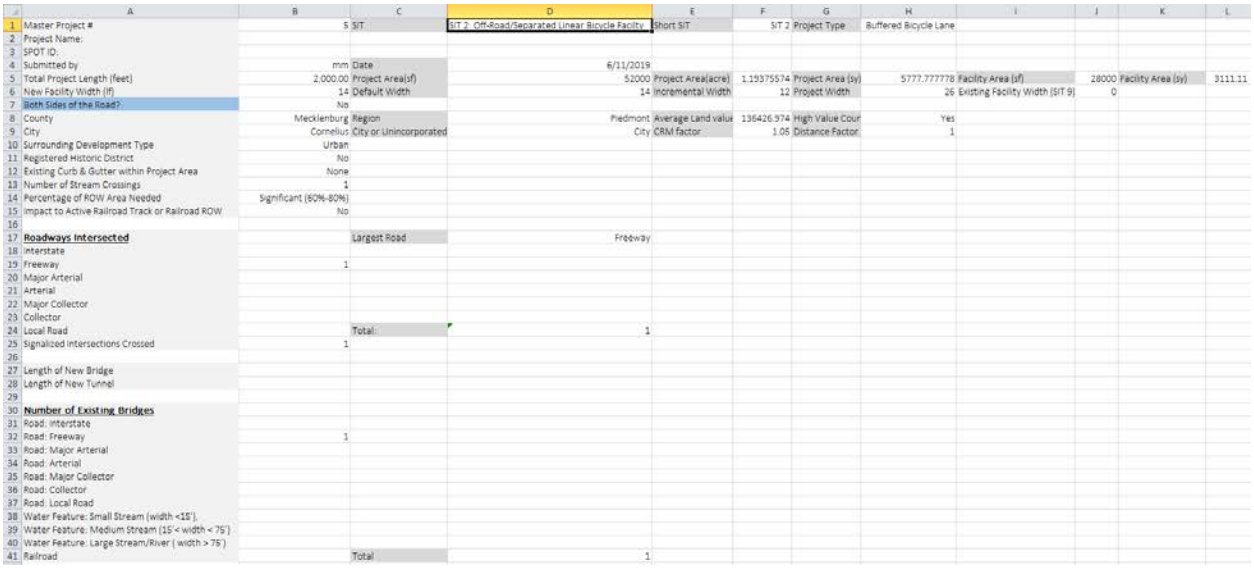
All of the calculations in the tool are performed in the background. In order to help with this process, six additional tabs have been developed as part of the tool: Validation tab, Data tab, County Lookup Table tab, City Lookup Table tab, Master Project Table tab, and Justification tab.

Validation tab: this tab displays the values that define the selection for each one of the drop down menus. County, City, and Development Type will determine the assumptions associated with project location. Percentage of ROW Area Needed will trigger the ROW calculations.



	A	B	C	D	E	F	G	H	I	J	K
1	COUNTY	Development Type	Percentage of ROW Area Needed	Numbe			Restricting City to County			Input Errors on Main Input Forms	
2	Alamance	Forested	None (0-15%)	0	City	County	STEP 1: Find Cities in	Selected County (Dyr	STEP2: Consolidate for dropdowr	Step 3: Create a named range	0
3	Alexander	Rural	Minimal (15%-25%)	1	Aberdeen	Moore			Unincorporated	Unincorporated	TextBox1 0
4	Alleghany	Industrial	Large (25%-60%)	2	Ahoskie	Hertford			Charlotte		TextBox2 0
5	Anson	Commercial	Significant (60%-80%)	3	Alamance	Alamance			Cornelius		TextBox3 0
6	Ashe	Urban	Total (80-100%)	4	Albemarle	Stanly			Davidson		TextBox4 0
7	Avery	Downtown		5	Alliance	Pamlico			Huntersville		TextBox5 0
8	Beaufort	Suburban		6	Andrews	Cherokee			Matthews		TextBox6 0
9	Bertie			7	Angier	Wake			Mint Hill		TextBox7 0
10	Bladen			8	Angier	Harnett			Pineville		TextBox8 0
11	Brunswick			9	Ansonville	Anson			Stallings		TextBox9 0
12	Buncombe			10	Apex	Wake					TextBox10 0

Data tab: this form contains all of the inputs the user enters in any of the Main Input Forms. Within this tab, all of the basic calculations begin. For instance, a SIT 2: Off-Road/Separated Linear Bicycle Facility – Project Type: Buffered Bike Lane will trigger the following calculations:



	A	B	C	D	E	F	G	H	I	J	K	L
1	Master Project #	5	SIT	SIT 2: Off-Road/Separated Linear Bicycle Facility	Short SIT	SIT 2	Project Type	Buffered Bicycle Lane				
2	Project Name:											
3	SPOT ID:											
4	Submitted by	mm	Date	6/11/2019								
5	Total Project Length (feet)	2,000.00	Project Area(sf)	52000	Project Area(acre)	1.19375574	Project Area (sy)	5777.777778	Facility Area (sf)	28000	Facility Area (sy)	3111.11
6	New Facility Width (lf)	14	Default Width	14	Incremental Width	12	Project Width	26	Existing Facility Width (SIT 9)	0		
7	Both Sides of the Road?	No										
8	County	Mecklenburg	Region	Piedmont	Average Land valu	136426.974	High Value Cour	Yes				
9	City	Cornelius	City or Unincorporated	City	CRM factor	1.05	Distance Factor	1				
10	Surrounding Development Type	Urban										
11	Registered Historic District	No										
12	Existing Curb & Gutter within Project Area	None										
13	Number of Stream Crossings	1										
14	Percentage of ROW Area Needed	Significant (60%-80%)										
15	Impact to Active Railroad Track or Railroad ROW	No										
16												
17	**Roadways Intersected**		Largest Road	Freeway								
18	Interstate											
19	Freeway	1										
20	Major Arterial											
21	Arterial											
22	Major Collector											
23	Collector											
24	Local Road		Total:	1								
25	Signalized Intersections Crossed	1										
26												
27	Length of New Bridge											
28	Length of New Tunnel											
29												
30	**Number of Existing Bridges**											
31	Road: Interstate											
32	Road: Freeway	1										
33	Road: Major Arterial											
34	Road: Arterial											
35	Road: Major Collector											
36	Road: Collector											
37	Road: Local Road											
38	Water Feature: Small Stream (width <15')											
39	Water Feature: Medium Stream (15'< width < 75')											
40	Water Feature: Large Stream/River (width > 75')											
41	Railroad		Total	1								

The tab includes all of the other SITs, and those will be triggered if the information is pertaining to the specific SIT and project type.

County Lookup Table tab: this tab connects the counties with the ecoregions where they are located and their land value. For the purposes of this tool, four ecoregions have been considered: CAMA, Coastal Plain, Piedmont, and Trout.

Every county in the state of North Carolina is associated with an ecoregion and to a specific land value. The land value has been calculated based on the average land value in the county and has been assigned a High or Normal value. This helps the tool determining if additional considerations must be made regarding the cost of ROW acquisition.

COUNTY	REGION	LAND VALUE	HIGH VALUE
Alamance	Piedmont	$12,710.47	No
Alexander	Piedmont	$6,131.33	No
Alleghany	Trout	$7,648.41	No
Anson	Piedmont	$3,338.57	No
Ashe	Trout	$7,122.72	No
Avery	Trout	$9,346.62	No
Beaufort	CAMA	$4,129.75	No
Bertie	CAMA	$1,396.97	No
Bladen	Coastal Plain	$1,659.48	No
Brunswick	CAMA	$17,180.66	Yes
Buncombe	Trout	$17,185.14	Yes
Burke	Trout	$12,943.71	No

CAMA
Coastal Plain
Piedmont
Trout

City Lookup Table tab: this tab defines Construction Market Regions (CMR), and specifies distances from each city in North Carolina to those CMR centers. Based on those two elements, a CMR Factor and a Distance Factor are assigned to each city.

CITY	Construction Market Region	Distance to CMR Center	CMR Factor	Distance Factor
Unincorporated	E	8.06	1	1
Aberdeen	E	0.00	1	1
Ahoskie	E	0.00	1	1
Alamance	F	5.97	1	1
Albemarle	A	8.33	1.05	1
Alliance	E	0.00	1	1
Andrews	D	0.00	1	1
Angier	F	11.35	1	1
Ansonville	D	0.00	1	1
Apex	F	8.55	1	1
Arapahoe	E	0.00	1	1
Archdale	D	0.00	1	1
Archer Lodge	E	3.55	1	1
Asheboro	G	0.00	1.1	1
Asheville	C	5.97	1	1
Askewville	B	7.72	1	1
Atkinson	A	32.05	1.05	1.05
Atlantic Beach	A	32.82	1.05	1.05
Aulander	A	14.37	1.05	1
Aurora	C	5.03	1	1

Construction Market Region	CMR Factor
A	1.05
B	1
C	1
D	1
E	1
F	1
G	1.1

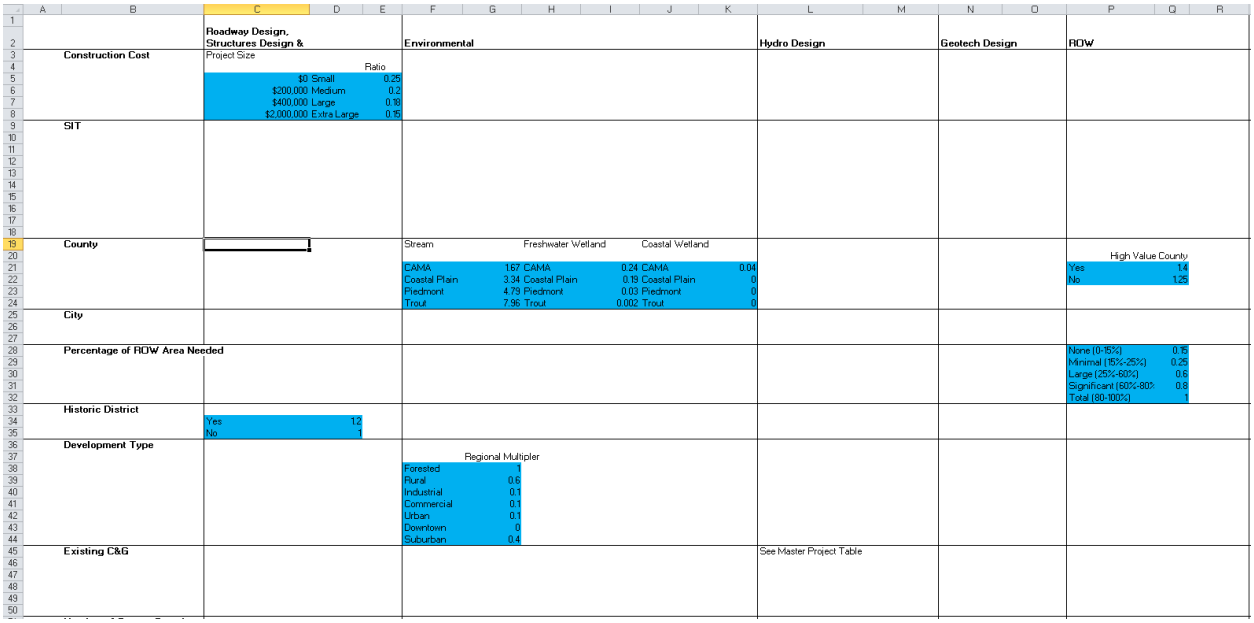
Distance to CMR Center	Threshold	Distance Factor
Center Area (<20mi)	0	1
> 20mi ; < 50mi	20	1.05
> 50mi ; < 70mi	50	1.1
> 70mi	70	1.15

Master Project Table tab: this tab includes assumptions related to the Default Facility Width, Incremental Width, Construction Unit Cost, Environmental Mitigation, and Hydro associated with each one of the SITs and the associated improvements, establishing linkages to each one of the SITs to a Main Input Form.

SIT	Project Type	Default facility Width	Incremental Width	Construction Unit Cost	Environmental Mitigation	SHEET #
SIT 1: Grade-Separated Bicycle Facility	New Bicycle/Pedestrian Bridge	10	7	225	Yes	A
SIT 1: Grade-Separated Bicycle Facility	New Bicycle/Pedestrian Tunnel	10	7	225	Yes	A
SIT 2: Off-Road/Separated Linear Bicycle Facilty	Multi-Use Path, Shared-Use Path, Rail-Trail, or Sidepath	10	7	225	Yes	A
SIT 2: Off-Road/Separated Linear Bicycle Facilty	Contra-Flow Bicycle Lane or Separated Bicycle Lane	10	12	135	Yes	A
SIT 2: Off-Road/Separated Linear Bicycle Facilty	Buffered Bicycle Lane	14	12	135	Yes	A
SIT 3: On-Road Designated Bicycle Facility	Bicycle Lane	5	12	135	Yes	A
SIT 4: On-Road Bicycle Facility	Shared Lane Marking "Sharrows"	-	-	-	No	G

Hydro Master Project #	Existing Curb & Gutter	None
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	0	0

Justification tab: this tab is a matrix where the input-based elements are associated with each one of the components required to generate the cost estimate. The individual components contain the assumptions made to generate costs based on a number of factors, such as the region, the ROW area needed, project size, etc. for the different types of improvements.



	Roadway Design, Structures Design &	Environmental	Hydro Design	Geotech Design	ROW
Construction Cost	Project Size / Ratio $0 Small 0.25 $200,000 Medium 0.2 $400,000 Large 0.18 $2,000,000 Extra Large 0.15				
SIT					
County	!	Stream / Freshwater Wetland / Coastal Wetland CAMA 1.67 / CAMA 0.24 / CAMA 0.04 Coastal Plain 3.34 / Coastal Plain 0.19 / Coastal Plain 0 Piedmont 4.79 / Piedmont 0.03 / Piedmont 0 Trout 7.96 / Trout 0.002 / Trout 0			High Value County Yes 1.4 No 1.25
City					
Percentage of ROW Area Needed					None (0-15%) 0.15 Minimal (15%-25%) 0.25 Large (25%-60%) 0.6 Significant (60%-80% 0.8 Total (80-100%) 1
Historic District	Yes 1.2 No 1				
Development Type		Regional Multipler Forested 1 Rural 0.6 Industrial 0.1 Commercial 0.1 Urban 0.1 Downtown 0 Suburban 0.4			
Existing C&G			See Master Project Table		

APPENDIX A

Start Here Tab

NCDOT Bicycle & Pedestrian Cost Estimation Tool

Select Specific Improvement Type (SIT)

Bicycle Projects

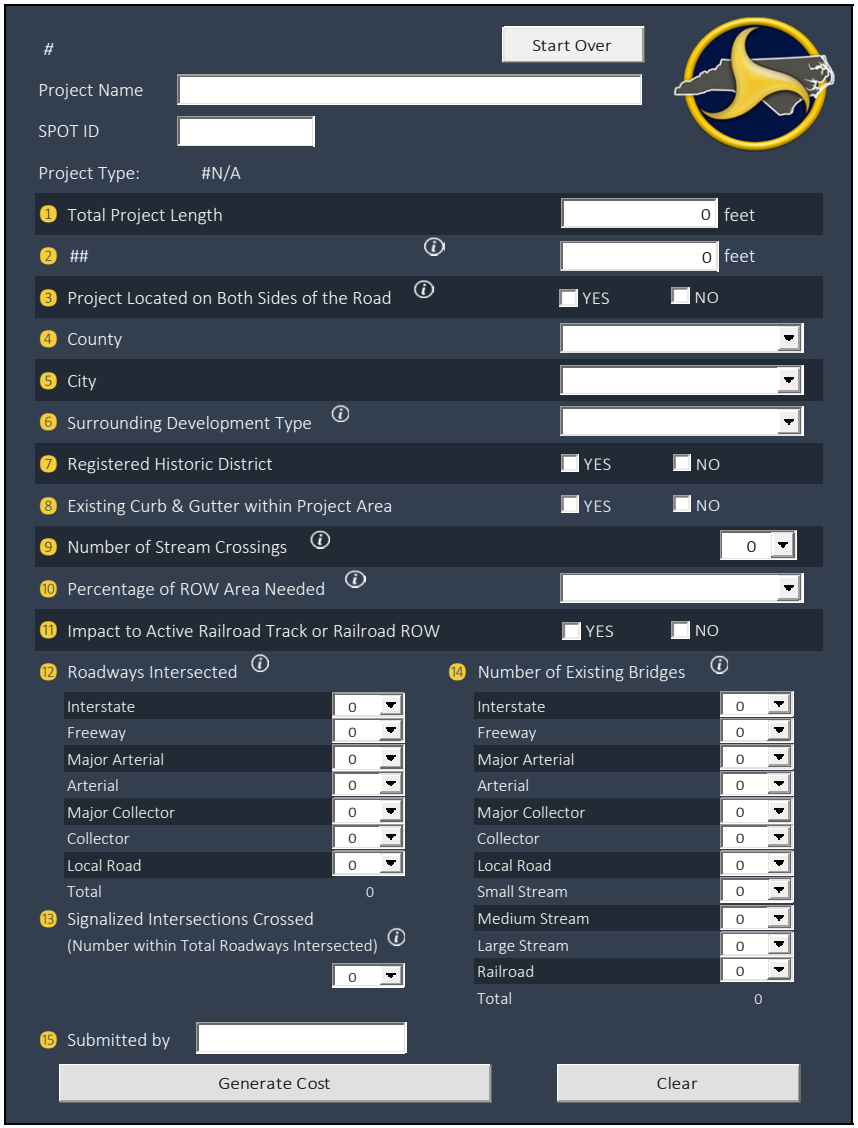
- SIT 1: Grade-Separated Bicycle Facility
- SIT 2: Off-Road/Separated Linear Bicycle Facilty
- SIT 3: On-Road Designated Bicycle Facility
- SIT 4: On-Road Bicycle Facility
- SIT 5: Multi-Site Bicycle Facility

Pedestrian Projects

- SIT 6: Grade-Separated Pedestrian Facility
- SIT 7: Protected Linear Pedestrian Facility
- SIT 8: Multi-Site Pedestrian Facility
- SIT 9: Improved Pedestrian Facility

Last Updated: 06/27/19

Main Input Form A



#

Start Over

Project Name

SPOT ID

Project Type: #N/A

1 Total Project Length 0 feet

2 ## 0 feet

3 Project Located on Both Sides of the Road YES NO

4 County

5 City

6 Surrounding Development Type

7 Registered Historic District YES NO

8 Existing Curb & Gutter within Project Area YES NO

9 Number of Stream Crossings 0

10 Percentage of ROW Area Needed

11 Impact to Active Railroad Track or Railroad ROW YES NO

12 Roadways Intersected

Interstate	0
Freeway	0
Major Arterial	0
Arterial	0
Major Collector	0
Collector	0
Local Road	0
Total	0

13 Signalized Intersections Crossed
(Number within Total Roadways Intersected) 0

14 Number of Existing Bridges

Interstate	0
Freeway	0
Major Arterial	0
Arterial	0
Major Collector	0
Collector	0
Local Road	0
Small Stream	0
Medium Stream	0
Large Stream	0
Railroad	0
Total	0

15 Submitted by

Generate Cost

Clear

Cost Estimate Summary

Go to Calculation Tab

Print PDF

Total	**$**	**0**
Design	$	0
ROW	$	0
Utilities	$	0
Construction	$	0

Enter Any Desired Notes in the Box Below

Disclaimers

All costs are based on 2019 prices and cost components are rounded to the nearest $5,000, with a minimum of $5,000 per component. This tool assumes that 10% of the utilities located within the project area would need to be relocated.

This tool assumes established ecoregion typologies, construction market regions, and average land values specific to North Carolina. They are determined within the tool based on user inputs for project location. This location-based information is used in ROW, construction, and environmental mitigation calculations.

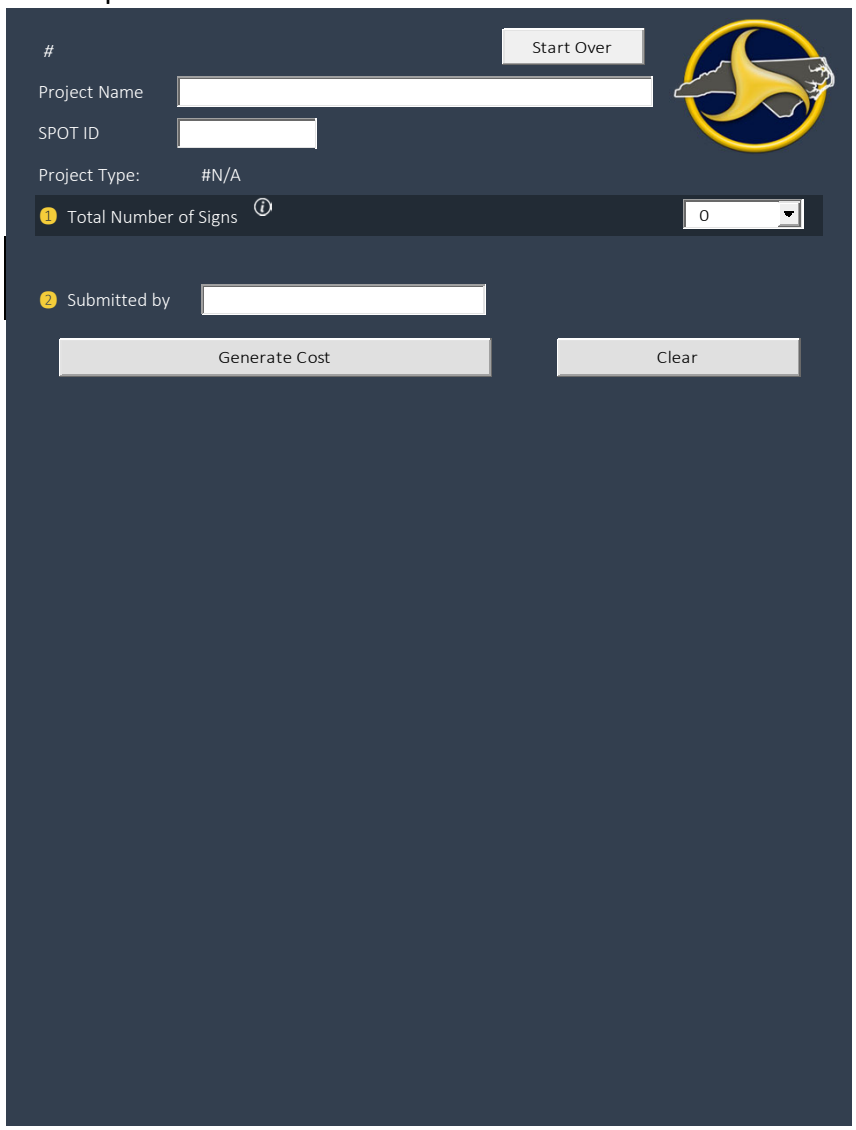
This tool assumes a project impact area for ROW and environmental mitigation calculations based on chosen SIT, project type, project length, and project facility width.

This tool is limited in accuracy by user inputs and the complexity of questions presented for each project. If the inputs are incorrect, the tool's accuracy will be diminished.

This tool does not estimate costs associated with the purchase or taking of buildings within its ROW estimate calculations. It is assumed that projects would require land acquisition only.

Estimates for the construction of new and/or the modification of existing structures (bridges or tunnels) have been simplified to estimate an assumed width of each structure based on the type of feature crossed and other factors. The construction of new and/or modification of existing structures can be exponentially complex based on project specifications. A separate feasibility study is highly recommended to address the high variability associated with structure costs.

Main Input Form B



Cost Estimate Summary

Go to Calculation Tab

Print PDF

Total	**$**	**0**
Design	$	0
ROW	$	0
Utilities	$	0
Construction	$	0

Enter Any Desired Notes in the Box Below

Disclaimers

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Main Input Form C

#

Start Over

Project Name

SPOT ID

Project Type: #N/A

1	Total Number of Bicycle Corrals	0
2	Total Amount of Bike Detection / Actuation Signals	0
3	Total Amount of Bicycle Parking	0
4	Total Number of Bicycle Share / Micro-Mobility Share Stations	0
5	Total Number of Bicycle Signals	0
6	Total Number of Bicycle Wheel Channels	0
7	Total Number of Curb Radii Revisions	0
8	Total Number of Hybrid Beacons	0
9	Total Number of Intersection Markings / Signage	0
10	Total Amount of Lighting	0
11	Total Number of Mid-Block Crossings	0
12	Total Amount of Wayfinding Stations	0

13 Submitted by

Generate Cost

Clear

Cost Estimate Summary

Go to Calculation Tab

Print PDF

Total	**$**	**0**
Design	$	0
ROW	$	0
Utilities	$	0
Construction	$	0

Enter Any Desired Notes in the Box Below

Disclaimers

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Main Input Form D

#

Start Over

Project Name

SPOT ID

Project Type: #N/A

1	Total Number of Crossing Islands	0
2	Total Number of Curb Extensions	0
3	Total Number of Intersection Markings	0
4	Total Amount of Lighting	0
5	Total Number of Marked Crosswalks	0
6	Total Number of Mid-Block Crossings	0

7 Submitted by

Generate Cost

Clear

Cost Estimate Summary

Go to Calculation Tab

Print PDF

Total	**$**	**0**
Design	$	0
ROW	$	0
Utilities	$	0
Construction	$	0

Enter Any Desired Notes in the Box Below

Disclaimers

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Main Input Form E

#

Start Over

Project Name

SPOT ID

Project Type: #N/A

1	Total Number of Accessible Pedestrian Signals	0
2	Total Number of Crossing Islands	0
3	Total Number of Curb Extensions	0
4	Total Number of Curb Ramps	0
5	Total Amount of Lighting	0
6	Total Number of Marked Crosswalks	0
7	Total Number of Mid-Block Crossings	0
8	Total Number of Pedestrian Hybrid Beacons	0
9	Total Number of Pedestrian Signals	0
10	Total Number of Rectangular Rapid Flashing Beacons	0
11	Total Number of Wayfinding Stations	0

12 Submitted by

Generate Cost

Clear

Cost Estimate Summary

Go to Calculation Tab

Print PDF

Total	**$**	**0**
Design	$	0
ROW	$	0
Utilities	$	0
Construction	$	0

Enter Any Desired Notes in the Box Below

Disclaimers

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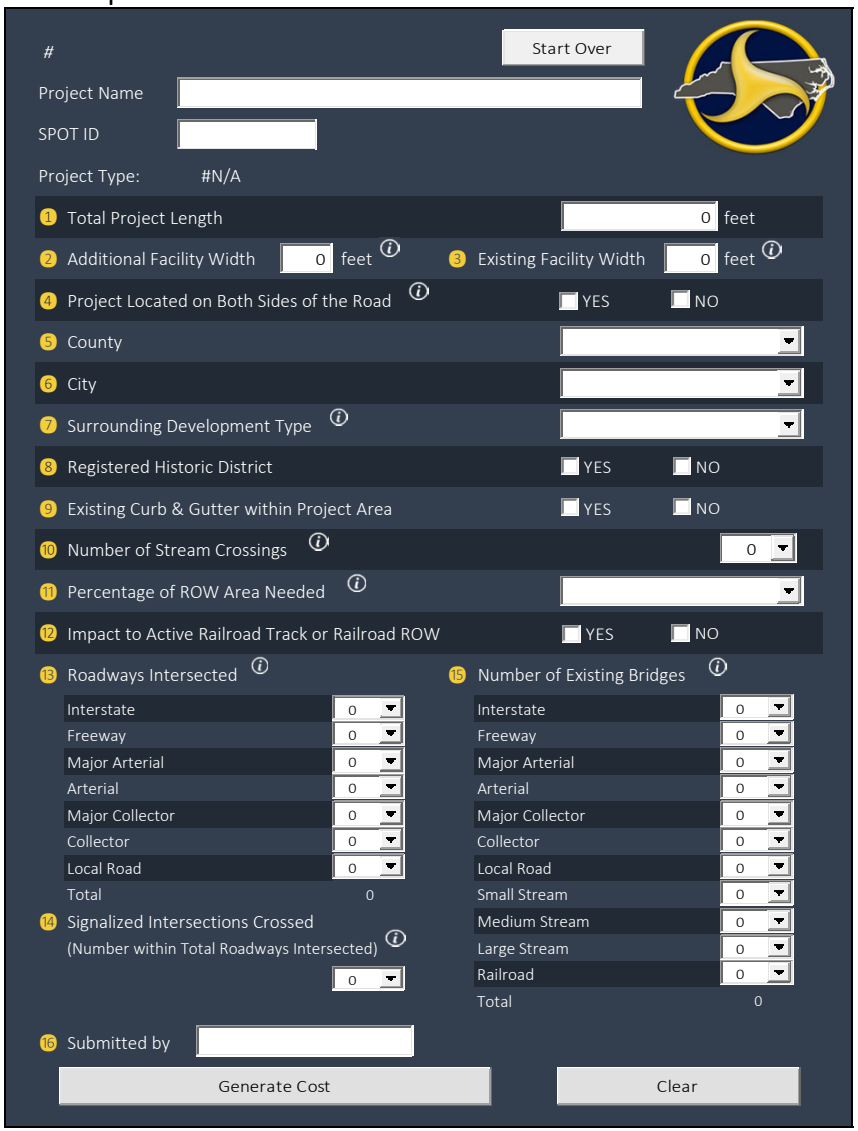
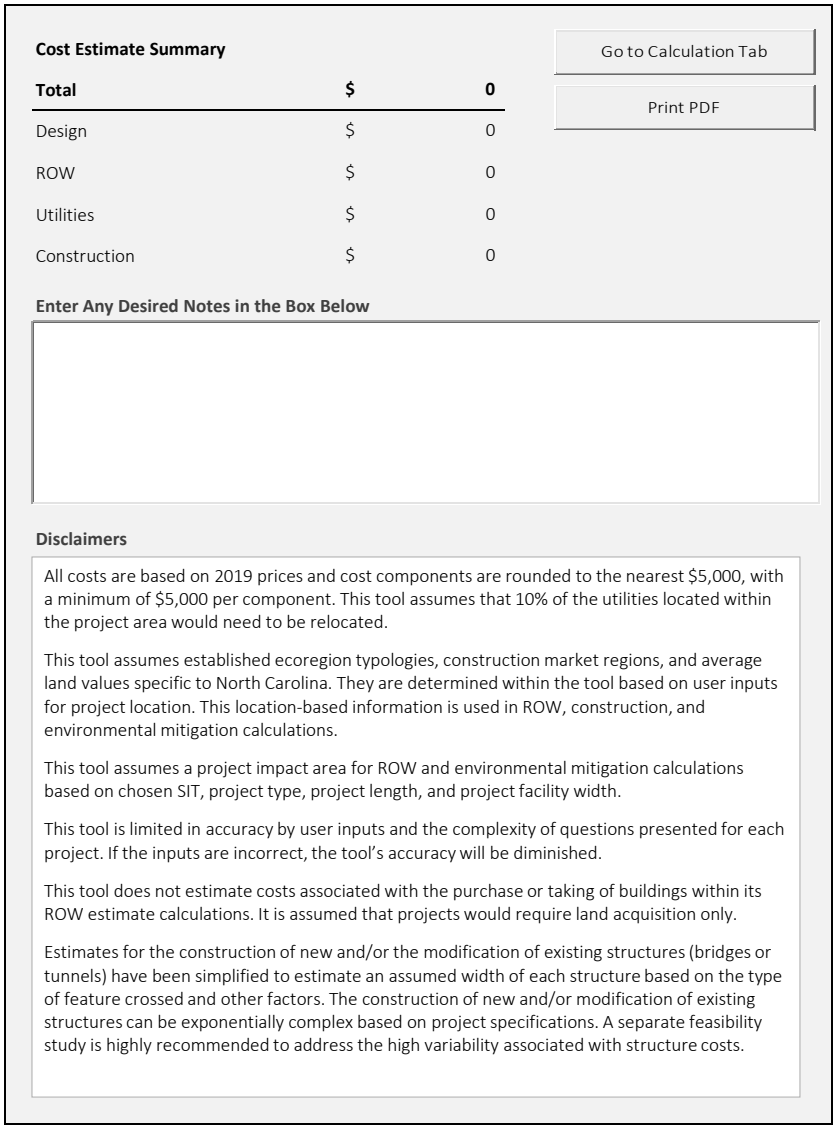
Main Input Form F





Main Input Form G

#

Start Over

Project Name

SPOT ID

Project Type: #N/A

1 Total Length of Roadway to be Improved by Sharrows ⓘ 0 feet

2 Submitted by

Generate Cost | Clear

Cost Estimate Summary

Go to Calculation Tab

Print PDF

Total	**$**	**0**
Design	$	0
ROW	$	0
Utilities	$	0
Construction	$	0

Enter Any Desired Notes in the Box Below

Disclaimers

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Calculation I

Design Subtotal (rounded to $5k -see main input form disclaimer)	$0	Both Sides? *	0	*If yes, all cost components are multiplied by two.

Design Cost:	$0	Design Contingency (15%):	$0

Roadway Design, Structures Design & Survey

Formula:	Construction Cost		Project Size		Historic District	
User Input:	-		Small		0	
Value/Multiplier:	$0.00	X	0.25	X(	#N/A	+

Environmental (Permitting + Document)

Formula:	Master Project #	Environmental Mitigation	Permitting & Document Flat Fee
User Input:	-	-	-
Value/Multiplier:	0	#N/A	#N/A

Environmental (Mitigation)

Formula:	Master Project #	Environmental Mitigation	Mitigation (1 or 0)	
User Input:	-	-	-	
Value/Multiplier:	0	#N/A	#N/A	X

Hydro Design 0

Formula:	Total Project Length (feet)		# of Plan Sheets (1400lf/Sheet)		Existing C&G /Drainage Ditches	
User Input:	-		-		0	
Value/Multiplier:	0	(	0.00	X	#N/A	+

Geotech Design $10,000.00 0

		SIT 1 or SIT 6		
Formula:	Structure Cost		Ratio	
User Input:	-		-	
Value/Multiplier:	#N/A	X	10.00%	= #N/A

ROW Subtotal (rounded to $5k -see main input form disclaimer)	$0	Both Sides? *	0	*If yes, all cost components are multiplied by two.

ROW Cost:	$0	ROW Contingency (15%):	$0

ROW

Formula:	Project Area (acre)		Average Land Value per acre (County)		High Value County Multiplier	
User Input:	-		0		#N/A	
Value/Multiplier:	#N/A	X	#N/A	X	#N/A	X

Utility Subtotal (rounded to $5k -see main input form disclaimer)	$0	Both Sides? *	0	*If yes, all cost components are multiplied by two.

Utility Cost:	$0	Utility Contingency (15%):	$0

Utilities

Formula:	Total Project Length (lf)		Unit Cost per lf		
User Input:	-		-		Total
Value/Multiplier:	0	X	$15.00	=	$0.00

Construction Subtotal (rounded to $5k -see main input form disclaimer)	$0	Both Sides? *	0	*If yes, all cost components are multiplied by two.

Construction Cost:	$0	Construction Contingency (15%):	$0

Construction

Formula:	Facility Area (square yard)		Unit Cost per SIT (Master Project #)		CMR Factor	
User Input:	-		0		0	
Value/Multiplier:	0	X	#N/A	X(	#N/A	+

Structure: #N/A

Structure (New Structure)

	New Bridge					New T
Formula:	New Bridge Length (lf)		Unit Cost per lf (Bridge)		New Tunnel Length (lf)	
User Input:	-		-		-	
Value/Multiplier:	0	X	$1,900.00	+	0	X

Structure (Widening Bridge)

Formula:	City or Unincorporated	Width of Feature	Unit Cost per sf	
User Input:	0	#N/A	-	
Value/Multiplier:	#N/A	#N/A	$200.00	X

Traffic

Formula:	City or Unincorporated		Signalized Intersections Crossed		
User Input:	#N/A		-		Total
Value/Multiplier:	#N/A	X	0	=	#N/A

Miscellaneous + Mobilization: $ -

*25% of Construction Cost

CLICK HERE TO GO BACK TO THE MAIN INPUT TAB

Signalized Intersections Crossed		Railroad Track or Railroad Right-of-Way		
0		0		Total
1	+	#N/A	)=	#N/A

	Stream Length				
Development Type	Project Area (acre)		Regional Factor	Stream Mitigation Threshold	Stream Mitigation Rate
0	-		#N/A	300'	-
#N/A	X(#N/A	X	#N/A	X #N/A	X $1,065.38 +

Number of Stream Crossings		Mandays for Field Work + Design + FEMA		Permit Drawing Days		Dollars per Manday		
-		-		-		-		Total
0	X	30	+	7.5	)X	$1,000.00	=	#N/A

Bike Lane or Paved Shoulder					No Bridge (all other SITs)
Construction Cost		Ratio			Flat Fee
-		-			-
$0.00	X	1.50%	=	$0.00	$10,000.00

ROW percentage		
0		Total
#N/A	=	#N/A

						Barrier Construction (Only for Buff
Distance Factor	Development Type	Type of Road Being Crossed (Largest)				Project Length (lf)
0	0	0		Total		-
#N/A	+ #N/A	+ 1	)=	#N/A		0 X

Tunnel		
Unit Cost per lf (Tunnel)		
-		Total
$2,000.00	=	$0.00

Site Factor Combined Multiplier			Interstate			
Development Type Multiplier	Region Multiplier		Structure Length (lf)	Bridge Geometry Multiplier		Number of Bridges
0	#N/A					
#N/A	X #N/A	X(	#N/A	X #N/A	X	0 +

Freshwater Wetland Area								Coastal Wetland Area				
Project Area (acre)		Regional Factor		Freshwater Wetland Threshold		Freshwater Wetland Mitigation Rate		Project Area (acre)		Regional Factor		
-		#N/A		0.1 acre		-		-		#N/A		
#N/A	X	#N/A	X	#N/A	X	$126,393.64	+	#N/A	X	#N/A	X	

'ered Bike Land; Master Project #5)

Barrier Unit Cost per lf		
-		
$300.00	=	$0.00

Freeway						Major Arterial				
Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges		Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges	
#N/A	X	#N/A	X	0	+	#N/A	X	#N/A	X	0	+

Coastal Wetland Threshold		Coastal Wetland		
0.1 acre		-		Total
#N/A	X	$1,176,000.00	)=	#N/A

Arterial						Major Collector							
Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges		Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges		Structure Length (lf)	
#N/A	X	#N/A	X	0	+	#N/A	X	#N/A	X	0	+	#N/A	X

Collector				Local Road					Water Feature: Small Stream (width			
Bridge Geometry Multiplier		Number of Bridges		Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges		Structure Length (lf)		Bridge Geometry Multiplier	
#N/A	X	0	+	#N/A	X	#N/A	X	0	+	#N/A	X	#N/A	X

ı <15')		Water Feature: Medium Stream (15'< width < 75')					Water Feature: Large Stream/River (width > 75')				
Number of Bridges		Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges	Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges	
0	+	#N/A	X	#N/A	X	0	+	#N/A	X	#N/A	X	0	+

Railroad						
Structure Length (lf)		Bridge Geometry Multiplier		Number of Bridges		Total
#N/A	X	#N/A	X	0	=	#N/A

Calculation II

Design Subtotal (rounded to $5k -see main input form disclaimer)	$0

Roadway Design, Structures Design & Survey

Formula:	Construction Cost		Project Size	
User Input:	-		Small	
Value/Multiplier:	$0	X	0.25	=

ROW Subtotal (rounded to $5k -see main input form disclaimer)	$0

ROW

Formula:	Construction Cost		ROW Ratio	
User Input:	-		-	
Value/Multiplier:	$0	X	5.00%	=

Utility Subtotal (rounded to $5k -see main input form disclaimer)	$0

Construction Subtotal (rounded to $5k -see main input form disclaimer)	$0

Construction Cost:	$0	Construction Contingency (15%):	$0

SIT 4 - Sharrow

Facilities	Project Length (lf)		Unit Cost (per lf)	
Sharrow	0	X	$0.15	=

SIT 4 - Signage

Facilities	Number		Unit Cost	
Signage	0	X	400	=

SIT 5

Facilities	Number		Unit Cost	
Bicycle Corral	0	X	$3,000	=
Bike Detection/Actuation	0	X	$10,000	=
Bicycle Parking	0	X	$3,000	=
Bicycle Share / Micro-Mobility Share	0	X	$30,000	=
Bicycle Signal	0	X	$15,000	=
Bicycle Wheel Channel	0	X	$300	=
Curb Raddi Revisions	0	X	$5,000	=
Hybrid Beacon	0	X	$60,000	=
Intersection Markings / Signage	0	X	$10,000	=
Lighting	0	X	$2,500	=
Mid-Block Crossing	0	X	$5,500	=
Wayfinding	0	X	$3,000	=

SIT 8

Facilities	Number		Unit Cost	
Accessible Pedestrian Signals	0	X	$10,000	=
Crossing Island	0	X	$10,000	=
Curb Extensions	0	X	$25,000	=
Curb Ramp	0	X	$2,500	=
Lighting	0	X	$2,500	=
Marked Crosswalk	0	X	$200	=
Mid-Block Crossing	0	X	$5,500	=
Pedestrian Hybrid Beacon	0	X	$60,000	=
Pedestrian Signal	0	X	$60,000	=
Rectangular Rapid Flashing Beacon	0	X	$15,000	=
Wayfinding	0	X	$3,000	=

SIT 9

Facilities	Number		Unit Cost	
Crossing Island	0	X	$10,000	=
Curb Extensions	0	X	$25,000	=
Intersection Markings	0	X	$10,000	=
Lighting	0	X	$2,500	=
Marked Crosswalk	0	X	$200	=
Mid-Block Crossing	0	X	$5,500	=

Miscellaneous + Mobilization:	$ -

*25% of Construction Cost

CLICK HERE TO GO BACK TO THE MAIN INPUT TAB

$0

$0

$0

$0
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$0 Total
$0 = $0

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$0
$0 Total
$0 = $0

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$0
$0
$0
$0 Total
$0 = $0

Validation Tab

COUNTY	Development Type	Percentage of ROW Area Needed	Number			Restricting City to County				Input Errors on Main Input Forms	
Alamance	Forested	None (0-15%)	0	City	County	STEP 1: Find Cities in	Selected County (Dynamic)	STEP2: Consolidate for dropdown list	Step 3: Create a named range		**0**
Alexander	Rural	Minimal (15%-25%)	1	Aberdeen	Moore			Unincorporated	Unincorporated	TextBox1	0
Alleghany	Industrial	Large (25%-60%)	2	Ahoskie	Hertford					TextBox2	0
Anson	Commercial	Significant (60%-80%)	3	Alamance	Alamance					TextBox3	0
Ashe	Urban	Total (80-100%)	4	Albemarle	Stanly					TextBox4	0
Avery	Downtown		5	Alliance	Pamlico					TextBox5	0
Beaufort	Suburban		6	Andrews	Cherokee					TextBox6	0
Bertie			7	Angier	Wake					TextBox7	0
Bladen			8	Angier	Harnett					TextBox8	0
Brunswick			9	Ansonville	Anson					TextBox9	0
Buncombe			10	Apex	Wake					TextBox10	0
Burke			11	Arapahoe	Pamlico					ComboBox1	0
Cabarrus			12	Archdale	Randolph					ComboBox2	0
Caldwell			13	Archdale	Guilford					ComboBox3	0
Camden			14	Archer Lodge	Johnston					ComboBox4	0
Carteret			15	Asheboro	Randolph					ComboBox5	0
Caswell			16	Asheville	Henderson					ComboBox6	0
Catawba			17	Asheville	Buncombe					ComboBox7	0
Chatham			18	Askewville	Bertie					ComboBox8	0
Cherokee			19	Atkinson	Pender					ComboBox9	0
Chowan			20	Atlantic Beach	Carteret					ComboBox10	0
Clay			21	Aulander	Bertie					ComboBox11	0
Cleveland			22	Aurora	Beaufort					ComboBox12	0
Columbus			23	Autryville	Sampson					ComboBox13	0
Craven			24	Ayden	Pitt					ComboBox14	0
Cumberland			25	Badin	Stanly					ComboBox15	0
Currituck			26	Bailey	Nash					ComboBox16	0
Dare			27	Bakersville	Mitchell					ComboBox17	0
Davidson			28	Bald Head Island	Brunswick					ComboBox18	0
Davie			29	Banner Elk	Avery					ComboBox19	0
Duplin			30	Bath	Beaufort					ComboBox20	0
Durham				Bayboro	Pamlico					ComboBox21	0
Edgecombe				Bear Grass	Martin					ComboBox22	0
Forsyth				Beaufort	Carteret					ComboBox23	0
Franklin				Beech Mountain	Avery					ComboBox24	0
Gaston				Beech Mountain	Watauga					ComboBox25	0
Gates				Belhaven	Beaufort					ComboBox26	0
Graham				Belmont	Gaston					ComboBox27	0
Granville				Belville	Brunswick					ComboBox28	0
Greene				Belwood	Cleveland					ComboBox29	0
Guilford				Benson	Harnett					ComboBox30	0
Halifax				Benson	Johnston						
Harnett				Bermuda Run	Davie						
Haywood				Bessemer City	Gaston						
Henderson				Bethania	Forsyth						
Hertford				Bethel	Pitt						
Hoke				Beulaville	Duplin						
Hyde				Biltmore Forest	Buncombe						
Iredell				Biscoe	Montgomery						
Jackson				Black Creek	Wilson						
Johnston				Black Mountain	Buncombe						
Jones				Bladenboro	Bladen						
Lee				Blowing Rock	Caldwell						
Lenoir				Blowing Rock	Watauga						
Lincoln				Boardman	Columbus						
Macon				Bogue	Carteret						
Madison				Boiling Spring Lakes	Brunswick						
Martin				Boiling Springs	Cleveland						
McDowell				Bolivia	Brunswick						
Mecklenburg				Bolton	Columbus						
Mitchell				Boone	Watauga						
Montgomery				Boonville	Yadkin						
Moore				Bostic	Rutherford						
Nash				Brevard	Transylvania						
New Hanover				Bridgeton	Craven						
Northampton				Broadway	Harnett						
Onslow				Broadway	Lee						
Orange				Brookford	Catawba						
Pamlico				Brunswick	Columbus						
Pasquotank				Bryson City	Swain						
Pender				Bunn	Franklin						
Perquimans				Burgaw	Pender						
Person				Burlington	Alamance						
Pitt				Burlington	Guilford						
Polk				Burnsville	Yancey						
Randolph				Butner	Granville						
Richmond				Cajah's Mountain	Caldwell						
Robeson				Calabash	Brunswick						

Rockingham	Calypso	Duplin
Rowan	Cameron	Moore
Rutherford	Candor	Moore
Sampson	Candor	Montgomery
Scotland	Canton	Haywood
Stanly	Cape Carteret	Carteret
Stokes	Carolina Beach	New Hanover
Surry	Carolina Shores	Brunswick
Swain	Carrboro	Orange
Transylvania	Carthage	Moore
Tyrrell	Cary	Wake
Union	Cary	Chatham
Vance	Casar	Cleveland
Wake	Castalia	Nash
Warren	Caswell Beach	Brunswick
Washington	Catawba	Catawba
Watauga	Cedar Point	Carteret
Wayne	Cedar Rock	Caldwell
Wilkes	Cerro Gordo	Columbus
Wilson	Chadbourn	Columbus
Yadkin	Chapel Hill	Durham
Yancey	Chapel Hill	Orange
	Charlotte	Mecklenburg
	Cherryville	Gaston
	Chimney Rock	Rutherford
	China Grove	Rowan
	Chocowinity	Beaufort
	Claremont	Catawba
	Clarkton	Bladen
	Clayton	Wake
	Clayton	Johnston
	Clemmons	Forsyth
	Cleveland	Rowan
	Clinton	Sampson
	Clyde	Haywood
	Coats	Harnett
	Cofield	Hertford
	Colerain	Bertie
	Columbia	Tyrrell
	Columbus	Polk
	Como	Hertford
	Concord	Cabarrus
	Conetoe	Edgecombe
	Connelly Springs	Burke
	Conover	Catawba
	Conway	Northampton
	Cooleemee	Davie
	Cornelius	Mecklenburg
	Cove City	Craven
	Cramerton	Gaston
	Creedmoor	Granville
	Creswell	Washington
	Crossnore	Avery
	Dallas	Gaston
	Danbury	Stokes
	Davidson	Iredell
	Davidson	Mecklenburg
	Dellview	Gaston
	Denton	Davidson
	Dillsboro	Jackson
	Dobbins Heights	Richmond
	Dobson	Surry
	Dortches	Nash
	Dover	Craven
	Drexel	Burke
	Dublin	Bladen
	Duck	Dare
	Dunn	Harnett
	Durham	Wake
	Durham	Durham
	Earl	Cleveland
	East Arcadia	Bladen
	East Bend	Yadkin
	East Laurinburg	Scotland
	East Spencer	Rowan
	Eastover	Cumberland
	Eden	Rockingham

Edenton	Chowan
Elizabeth City	Camden
Elizabeth City	Pasquotank
Elizabethtown	Bladen
Elk Park	Avery
Elkin	Wilkes
Elkin	Surry
Ellenboro	Rutherford
Ellerbe	Richmond
Elm City	Wilson
Elon	Alamance
Emerald Isle	Carteret
Enfield	Halifax
Erwin	Harnett
Eureka	Wayne
Everetts	Martin
Fair Bluff	Columbus
Fairmont	Robeson
Fairview	Union
Faison	Sampson
Faison	Duplin
Faith	Rowan
Falcon	Sampson
Falcon	Cumberland
Falkland	Pitt
Fallston	Cleveland
Farmville	Pitt
Fayetteville	Cumberland
Flat Rock	Henderson
Fletcher	Henderson
Fontana Dam	Graham
Forest City	Rutherford
Forest Hills	Jackson
Fountain	Pitt
Four Oaks	Johnston
Foxfire	Moore
Franklin	Macon
Franklinton	Franklin
Franklinville	Randolph
Fremont	Wayne
Fuquay-Varina	Wake
Gamewell	Caldwell
Garland	Sampson
Garner	Wake
Garysburg	Northampton
Gaston	Northampton
Gastonia	Gaston
Gatesville	Gates
Gibson	Scotland
Gibsonville	Alamance
Gibsonville	Guilford
Glen Alpine	Burke
Godwin	Cumberland
Goldsboro	Wayne
Goldston	Chatham
Graham	Alamance
Grandfather	Avery
Granite Falls	Caldwell
Granite Quarry	Rowan
Grantsboro	Pamlico
Green Level	Alamance
Greenevers	Duplin
Greensboro	Guilford
Greenville	Pitt
Grifton	Pitt
Grifton	Lenoir
Grimesland	Pitt
Grover	Cleveland
Halifax	Halifax
Hamilton	Martin
Hamlet	Richmond
Harmony	Iredell
Harrells	Sampson
Harrells	Duplin
Harrellsville	Hertford
Harrisburg	Cabarrus
Hassell	Martin

Havelock	Craven
Haw River	Alamance
Hayesville	Clay
Hemby Bridge	Union
Henderson	Vance
Hendersonville	Henderson
Hertford	Perquimans
Hickory	Catawba
Hickory	Burke
Hickory	Caldwell
High Point	Davidson
High Point	Randolph
High Point	Guilford
High Point	Forsyth
High Shoals	Gaston
Highlands	Jackson
Highlands	Macon
Hildebran	Burke
Hillsborough	Orange
Hobgood	Halifax
Hoffman	Richmond
Holden Beach	Brunswick
Holly Ridge	Onslow
Holly Springs	Wake
Hookerton	Greene
Hope Mills	Cumberland
Hot Springs	Madison
Hudson	Caldwell
Huntersville	Mecklenburg
Indian Beach	Carteret
Indian Trail	Union
Jackson	Northampton
Jacksonville	Onslow
Jamestown	Guilford
Jamesville	Martin
Jefferson	Ashe
Jonesville	Yadkin
Kannapolis	Cabarrus
Kannapolis	Rowan
Kelford	Bertie
Kenansville	Duplin
Kenly	Wilson
Kenly	Johnston
Kernersville	Guilford
Kernersville	Forsyth
Kill Devil Hills	Dare
King	Forsyth
King	Stokes
Kings Mountain	Gaston
Kings Mountain	Cleveland
Kingstown	Cleveland
Kinston	Lenoir
Kittrell	Vance
Kitty Hawk	Dare
Knightdale	Wake
Kure Beach	New Hanover
La Grange	Lenoir
Lake Lure	Rutherford
Lake Park	Union
Lake Santeetlah	Graham
Lake Waccamaw	Columbus
Landis	Rowan
Lansing	Ashe
Lasker	Northampton
Lattimore	Cleveland
Laurel Park	Henderson
Laurinburg	Scotland
Lawndale	Cleveland
Leggett	Edgecombe
Leland	Brunswick
Lenoir	Caldwell
Lewiston Woodville	Bertie
Lewisville	Forsyth
Lexington	Davidson
Liberty	Randolph
Lilesville	Anson
Lillington	Harnett

Lincolnton	Lincoln
Linden	Cumberland
Littleton	Halifax
Littleton	Warren
Locust	Cabarrus
Locust	Stanly
Long View	Catawba
Long View	Burke
Louisburg	Franklin
Love Valley	Iredell
Lowell	Gaston
Lucama	Wilson
Lumber Bridge	Robeson
Lumberton	Robeson
Macclesfield	Edgecombe
Macon	Warren
Madison	Rockingham
Maggie Valley	Haywood
Magnolia	Duplin
Maiden	Lincoln
Maiden	Catawba
Manteo	Dare
Marietta	Robeson
Marion	McDowell
Mars Hill	Madison
Marshall	Madison
Marshville	Union
Marvin	Union
Matthews	Mecklenburg
Maxton	Robeson
Maxton	Scotland
Mayodan	Rockingham
Maysville	Jones
McAdenville	Gaston
McDonald	Robeson
McFarlan	Anson
Mebane	Orange
Mebane	Alamance
Mesic	Pamlico
Micro	Johnston
Middleburg	Vance
Middlesex	Nash
Midland	Cabarrus
Midway	Davidson
Mills River	Henderson
Milton	Caswell
Mineral Springs	Union
Minnesott Beach	Pamlico
Mint Hill	Union
Mint Hill	Mecklenburg
Misenheimer	Stanly
Mocksville	Davie
Momeyer	Nash
Monroe	Union
Montreat	Buncombe
Mooresboro	Cleveland
Mooresville	Iredell
Morehead City	Carteret
Morganton	Burke
Morrisville	Wake
Morrisville	Durham
Morven	Anson
Mount Airy	Surry
Mount Gilead	Montgomery
Mount Holly	Gaston
Mount Olive	Wayne
Mount Olive	Duplin
Mount Pleasant	Cabarrus
Murfreesboro	Hertford
Murphy	Cherokee
Nags Head	Dare
Nashville	Nash
Navassa	Brunswick
New Bern	Craven
New London	Stanly
Newland	Avery
Newport	Carteret

Newton	Catawba
Newton Grove	Sampson
Norlina	Warren
Norman	Richmond
North Topsail Beach	Onslow
North Wilkesboro	Wilkes
Northwest	Brunswick
Norwood	Stanly
Oak City	Martin
Oak Island	Brunswick
Oak Ridge	Guilford
Oakboro	Stanly
Ocean Isle Beach	Brunswick
Old Fort	McDowell
Oriental	Pamlico
Orrum	Robeson
Ossipee	Alamance
Oxford	Granville
Pantego	Beaufort
Parkton	Robeson
Parmele	Martin
Patterson Springs	Cleveland
Peachland	Anson
Peletier	Carteret
Pembroke	Robeson
Pikeville	Wayne
Pilot Mountain	Surry
Pine Knoll Shores	Carteret
Pine Level	Johnston
Pinebluff	Moore
Pinehurst	Moore
Pinetops	Edgecombe
Pineville	Mecklenburg
Pink Hill	Lenoir
Pittsboro	Chatham
Pleasant Garden	Guilford
Plymouth	Washington
Polkton	Anson
Polkville	Cleveland
Pollocksville	Jones
Powellsville	Bertie
Princeton	Johnston
Princeville	Edgecombe
Proctorville	Robeson
Raeford	Hoke
Raleigh	Wake
Raleigh	Durham
Ramseur	Randolph
Randleman	Randolph
Ranlo	Gaston
Raynham	Robeson
Red Cross	Stanly
Red Oak	Nash
Red Springs	Robeson
Red Springs	Hoke
Reidsville	Rockingham
Rennert	Robeson
Rhodhiss	Burke
Rhodhiss	Caldwell
Rich Square	Northampton
Richfield	Stanly
Richlands	Onslow
River Bend	Craven
Roanoke Rapids	Halifax
Robbins	Moore
Robbinsville	Graham
Robersonville	Martin
Rockingham	Richmond
Rockwell	Rowan
Rocky Mount	Edgecombe
Rocky Mount	Nash
Rolesville	Wake
Ronda	Wilkes
Roper	Washington
Rose Hill	Duplin
Roseboro	Sampson
Rosman	Transylvania

Rowland	Robeson
Roxboro	Person
Roxobel	Bertie
Rural Hall	Forsyth
Ruth	Rutherford
Rutherford College	Burke
Rutherfordton	Rutherford
Salemburg	Sampson
Salisbury	Rowan
Saluda	Henderson
Saluda	Polk
Sandy Creek	Brunswick
Sandyfield	Columbus
Sanford	Lee
Saratoga	Wilson
Sawmills	Caldwell
Scotland Neck	Halifax
Seaboard	Northampton
Seagrove	Randolph
Sedalia	Guilford
Selma	Johnston
Seven Devils	Avery
Seven Devils	Watauga
Seven Springs	Wayne
Severn	Northampton
Shallotte	Brunswick
Sharpsburg	Wilson
Sharpsburg	Edgecombe
Sharpsburg	Nash
Shelby	Cleveland
Siler City	Chatham
Simpson	Pitt
Sims	Wilson
Smithfield	Johnston
Snow Hill	Greene
Southern Pines	Moore
Southern Shores	Dare
Southport	Brunswick
Sparta	Alleghany
Speed	Edgecombe
Spencer Mountain	Gaston
Spencer	Rowan
Spindale	Rutherford
Spring Hope	Nash
Spring Lake	Cumberland
Spruce Pine	Mitchell
St. Helena	Pender
St. James	Brunswick
St. Pauls	Robeson
Staley	Randolph
Stallings	Union
Stallings	Mecklenburg
Stanfield	Stanly
Stanley	Gaston
Stantonsburg	Wilson
Star	Montgomery
Statesville	Iredell
Stedman	Cumberland
Stem	Granville
Stokesdale	Guilford
Stoneville	Rockingham
Stonewall	Pamlico
Stovall	Granville
Sugar Mountain	Avery
Summerfield	Guilford
Sunset Beach	Brunswick
Surf City	Pender
Surf City	Onslow
Swansboro	Onslow
Swepsonville	Alamance
Sylva	Jackson
Tabor City	Columbus
Tar Heel	Bladen
Tarboro	Edgecombe
Taylorsville	Alexander
Taylortown	Moore
Teachey	Duplin

Thomasville	Davidson
Thomasville	Randolph
Tobaccoville	Forsyth
Tobaccoville	Stokes
Topsail Beach	Pender
Trent Woods	Craven
Trenton	Jones
Trinity	Randolph
Troutman	Iredell
Troy	Montgomery
Tryon	Polk
Turkey	Sampson
Unionville	Union
Valdese	Burke
Vanceboro	Craven
Vandemere	Pamlico
Varnamtown	Brunswick
Vass	Moore
Waco	Cleveland
Wade	Cumberland
Wadesboro	Anson
Wagram	Scotland
Wake Forest	Wake
Wake Forest	Franklin
Walkertown	Forsyth
Wallace	Pender
Wallace	Duplin
Wallburg	Davidson
Walnut Cove	Stokes
Walnut Creek	Wayne
Walstonburg	Greene
Warrenton	Warren
Warsaw	Duplin
Washington	Beaufort
Washington Park	Beaufort
Watha	Pender
Waxhaw	Union
Waynesville	Haywood
Weaverville	Buncombe
Webster	Jackson
Weddington	Union
Weldon	Halifax
Wendell	Wake
Wentworth	Rockingham
Wesley Chapel	Union
West Jefferson	Ashe
Whispering Pines	Moore
Whitakers	Edgecombe
Whitakers	Nash
White Lake	Bladen
Whiteville	Columbus
Whitsett	Guilford
Wilkesboro	Wilkes
Williamston	Martin
Wilmington	New Hanover
Wilson	Wilson
Wilson's Mills	Johnston
Windsor	Bertie
Winfall	Perquimans
Wingate	Union
Winston-Salem	Forsyth
Winterville	Pitt
Winton	Hertford
Woodfin	Buncombe
Woodland	Northampton
Wrightsville Beach	New Hanover
Yadkinville	Yadkin
Yanceyville	Caswell
Youngsville	Franklin
Zebulon	Wake
Zebulon	Johnston

Data

Master Project #	SIT	#N/A		Short SIT	#N/A	Project Type	#N/A				
Project Name:											
SPOT ID:											
Submitted by	Date		6/12/2019								
Total Project Length (feet)	Project Area(sf)		#N/A	Project Area(acre)	#N/A	Project Area (sy)	#N/A	Facility Area (sf)	0	Facility Area (sy)	0
New Facility Width (lf)	Default Width		#N/A	Incremental Width	#N/A	Project Width	#N/A	Existing Facility Width (SIT 9)	0		
Both Sides of the Road?											
County	Region		#N/A	Average Land value	#N/A	High Value Count	#N/A				
City	City or Unincorporated		#N/A	CRM factor	#N/A	Distance Factor	#N/A				
Surrounding Development Type											
Registered Historic District											
Existing Curb & Gutter within Project Area											
Number of Stream Crossings											
Percentage of ROW Area Needed											
Impact to Active Railroad Track or Railroad ROW											

Roadways Intersected	Largest Road	0
Interstate		
Freeway		
Major Arterial		
Arterial		
Major Collector		
Collector		
Local Road	Total:	0
Signalized Intersections Crossed		

Length of New Bridge	
Length of New Tunnel	

Number of Existing Bridges		
Road: Interstate		
Road: Freeway		
Road: Major Arterial		
Road: Arterial		
Road: Major Collector		
Road: Collector		
Road: Local Road		
Water Feature: Small Stream (width <15'),		
Water Feature: Medium Stream (15'< width < 75')		
Water Feature: Large Stream/River (width > 75')		
Railroad	Total	0

SIT 4

Sharrow Length (LF)	
SIT4 Signage	

SIT 5

Total Number of Bicycle Corrals	
Total Amount of Bike Detection / Actuation Signals	
Total Amount of Bicycle Parking	
Total Number of Bicycle Share / Micro-Mobility Share Stations	
Total Number of Bicycle Signals	
Total Number of Bicycle Wheel Channels	
Total Number of Curb Radii Revisions	
Total Number of Hybrid Beacons	
Total Number of Intersection Markings / Signage	
Total Amount of Lighting	
Total Number of Mid-Block Crossings	
Total Amount of Wayfinding Stations	

SIT 8

Total Number of Accessible Pedestrian Signals	
Total Number of Crossing Islands	
Total Number of Curb Extensions	
Total Number of Curb Ramps	
Total Amount of Lighting	
Total Number of Marked Crosswalks	
Total Number of Mid-Block Crossings	
Total Number of Pedestrian Hybrid Beacons	
Total Number of Pedestrian Signals	
Total Number of Rectangular Rapid Flashing Beacons	
Total Number of Wayfinding Stations	

SIT 9

Total Number of Crossing Islands	
Total Number of Curb Extensions	
Total Number of Intersection Markings	
Total Amount of Lighting	
Total Number of Marked Crosswalks	
Total Number of Mid-Block Crossings	

County Lookup Table

COUNTY	REGION	LAND VALUE	HIGH VALUE
Alamance	Piedmont	$12,710.47	No
Alexander	Piedmont	$6,131.33	No
Alleghany	Trout	$7,648.41	No
Anson	Piedmont	$3,338.57	No
Ashe	Trout	$7,122.72	No
Avery	Trout	$9,346.62	No
Beaufort	CAMA	$4,129.75	No
Bertie	CAMA	$1,396.97	No
Bladen	Coastal Plain	$1,659.48	No
Brunswick	CAMA	$17,180.66	Yes
Buncombe	Trout	$17,185.14	Yes
Burke	Trout	$12,943.71	No
Cabarrus	Piedmont	$29,750.00	No
Caldwell	Trout	$6,965.91	No
Camden	CAMA	$4,418.12	No
Carteret	CAMA	$26,349.15	Yes
Caswell	Piedmont	$3,299.12	No
Catawba	Piedmont	$14,996.84	No
Chatham	Piedmont	$50,308.98	No
Cherokee	Trout	$67,819.92	No
Chowan	CAMA	$5,251.08	No
Clay	Trout	$11,143.82	No
Cleveland	Piedmont	$7,012.12	No
Columbus	Coastal Plain	$1,860.51	No
Craven	CAMA	$6,234.99	No
Cumberland	Coastal Plain	$13,665.12	No
Currituck	CAMA	$22,772.77	No
Dare	CAMA	$31,507.63	Yes
Davidson	Piedmont	$12,740.35	No
Davie	Piedmont	$9,619.57	No
Duplin	Coastal Plain	$3,180.20	No
Durham	Piedmont	$36,210.47	Yes
Edgecombe	Coastal Plain	$3,262.08	No
Forsyth	Piedmont	$37,676.79	Yes
Franklin	Piedmont	$6,770.03	No
Gaston	Piedmont	$15,299.37	No
Gates	CAMA	$1,561.96	No
Graham	Trout	$3,725.02	No
Granville	Piedmont	$4,886.32	No
Greene	Coastal Plain	$2,977.24	No
Guilford	Piedmont	$32,373.40	Yes
Halifax	Coastal Plain	$4,455.31	No
Harnett	Coastal Plain	$7,600.88	No
Haywood	Trout	$8,120.06	No
Henderson	Trout	$16,079.04	No
Hertford	CAMA	$2,466.12	No
Hoke	Coastal Plain	$7,188.03	No

Hyde	CAMA	$4,299.70	No
Iredell	Piedmont	$20,648.18	No
Jackson	Trout	$28,753.70	No
Johnston	Piedmont	$9,492.93	Yes
Jones	Coastal Plain	$2,034.35	No
Lee	Piedmont	$8,346.84	No
Lenoir	Piedmont	$4,753.64	No
Lincoln	Piedmont	$13,077.26	No
Macon	Trout	$11,520.49	No
Madison	Trout	$5,169.57	No
Martin	Coastal Plain	$2,696.73	No
McDowell	Trout	$5,485.74	No
Mecklenburg	Piedmont	$136,426.97	Yes
Mitchell	Trout	$6,343.97	No
Montgomery	Piedmont	$2,921.86	No
Moore	Piedmont	$9,918.09	No
Nash	Piedmont	$6,236.21	No
New Hanover	CAMA	$96,892.45	Yes
Northampton	Coastal Plain	$3,596.36	No
Onslow	CAMA	$11,356.35	No
Orange	Piedmont	$27,456.10	Yes
Pamlico	CAMA	$3,518.80	No
Pasquotank	CAMA	$10,194.24	No
Pender	CAMA	$6,709.20	Yes
Perquimans	CAMA	$5,669.09	No
Person	Piedmont	$5,386.72	No
Pitt	Coastal Plain	$8,075.35	Yes
Polk	Trout	$11,174.48	No
Randolph	Piedmont	$6,671.01	No
Richmond	Piedmont	$2,564.93	No
Robeson	Coastal Plain	$2,697.55	No
Rockingham	Piedmont	$5,921.70	No
Rowan	Piedmont	$13,384.45	No
Rutherford	Trout	$5,225.68	No
Sampson	Coastal Plain	$2,587.24	No
Scotland	Coastal Plain	$2,471.34	No
Stanly	Piedmont	$8,636.96	No
Stokes	Trout	$4,741.74	No
Surry	Trout	$5,322.62	No
Swain	Trout	$3,652.17	No
Transylvania	Trout	$22,299.77	No
Tyrrell	CAMA	$1,322.64	No
Union	Piedmont	$17,108.47	Yes
Vance	Piedmont	$6,194.11	No
Wake	Piedmont	$95,622.90	Yes
Warren	Piedmont	$6,925.99	No
Washington	CAMA	$1,998.11	No

Watauga	Trout	$15,325.67	No
Wayne	Coastal Plain	$6,344.45	No
Wilkes	Trout	$4,886.04	No
Wilson	Coastal Plain	$5,987.10	No
Yadkin	Piedmont	$4,019.89	No
Yancey	Trout	$6,148.90	No

City Lookup Table

CITY	Construction Market Region	Distance to CMR Center	CMR Factor	Distance Factor
Unincorporated	E	8.06	1	1
Aberdeen	E	0.00	1	1
Ahoskie	E	0.00	1	1
Alamance	F	5.97	1	1
Albemarle	A	8.33	1.05	1
Alliance	E	0.00	1	1
Andrews	D	0.00	1	1
Angier	F	11.35	1	1
Ansonville	D	0.00	1	1
Apex	F	8.55	1	1
Arapahoe	E	0.00	1	1
Archdale	D	0.00	1	1
Archer Lodge	E	3.55	1	1
Asheboro	G	0.00	1.1	1
Asheville	C	5.97	1	1
Askewville	B	7.72	1	1
Atkinson	A	32.05	1.05	1.05
Atlantic Beach	A	32.82	1.05	1.05
Aulander	A	14.37	1.05	1
Aurora	C	5.03	1	1
Autryville	G	0.00	1.1	1
Ayden	F	5.54	1	1
Badin	D	4.67	1	1
Bailey	G	11.90	1.1	1
Bakersville	B	3.99	1	1
Bald Head Island	G	0.00	1.1	1
Banner Elk	G	0.00	1.1	1
Bath	A	11.03	1.05	1
Bayboro	B	0.00	1	1
Bear Grass	A	19.62	1.05	1
Beaufort	G	5.86	1.1	1
Beech Mountain	A	32.58	1.05	1.05
Belhaven	A	0.00	1.05	1
Belmont	B	0.00	1	1
Belville	A	1.53	1.05	1
Belwood	E	17.70	1	1
Benson	G	0.00	1.1	1
Bermuda Run	F	0.00	1	1
Bessemer City	E	0.00	1	1
Bethania	A	6.17	1.05	1
Bethel	F	0.00	1	1
Beulaville	G	0.00	1.1	1
Biltmore Forest	E	17.15	1	1
Biscoe	D	8.10	1	1
Black Creek	G	0.00	1.1	1
Black Mountain	C	19.98	1	1
Bladenboro	G	0.00	1.1	1
Blowing Rock	B	0.00	1	1
Boardman	A	8.51	1.05	1
Bogue	B	2.56	1	1
Boiling Spring Lakes	F	0.00	1	1
Boiling Springs	B	6.21	1	1
Bolivia	B	11.32	1	1
Bolton	C	16.56	1	1
Boone	F	11.84	1	1
Boonville	G	6.60	1.1	1
Bostic	C	2.41	1	1
Brevard	A	0.00	1.05	1
Bridgeton	A	12.54	1.05	1
Broadway	D	0.00	1	1
Brookford	B	28.28	1	1.05
Brunswick	G	14.40	1.1	1
Bryson City	C	1.59	1	1
Bunn	C	3.34	1	1
Burgaw	E	0.00	1	1
Burlington	G	6.95	1.1	1
Burnsville	D	0.00	1	1
Butner	C	18.21	1	1
Cajah's Mountain	B	28.70	1	1.05
Calabash	B	6.03	1	1
Calypso	A	1.23	1.05	1
Cameron	E	22.81	1	1.05
Candor	G	0.00	1.1	1
Canton	A	7.26	1.05	1
Cape Carteret	G	2.53	1.1	1
Carolina Beach	B	29.16	1	1.05
Carolina Shores	E	0.00	1	1
Carrboro	E	12.64	1	1
Carthage	D	0.00	1	1
Cary	F	0.00	1	1

Construction Market Region	CMR Factor
A	1.05
B	1
C	1
D	1
E	1
F	1
G	1.1

Distance to CMR Center	Threshold	Distance Factor
Center Area (<20mi)	0	1
> 20mi ; < 50mi	20	1.05
> 50mi ; < 70mi	50	1.1
> 70mi	70	1.15

Casar	G	19.86	1.1	1
Castalia	B	0.00	1	1
Caswell Beach	F	0.00	1	1
Catawba	A	5.37	1.05	1
Cedar Point	G	0.00	1.1	1
Cedar Rock	D	12.04	1	1
Centerville	B	34.88	1	1.05
Cerro Gordo	B	34.00	1	1.05
Chadbourn	D	0.00	1	1
Chapel Hill	F	0.00	1	1
Charlotte	G	4.43	1.1	1
Cherryville	G	0.00	1.1	1
Chimney Rock Village	F	0.00	1	1
China Grove	A	6.61	1.05	1
Chocowinity	F	0.00	1	1
Claremont	C	25.79	1	1.05
Clarkton	D	0.00	1	1
Clayton	E	0.00	1	1
Clemmons	F	0.00	1	1
Cleveland	F	0.00	1	1
Clinton	G	0.00	1.1	1
Clyde	C	2.06	1	1
Coats	A	33.04	1.05	1.05
Cofield	A	13.31	1.05	1
Colerain	A	22.79	1.05	1.05
Columbia	G	6.12	1.1	1
Columbus	A	40.50	1.05	1.05
Como	F	0.00	1	1
Concord	D	8.40	1	1
Conetoe	G	0.00	1.1	1
Connelly Springs	F	0.00	1	1
Conover	D	35.44	1	1.05
Conway	F	0.00	1	1
Cooleemee	C	27.01	1	1.05
Cornelius	A	7.39	1.05	1
Cove City	G	9.55	1.1	1
Cramerton	D	0.00	1	1
Creedmoor	A	28.07	1.05	1.05
Creswell	F	7.84	1	1
Crossnore	G	8.80	1.1	1
Dallas	G	0.00	1.1	1
Danbury	F	0.00	1	1
Davidson	A	26.87	1.05	1.05
Dellview	C	24.22	1	1.05
Denton	F	0.00	1	1
Dillsboro	C	22.34	1	1.05
Dobbins Heights	F	14.09	1	1
Dobson	D	0.00	1	1
Dortches	A	13.74	1.05	1
Dover	G	0.00	1.1	1
Drexel	C	13.93	1	1
Dublin	A	22.74	1.05	1.05
Duck	C	0.00	1	1
Dunn	D	0.00	1	1
Durham	F	0.00	1	1
Earl	B	10.89	1	1
East Arcadia	F	2.62	1	1
East Bend	G	0.00	1.1	1
East Laurinburg	C	25.46	1	1.05
Eastover	F	0.00	1	1
East Spencer	E	15.23	1	1
Eden	A	21.11	1.05	1.05
Edenton	G	0.00	1.1	1
Elizabeth City	C	17.09	1	1
Elizabethtown	G	9.58	1.1	1
Elkin	F	12.46	1	1
Elk Park	G	1.86	1.1	1
Ellenboro	C	24.84	1	1.05
Ellerbe	D	0.98	1	1
Elm City	E	0.00	1	1
Elon	C	20.53	1	1.05
Emerald Isle	D	6.77	1	1
Enfield	A	51.74	1.05	1.1
Erwin	G	0.00	1.1	1
Eureka	A	13.29	1.05	1
Everetts	B	27.86	1	1.05
Fair Bluff	A	47.44	1.05	1.05
Fairmont	F	9.27	1	1
Fairview	C	9.24	1	1
Faison	F	0.00	1	1

Faith	C	5.08	1	1
Falcon	A	2.88	1.05	1
Falkland	F	0.00	1	1
Fallston	A	1.45	1.05	1
Farmville	C	0.00	1	1
Fayetteville	E	0.00	1	1
Flat Rock	F	12.06	1	1
Fletcher	G	35.78	1.1	1.05
Fontana Dam	G	5.11	1.1	1
Forest City	G	10.79	1.1	1
Forest Hills	E	0.00	1	1
Fountain	D	0.00	1	1
Four Oaks	E	16.57	1	1
Foxfire	G	21.33	1.1	1.05
Franklin	D	0.00	1	1
Franklinton	E	9.12	1	1
Franklinville	D	1.12	1	1
Fremont	A	74.22	1.05	1.15
Fuquay-Varina	G	0.00	1.1	1
Gamewell	C	22.44	1	1.05
Garland	D	0.00	1	1
Garner	D	26.32	1	1.05
Garysburg	D	28.00	1	1.05
Gaston	F	0.00	1	1
Gastonia	A	25.74	1.05	1.05
Gatesville	E	0.00	1	1
Gibson	E	0.00	1	1
Gibsonville	G	0.00	1.1	1
Glen Alpine	E	0.00	1	1
Godwin	D	0.00	1	1
Goldsboro	E	16.80	1	1
Goldston	D	0.00	1	1
Graham	G	1.32	1.1	1
Grandfather	G	0.00	1.1	1
Granite Falls	F	0.00	1	1
Granite Quarry	A	6.48	1.05	1
Grantsboro	E	0.00	1	1
Greenevers	B	12.10	1	1
Green Level	E	0.00	1	1
Greensboro	A	0.00	1.05	1
Greenville	A	0.00	1.05	1
Grifton	A	0.00	1.05	1
Grimesland	F	0.00	1	1
Grover	E	15.45	1	1
Halifax	B	22.54	1	1.05
Hamilton	C	22.24	1	1.05
Hamlet	B	0.00	1	1
Harmony	C	20.39	1	1.05
Harrells	A	26.89	1.05	1.05
Harrellsville	F	0.00	1	1
Harrisburg	A	14.69	1.05	1
Hassell	A	70.42	1.05	1.15
Havelock	E	0.00	1	1
Haw River	G	47.46	1.1	1.05
Hayesville	F	11.90	1	1
Hemby Bridge	D	8.64	1	1
Henderson	G	0.00	1.1	1
Hendersonville	G	2.43	1.1	1
Hertford	F	0.00	1	1
Hickory	F	0.00	1	1
Highlands	F	0.00	1	1
High Point	G	24.46	1.1	1.05
High Shoals	B	0.00	1	1
Hildebran	E	0.00	1	1
Hillsborough	A	14.52	1.05	1
Hobgood	A	23.13	1.05	1.05
Hoffman	B	17.00	1	1
Holden Beach	D	13.56	1	1
Holly Ridge	D	0.00	1	1
Holly Springs	A	5.87	1.05	1
Hookerton	G	0.00	1.1	1
Hope Mills	G	0.00	1.1	1
Hot Springs	G	0.00	1.1	1
Hudson	F	0.00	1	1
Huntersville	G	0.00	1.1	1
Indian Beach	F	0.00	1	1
Indian Trail	C	22.97	1	1.05
Jackson	A	10.38	1.05	1
Jacksonville	A	0.00	1.05	1
Jamestown	A	23.19	1.05	1.05

Jamesville	F	20.47	1	1.05
Jefferson	F	9.71	1	1
Jonesville	F	0.00	1	1
Kannapolis	C	14.18	1	1
Kelford	C	9.38	1	1
Kenansville	D	3.33	1	1
Kenly	E	0.00	1	1
Kernersville	A	31.21	1.05	1.05
Kill Devil Hills	E	0.00	1	1
King	B	0.00	1	1
Kings Mountain	F	0.00	1	1
Kingstown	A	8.75	1.05	1
Kinston	D	3.42	1	1
Kittrell	A	27.39	1.05	1.05
Kitty Hawk	D	0.00	1	1
Knightdale	B	0.00	1	1
Kure Beach	A	0.72	1.05	1
La Grange	G	0.00	1.1	1
Lake Lure	F	0.00	1	1
Lake Park	D	0.00	1	1
Lake Santeetlah	B	16.54	1	1
Lake Waccamaw	F	0.00	1	1
Landis	F	25.97	1	1.05
Lansing	D	28.21	1	1.05
Lasker	F	0.00	1	1
Lattimore	C	18.09	1	1
Laurel Park	C	15.40	1	1
Laurinburg	F	0.00	1	1
Lawndale	D	4.44	1	1
Leggett	B	0.00	1	1
Leland	G	0.00	1.1	1
Lenoir	A	27.27	1.05	1.05
Lewiston Woodville	E	0.00	1	1
Lewisville	E	0.00	1	1
Lexington	E	0.14	1	1
Liberty	F	0.00	1	1
Lilesville	C	0.23	1	1
Lillington	F	0.00	1	1
Lincolnton	C	4.49	1	1
Linden	D	25.07	1	1.05
Littleton	F	0.00	1	1
Locust	F	0.00	1	1
Long View	D	1.40	1	1
Louisburg	F	0.00	1	1
Love Valley	F	0.00	1	1
Lowell	F	0.00	1	1
Lucama	C	1.33	1	1
Lumber Bridge	C	10.89	1	1
Lumberton	D	8.43	1	1
McAdenville	D	24.65	1	1.05
Macclesfield	E	7.51	1	1
McDonald	G	0.00	1.1	1
McFarlan	B	20.55	1	1.05
Macon	C	2.67	1	1
Madison	A	32.63	1.05	1.05
Maggie Valley	A	37.24	1.05	1.05
Magnolia	G	47.12	1.1	1.05
Maiden	C	33.60	1	1.05
Manteo	G	0.00	1.1	1
Marietta	A	27.19	1.05	1.05
Marion	F	0.00	1	1
Marshall	F	0.00	1	1
Mars Hill	C	15.14	1	1
Marshville	E	9.72	1	1
Marvin	B	4.24	1	1
Matthews	F	0.00	1	1
Maxton	F	19.99	1	1
Mayodan	E	0.00	1	1
Maysville	E	0.00	1	1
Mebane	A	18.14	1.05	1
Mesic	D	2.71	1	1
Micro	D	16.06	1	1
Middleburg	D	0.59	1	1
Middlesex	F	0.00	1	1
Midland	E	0.00	1	1
Midway	F	9.08	1	1
Mills River	E	19.93	1	1
Milton	F	0.00	1	1
Mineral Springs	A	4.02	1.05	1
Minnesott Beach	F	0.00	1	1

Mint Hill	F	0.20	1	1
Misenheimer	E	2.90	1	1
Mocksville	D	0.00	1	1
Momeyer	E	3.15	1	1
Monroe	G	0.00	1.1	1
Montreat	F	0.00	1	1
Mooresboro	F	0.00	1	1
Mooresville	F	2.55	1	1
Morehead City	G	0.00	1.1	1
Morganton	D	0.00	1	1
Morrisville	F	16.96	1	1
Morven	F	9.35	1	1
Mount Airy	D	1.13	1	1
Mount Gilead	F	0.00	1	1
Mount Holly	G	0.00	1.1	1
Mount Olive	F	0.00	1	1
Mount Pleasant	A	10.62	1.05	1
Murfreesboro	G	53.72	1.1	1.1
Murphy	B	0.00	1	1
Nags Head	D	0.00	1	1
Nashville	B	0.00	1	1
Navassa	A	0.00	1.05	1
New Bern	F	3.42	1	1
Newland	G	5.52	1.1	1
New London	A	9.20	1.05	1
Newport	F	0.00	1	1
Newton	C	12.23	1	1
Newton Grove	D	21.72	1	1.05
Norlina	C	25.42	1	1.05
Norman	B	0.00	1	1
North Topsail Beach	F	0.00	1	1
Northwest	B	0.00	1	1
North Wilkesboro	F	13.54	1	1
Norwood	A	17.65	1.05	1
Oakboro	B	5.94	1	1
Oak City	E	0.00	1	1
Oak Island	F	4.28	1	1
Oak Ridge	B	23.20	1	1.05
Ocean Isle Beach	A	51.48	1.05	1.1
Old Fort	C	20.02	1	1.05
Oriental	C	25.71	1	1.05
Orrum	E	0.00	1	1
Ossipee	D	4.04	1	1
Oxford	A	32.13	1.05	1.05
Pantego	C	0.00	1	1
Parkton	A	7.90	1.05	1
Parmele	F	0.00	1	1
Patterson Springs	F	1.21	1	1
Peachland	A	7.62	1.05	1
Peletier	C	15.69	1	1
Pembroke	D	0.00	1	1
Pikeville	F	1.64	1	1
Pilot Mountain	A	16.38	1.05	1
Pinebluff	D	5.76	1	1
Pinehurst	E	10.21	1	1
Pine Knoll Shores	E	12.14	1	1
Pine Level	D	6.41	1	1
Pinetops	A	21.02	1.05	1.05
Pineville	B	0.00	1	1
Pink Hill	E	0.00	1	1
Pittsboro	C	8.31	1	1
Pleasant Garden	F	12.61	1	1
Plymouth	F	4.71	1	1
Polkton	F	0.00	1	1
Polkville	A	3.76	1.05	1
Pollocksville	B	0.00	1	1
Powellsville	D	2.50	1	1
Princeton	D	7.31	1	1
Princeville	C	25.42	1	1.05
Proctorville	C	12.22	1	1
Raeford	C	21.87	1	1.05
Raleigh	E	7.82	1	1
Ramseur	E	0.42	1	1
Randleman	F	0.00	1	1
Ranlo	C	23.36	1	1.05
Raynham	F	2.35	1	1
Red Cross	D	0.00	1	1
Red Oak	C	5.84	1	1
Red Springs	E	2.29	1	1
Reidsville	C	5.99	1	1

Rennert	C	3.06	1	1
Rhodhiss	D	25.66	1	1.05
Richfield	F	1.28	1	1
Richlands	B	1.04	1	1
Rich Square	B	4.59	1	1
River Bend	A	11.79	1.05	1
Roanoke Rapids	E	26.58	1	1.05
Robbins	G	36.80	1.1	1.05
Robbinsville	A	9.76	1.05	1
Robersonville	C	0.00	1	1
Rockingham	F	0.00	1	1
Rockwell	D	0.00	1	1
Rocky Mount	B	0.00	1	1
Rolesville	F	10.70	1	1
Ronda	A	32.86	1.05	1.05
Roper	B	18.28	1	1
Roseboro	C	12.02	1	1
Rose Hill	G	11.31	1.1	1
Rosman	D	0.00	1	1
Rowland	D	6.89	1	1
Roxboro	A	25.86	1.05	1.05
Roxobel	G	0.00	1.1	1
Rural Hall	G	13.15	1.1	1
Ruth	G	0.00	1.1	1
Rutherford College	G	12.80	1.1	1
Rutherfordton	G	0.00	1.1	1
St. Helena	C	10.84	1	1
St. James	F	0.00	1	1
St. Pauls	G	0.00	1.1	1
Salemburg	B	9.76	1	1
Salisbury	E	6.70	1	1
Saluda	D	11.96	1	1
Sandy Creek	E	0.00	1	1
Sandyfield	C	24.05	1	1.05
Sanford	D	14.66	1	1
Saratoga	B	0.00	1	1
Sawmills	D	31.58	1	1.05
Scotland Neck	D	2.38	1	1
Seaboard	G	1.35	1.1	1
Seagrove	D	0.00	1	1
Sedalia	D	41.05	1	1.05
Selma	B	15.10	1	1
Seven Devils	C	4.31	1	1
Seven Springs	F	0.00	1	1
Severn	E	5.98	1	1
Shallotte	C	0.00	1	1
Sharpsburg	A	0.00	1.05	1
Shelby	D	6.36	1	1
Siler City	B	0.00	1	1
Simpson	A	6.72	1.05	1
Sims	D	8.37	1	1
Smithfield	D	24.17	1	1.05
Snow Hill	E	9.18	1	1
Southern Pines	A	25.56	1.05	1.05
Southern Shores	F	0.00	1	1
Southport	F	0.00	1	1
Sparta	C	11.83	1	1
Speed	D	2.96	1	1
Spencer	C	0.00	1	1
Spencer Mountain	G	5.08	1.1	1
Spindale	B	4.21	1	1
Spring Hope	C	3.41	1	1
Spring Lake	F	0.00	1	1
Spruce Pine	E	2.26	1	1
Staley	F	0.00	1	1
Stallings	F	0.00	1	1
Stanfield	F	0.00	1	1
Stanley	D	8.45	1	1
Stantonsburg	E	16.84	1	1
Star	F	0.00	1	1
Statesville	C	0.84	1	1
Stedman	D	0.52	1	1
Stem	A	2.79	1.05	1
Stokesdale	E	13.75	1	1
Stoneville	A	11.96	1.05	1
Stonewall	F	0.00	1	1
Stovall	G	1.39	1.1	1
Sugar Mountain	E	0.00	1	1
Summerfield	A	18.85	1.05	1
Sunset Beach	B	0.00	1	1

Surf City	A	40.18	1.05	1.05
Swansboro	E	0.00	1	1
Swepsonville	G	6.20	1.1	1
Sylva	B	37.72	1	1.05
Tabor City	C	7.80	1	1
Tarboro	D	3.98	1	1
Tar Heel	F	0.00	1	1
Taylorsville	E	16.53	1	1
Taylortown	B	18.12	1	1
Teachey	E	0.00	1	1
Thomasville	F	13.22	1	1
Tobaccoville	B	0.00	1	1
Topsail Beach	A	0.00	1.05	1
Trenton	A	8.23	1.05	1
Trent Woods	E	0.00	1	1
Trinity	F	0.00	1	1
Troutman	E	12.55	1	1
Troy	G	5.55	1.1	1
Tryon	C	17.98	1	1
Turkey	E	0.00	1	1
Unionville	G	0.00	1.1	1
Valdese	G	4.90	1.1	1
Vanceboro	A	17.01	1.05	1
Vandemere	C	0.00	1	1
Varnamtown	E	6.64	1	1
Vass	F	0.00	1	1
Waco	C	0.00	1	1
Wade	F	9.04	1	1
Wadesboro	C	7.62	1	1
Wagram	D	0.00	1	1
Wake Forest	C	9.49	1	1
Walkertown	B	15.94	1	1
Wallace	E	0.00	1	1
Wallburg	E	1.13	1	1
Walnut Cove	D	0.00	1	1
Walnut Creek	A	9.27	1.05	1
Walstonburg	A	40.95	1.05	1.05
Warrenton	B	15.54	1	1
Warsaw	A	6.71	1.05	1
Washington	A	11.21	1.05	1
Washington Park	B	13.29	1	1
Watha	A	62.16	1.05	1.1
Waxhaw	G	0.00	1.1	1
Waynesville	G	0.00	1.1	1
Weaverville	G	8.57	1.1	1
Webster	F	0.00	1	1
Weddington	E	0.00	1	1
Weldon	D	0.00	1	1
Wendell	E	7.25	1	1
Wentworth	F	0.00	1	1
Wesley Chapel	G	0.00	1.1	1
West Jefferson	G	8.13	1.1	1
Whispering Pines	D	1.45	1	1
Whitakers	C	22.06	1	1.05
White Lake	C	7.81	1	1
Whiteville	E	0.00	1	1
Whitsett	F	5.81	1	1
Wilkesboro	A	15.26	1.05	1
Williamston	B	0.00	1	1
Wilmington	D	1.47	1	1
Wilson	D	0.70	1	1
Wilson's Mills	A	28.42	1.05	1.05
Windsor	A	8.92	1.05	1
Winfall	F	0.00	1	1
Wingate	E	0.00	1	1
Winston-Salem	A	0.00	1.05	1
Winterville	A	35.23	1.05	1.05
Winton	G	0.00	1.1	1
Woodfin	D	29.45	1	1.05
Woodland	E	0.00	1	1
Wrightsville Beach	F	4.57	1	1
Yadkinville	E	9.68	1	1
Yanceyville	D	0.00	1	1
Youngsville	D	0.00	1	1
Zebulon	G	0.00	1.1	1

Master Project Table

Master Project #	SIT	Project Type	Default facility Width	Incremental Width	Construction Unit Cost	Environmental Mitigation	SHEET #
1	SIT 1: Grade-Separated Bicycle Facility	New Bicycle/Pedestrian Bridge	10	7	225	Yes	A
2	SIT 1: Grade-Separated Bicycle Facility	New Bicycle/Pedestrian Tunnel	10	7	225	Yes	A
3	SIT 2: Off-Road/Separated Linear Bicycle Facilty	Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidepath	10	7	225	Yes	A
4	SIT 2: Off-Road/Separated Linear Bicycle Facilty	Contra-Flow Bicycle Lane or Separated Bicycle Lane	10	12	135	Yes	A
5	SIT 2: Off-Road/Separated Linear Bicycle Facilty	Buffered Bicycle Lane	14	12	135	Yes	A
6	SIT 3: On-Road Designated Bicycle Facility	Bicycle Lane	5	12	135	Yes	A
7	SIT 4: On-Road Bicycle Facility	Shared Lane Marking (Sharrow)	-	-	-	No	G
8	SIT 4: On-Road Bicycle Facility	Paved Shoulder	4	12	135	Yes	A
9	SIT 4: On-Road Bicycle Facility	Signage	-	-	-	No	B
10	SIT 5: Multi-Site Bicycle Facility	Multi-Site Bicycle Facility	-	-	-	No	C
11	SIT 6: Grade-Separated Pedestrian Facility	New Pedestrian Bridge	10	7	225	Yes	A
12	SIT 6: Grade-Separated Pedestrian Facility	New Pedestrian Tunnel	10	7	225	Yes	A
13	SIT 7: Protected Linear Pedestrian Facility	Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidepath	10	7	225	Yes	A
14	SIT 7: Protected Linear Pedestrian Facility	Sidewalk	5	7	180	Yes	A
15	SIT 8: Multi-Site Pedestrian Facility	Multi-Site Pedestrian Facility	-	-	-	No	E
16	SIT 9: Improved Pedestrian Facility	Trail Improvement	0	5	225	Yes	F
17	SIT 9: Improved Pedestrian Facility	Sidewalk Widening	0	5	180	Yes	F
18	SIT 9: Improved Pedestrian Facility	Streetscape/Corridor Improvement	-	-	-	No	D

Hydro

Master Project #	Existing Curb & Gutter	None
1	1	7
2	1	7
3	1	7
4	7	7
5	7	7
6	7	7
7	0	0
8	7	7
9	0	0
10	0	0
11	1	7
12	1	7
13	1	7
14	1	7
15	0	0
16	1	7
17	1	7
18	0	0

Justification

	Roadway Design, Structures Design & Survey	Environmental	Hydro Design	Geotech Design	ROW	Utility	Construction	Structure	Traffic
Construction Cost	Project Size / Ratio $0 Small 0.25 $200,000 Medium 0.2 $400,000 Large 0.18 $2,000,000 Extra Large 0.15						See Master Project Table		
SIT								Structure Width SIT 1 14 SIT 2 14 SIT 3 7 SIT 4 6 SIT 5 14 SIT 6 8 SIT 7 8 SIT 8 8 SIT 9 8	
County		Stream / Freshwater Wetland / Coastal Wetland CAMA 1.67 / CAMA 0.24 / CAMA 0.04 Coastal Plain 3.34 / Coastal Plain 0.19 / Coastal Plain 0 Piedmont 4.79 / Piedmont 0.03 / Piedmont 0 Trout 7.96 / Trout 0.002 / Trout 0			High Value County Yes 1.4 No 1.25			Region Multiplier CAMA 1 Coastal Plain 1 Piedmont 1.05 Trout 1.1	
City									Unincorporated $20,000.00 City $40,000.00
Percentage of ROW Area Needed					None (0-15%) 0.15 Minimal (15%-25%) 0.25 Large (25%-60%) 0.6 Significant (60%-80%) 0.8 Total (80-100%) 1				
Historic District	Yes 1.2 No 1								
Development Type		Regional Multiplier Forested 1 Rural 0.6 Industrial 0.1 Commercial 0.1 Urban 0.1 Downtown 0 Suburban 0.4					Forested 1.05 Rural 1 Industrial 1.15 Commercial 1.15 Urban 1.15 Downtown 1.2 Suburban 1.15	DEVELOPMENT TYPE MULTIPLIER Forested 1 Rural 1 Industrial 1.05 Commercial 1.05 Urban 1.05 Downtown 1.05 Suburban 1.05	
Existing C&G			See Master Project Table						
Number of Stream Crossings									
Impact to Rail:	Yes 3 No 1								
Roadways Intersected							Multiplier Interstate 1.2 Freeway 1.15 Major Arterial 1.15 Arterial 1.1 Major Collector 1.05 Collector 1.05 Local Road 1 0 1		
Signalized Intersections Crossed	Multiplier 0 1 1 1.05								
Number of Existing Bridges								Structure Length Unincorporated / City Interstate 270 / 230 Freeway 230 / 190 Major Arterial 170 / 150 Arterial 140 / 120 Major Collector 120 / 100 Collector 90 / 75 Local Road 65 / 45 Water Feature: Small Stream 80 / 80 Water Feature: Medium Strea 120 / 120 Water Feature: Large Stream, 180 / 180 Railroad 120 / 100 BRIDGE GEOMETRY MULTIPLIER Unincorporated / City Interstate 1.35 / 1.2 Freeway 1.2 / 1.15 Major Arterial 1.15 / 1.1 Arterial 1.25 / 1.2 Major Collector 1.2 / 1 Collector 1 / 1 Local Road 1 / 1 Water Feature: Small Stream 0.5 / 0.5 Water Feature: Medium Strea 0.75 / 0.75 Water Feature: Large Stream, 1.15 / 1.1 Railroad 1.2 / 1	