

UCPRPO PROPOSED Strategic Transportation Investment Act (STI) RANKING METHODOLOGY – (12/12/17 Revisions)

INTRODUCTION

STI Prioritization 5.0 Background

Former Governor Bev Perdue set the direction for NCDOT's current Transportation Reform initiative with Executive Order No. 2 in 2009. This order mandates a professional approval process for project selection. NCDOT created the Strategic Prioritization Process in response. The newly elected Governor McCrory and the North Carolina Department of Transportation continue to support this prioritization process and are committed to improving the quality of life for citizens in North Carolina through transportation. Together, we want to find more efficient ways to better connect all North Carolinians to jobs, health care, education and recreational experiences. The Strategic Transportation Investments Bill (HB817), which was signed into law on June 26, 2013, will help make that possible by better leveraging existing funds to enhance the state's infrastructure.

The Strategic Transportation Investments (STI) - also called the Strategic Mobility Formula - is a new way to fund and prioritize transportation projects to ensure they provide the maximum benefit to our state. It allows NCDOT to use its existing revenues more efficiently to fund more investments that improve North Carolina's transportation infrastructure, create jobs and help boost the economy.

According to the law below, this document will describe how the Upper Coastal Plain Rural Planning Organization will score or rank its applicable projects.

Session Law 2012-84 amended Section 2 of the General Statutes 136-18 Prioritization Process

"The Department shall develop and utilize a process for selection of transportation projects that is based on professional standards in order to most efficiently use limited resources to benefit all citizens of the State. The strategic prioritization process should be a systematic, data-driven process that includes a combination of quantitative data, qualitative input, and multimodal characteristics, and should include local input.

The Department shall develop a process for standardizing or approving local methodology used in Metropolitan Planning Organization and Rural Transportation Planning Organization prioritization." - S.L. 2012-84

UCPRO Methodology and Ranking with Public Input

The Upper Coastal Plain Rural Planning Organization (UCPRPO) includes Edgecombe, Johnston, Nash, and Wilson Counties. The formula breaks down the (UCPRPO) transportation projects into three categories: Statewide, Regional, and Division level. The Statewide Level will receive 40% of the available revenue and the selection process will be 100% data-driven, meaning NCDOT will base its decisions on hard facts such as crash statistics and traffic volumes. The Regional Level will receive 30% of the available revenue and the selection process will be 70% data-driven with 15% scoring coming from NCDOT Division 4 and 15% ranking or scoring from the UCPRPO. The Division Level will also receive 30%

of the available revenue and the selection process will be 50% data-driven with the Division 4 having a 25% ranking input and the UCRPO having the remaining 25% ranking input.

STI Selection Formula		
Statewide Projects	Regional Projects	Division Projects
100% Data-Driven	70% Data-Driven	50% Data-Driven
	15% Division 4 Input	25% Division 4 Input
	15% UCRPO Input	25% UCRPO Input

All modes of capital transportation projects must compete for funding including highways, transit, aviation, rail, and bike/pedestrian. Each transportation project may receive a maximum of 100 points. You may view more information on the Strategic Transportation Investments (STI) at <http://www.ncdot.gov/strategictransportationinvestments/default.html>.

UCPRO Methodology and Ranking with Public Input

- This document describes the methodology and ranking process the UCRPO will use to provide its local input in the Strategic Transportation Investments Act prioritization process.
- This methodology must be approved by the North Carolina Department of Transportation to ensure it meets legislation requirements.
- The TAC will approve the methodology in its January, 2018 meeting. Upon approval there will be a 30 day public comment period where the methodology will be published on the UCRPO website www.ucprpo.org. After the 30-day public comment period there will be a public hearing/meeting at the normally scheduled TAC meeting in March, 2018. All public comment will be documented by the RPO staff and considered by the TAC prior to its final approval by the TAC at this meeting.
- The UCRPO is assigned 1,500 points based upon population for each Region and Division Projects. The UCRPO TAC will preliminarily rank transportation Regional projects by allocating its allotted 1,500 points to projects at its April, 2018 meeting. Once the points have been allocated, the preliminary point allocation will be published to the www.ucprpo.org website for public review and comment for a 30 day period. The public will be invited to the TAC May 2018 meeting to provide input and comments after which the TAC will adopt the final point allocation for Regional projects. The same procedure will be performed for Division projects with the TAC meetings being in July and September 2018.

DESCRIPTION OF CRITERIA AND WEIGHTS

UCPRO Point Allocation Methodology

As part of the ranking process the UCRPO will have 1500 points to allocate to its Regional Level projects and 1500 points to its Division Level projects. These points have been assigned to the RPO based on population with each MPO and RPO receiving a minimum of 1000 points and a maximum of 2500 points. The UCRPO will allocate its points based upon transportation mode as follows:

**UCPRPO POINT ALLOCATION
REGIONAL PROJECTS**

MODE	POINTS ALLOCATED
Highway	1300 Points (13 Projects)
Transit	100 Points (1 Project)
Aviation	No Projects Applicable
Rail	100 Points (1 Project)
Bike/Pedestrian	No Projects Applicable

**UCPRPO POINT ALLOCATION
DIVISION PROJECTS**

MODE	POINTS ALLOCATED
Highway	800 Point (8 Projects)
Transit	300 Points (3 Projects)
Aviation	200 Points (2 Projects)
Rail	100 Points (1 Project)
Bike/Pedestrian	100 Points (1 Project)

Note: All projects receiving points will receive the maximum 100 points allowed per project. The UCPRPO will allocate points based upon prioritizing all projects based upon transportation mode and weighted criterion as follows:

Upper Coastal Plain Rural Planning Organization Highway Ranking Criteria – Region and Division	
Quantitative Criteria	<p>NCDOT Data-Driven Scores = 20% The data-driven scores provided by NCDOT will be weighted at 20%. http://www.ncdot.gov/strategictransportationinvestments/</p>
Qualitative Criteria (This is measured by a numerical exercise described in Section Qualitative Criteria Measurement)	<p>Public Comments and Input = 40% The TAC will consider all public input and comments provided to them during open meetings. If no one from the public comments the TCC and TAC will be considered the only public comments received. TAC members will base their rankings upon facts that the projects have been discussed repeatedly within the community and are in the interest of the community. This ranking will be measured by a ranking ballot as presented in the section “Qualitative Public Comment Criteria Measurement”. Each TAC member’s prioritization ballot will be available for public view at www.ucprpo.org.</p> <p>Viability of the Project = 40% A viable project is one that is capable of providing growth and development for the local and regional community and has been adopted within the local Comprehensive Transportation Plan (CTP). A project is also viable if it provides connectivity and provides a benefit to multiple communities. For example the project will score higher if it provides connectivity to more than one County or Municipality providing access to more businesses and communities. Project Viability will be measured as follows: Project is in Comprehensive Transportation Plan (CTP) Maximum of 50 Points: If project is in CTP = 50 Points If project is not in CTP = 0 Points</p> <p>Project provides Connectivity - Maximum Points 25 Points: Regional (Multiple Counties) = 25 points County (Multiple Local Governments within one County) = 20 points Local (One Local Government) = 15 points</p>

	<p>Upper Coastal Plain Rural Planning Organization Transit Ranking Criteria - Division</p>
<p>Quantitative Criteria</p>	<p>NCDOT Data-Driven Scores = 30% The data-driven scores provided by NCDOT will be weighted at 30%. http://www.ncdot.gov/strategictransportationinvestments/</p>
<p>Qualitative Criteria (This is measured by a numerical exercise described in Section Qualitative Criteria Measurement)</p>	<p>Transit Expansion = 30% This criterion will be applied to transit projects that increase service to citizens versus projects which do not.</p> <p>Transit Expansion (Service Expansion) Maximum 10 Points: Project Expands Services = 10 Points Project Does Not Expand Service = 0 Points</p> <p>Public Comments and Input = 40% The TAC will consider all public input and comments provided to them during open meetings provided by both the public and RPO Transit Agencies. If no one from the public comments the TCC and TAC will be considered the only public comments received. TAC members will base their rankings upon facts that the projects have been discussed repeatedly within the community and are in the interest of the community. This ranking will be measured by a ranking ballot as presented in the section “Qualitative Public Comment Criteria Measurement”. Each TAC member’s prioritization ballot will be available for public view at www.ucprpo.org for public review.</p>

Upper Coastal Plain Rural Planning Organization Aviation Ranking Criteria – Division	
Quantitative Criteria	<p>NCDOT Data-Driven Scores = 20% The data-driven scores provided by NCDOT will be weighted at 20%. http://www.ncdot.gov/strategictransportationinvestments/.</p>
Qualitative Criteria (This is measured by a numerical exercise described in Section Qualitative Criteria Measurement)	<p>Aviation Operational Improvements = 40% This criterion will be applied to aviation projects that improve operational improvements that make the airport safer and/or increases capacity or addresses deficiencies in the facility.</p> <p>Aviation Operational Improvements Maximum 10 Points: Project provides Operational Improvements = 10 Points Project Does Not Provide Operational Improvements = 0 Points</p> <p>Public Comments and Input and Community Benefit = 40% The TAC will consider all public input and comments provided to them during open meetings provided by both the public and RPO Aviation Agencies. If no one from the public comments the TCC and TAC will be considered the only public comments received. TAC members will base their rankings upon facts that the projects have been discussed repeatedly within the community and are in the interest of the community. This ranking will be measured by a ranking ballot as presented in the section “Qualitative Public Comment Criteria Measurement”. Each TAC member’s prioritization ballot will be available for public view at www.ucprpo.org for public.</p>

Upper Coastal Plain Rural Planning Organization Bike/Pedestrian Ranking Criteria - Division	
Quantitative Criteria	<p>NCDOT Data-Driven Scores = 50% The data-driven scores provided by NCDOT will be weighted at 50%. http://www.ncdot.gov/strategictransportationinvestments/.</p>
Qualitative Criteria (This is measured by a numerical exercise described in Section Qualitative Criteria Measurement)	<p>Connectivity – Gaps and Connectivity = 20% This criterion will be applied to Bike/Pedestrian projects that provide connection or alleviates gaps in connecting principle points such as churches, employment center, shopping, and or schools... etc.</p> <p>Bike/Pedestrian Connectivity - Maximum 10 Points: Project provides Connectivity and/or Fills Gaps = 10 Points Project Does Not provide Connectivity and/or Fills Gaps = 0 Points</p> <p>Public Comments and Input = 30% The TAC will consider all public input and comments provided to them during open meetings provided by the Public. If no one from the public comments the TCC and TAC will be considered the only public comments received. TAC members will base their rankings upon facts that the projects have been discussed repeatedly within the community and are in the interest of the community. This ranking will be measured by a ranking ballot as presented in the section “Qualitative Public Comment Criteria Measurement”. Each TAC member’s prioritization ballot will be available for public view at www.ucprpo.org for public review.</p>

Upper Coastal Plain Rural Planning Organization Rail Ranking Criteria – Region and Division	
Quantitative Criteria	<p>NCDOT Data-Driven Scores = 50% The data-driven scores provided by NCDOT will be weighted at 50%. http://www.ncdot.gov/strategictransportationinvestments/.</p>
Qualitative Criteria (This is measured by a numerical exercise described in Section Qualitative Criteria Measurement)	<p>Railroad Company/NCDOT Rail Division Support = 30% This criterion will be applied to Rail projects that have the support of the Railroad Company and/or the NCDOT Rail Division</p> <p>Railroad Company/NCDOT Rail Division Support Maximum 10 Points: Project has support = 10 Points Project Does have support = 0 Points</p> <p>Public Comments and Input = 20% The TAC will consider all public input and comments provided to them during open meetings provided by the Public. If no one from the public comments the TCC and TAC will be considered the only public comments received. TAC members will base their rankings upon facts that the projects have been discussed repeatedly within the community and are in the interest of the community. This ranking will be measured by a ranking ballot as presented in the section “Qualitative Public Comment Criteria Measurement”. Each TAC member’s prioritization ballot will be available for public view at www.ucprpo.org for public review.</p>

Qualitative Public Comment Criteria Measurement:

TAC members will hear from the UCPRPO Community at each of their regularly scheduled meetings. TAC members will also confer with TCC members and the local non-highway mode agencies to solicit their input into prioritizing projects based upon all required criterion. **TAC members will be strongly encouraged to prioritize and rank individual projects based upon a review of quantitative score, viability score, and input from the public, non-highway agencies, and TCC members.**

Along with input from the UCPRPO Community, members will be able to view the data-driven scores provided by NCDOT during this process. It will be the TAC members' responsibility to prioritize projects based upon each required criterion for each mode of transportation. TAC members will base their rankings upon facts that the projects have been discussed repeatedly within the community and are in the interest of the community. Each TAC member will use their judgment in ranking all projects with 1 being the highest priority (see sample Prioritization Ballot below). Once all TAC members have prioritized the projects the results will be posted to www.ucprpo.org for a 30 day public review and comment period. Prior to finalizing the project rankings, a public hearing/meeting will be held to allow for a final opportunity for the public to provide their input and comments. After which the vote or prioritization ranking by the TAC members will be final. Once the ballots have been completed the methodology explained on page 8 "Methodology for Evaluating and Weighting Criterion" will be used to compute the final project rankings and point allocation.

UCPRPO SAMPLE PROJECT PRIORITIZATION BALLOT - Highway Project Criteria "Public Comments and Input"						
SPOTID	Old SPOTID (P1.0)	Route	Description	Quantatative Score	Viability Score	Project Priority (1 for top priority)
75	43572	US 301	NC 96 to SR 1007 (Brogden Road). Widen to Multi-Lanes.	18.31	75	2
20	45170	SR 1927 - Pine Level Selma Rd	Widen from Forest Hills to US 264	16.94	25	9
893	45177	NC 42 - Tarboro St SW	Widen from NC 58 to US 264 Alt in Wilson Co.	16.11	20	4
889	45164	SR 1327 - London Church Rd	Widen from Herring Avenue to Lake Wilson Road	15.83	65	5
262	45852	SR 1902 (Glen Laurel Road)	US 70 to SR 1003 (Buffaloe Road). Widen to Multi-Lanes. Section B: East of SR 1902 (Glen Laurel Road) to SR 1003 (Buffaloe Road).	15.37	15	6
874	45095	Buffalo Rd	Widen to three (3) lanes from US 70 to SR 1934 (Old Beulah Road) in Johnston Co.	8.52	25	3
420	43578	Wilson Northern Loop	NC 58 (Nash Street) to US 301 Interchange at SR 1436 (Rosebud Church Road). Multi-Lanes on New Location.	6.67	70	8
1277		Princeville Interchange	Construct US 64 Westbound Off-Ramp at US 258	6.15	50	7
891	45168	E Anderson St	Widen to three (3) lanes from I-95 to Webb Street in Johnston County	5.99	65	1

TOTAL SCORE AND PROJECT RANKING APPROACH

Methodology for Evaluating and Weighting Criterion: To weight each criterion, a Z-Score will be computed for each specific criterion. This will provide a defined final qualitative measurement/score or metrics for evaluating the criterions for all projects based upon data driven scores and local input provided by TAC Members. **This method will be applied to all modes of transportation based upon criterion described in pages 3 thru 7.**

Sample Ballot Results - Public Comments Criterion Evaluation						TOTALS		
SPOTID	TAC Member 1	TAC Member 2	TAC Member 3	TAC Member 4	TAC Member 5			
417	2	9	3	9	2	25		
892	9	2	9	3	9	32		
893	4	5	4	6	6	25		
889	5	7	5	4	5	26		
262	6	3	6	5	4	24		
874	3	4	2	2	3	14		
420	8	8	7	7	7	37		
1277	7	6	8	8	8	37		
891	1	1	1	1	1	5		
	45	45	45	45	45	225		
Project Viability Criterion Evaluation Metrics								
SPOTID	Project in CTP Y/N	Project Connectivity	TOTALS					
417	50	25	75					
892	0	25	25					
893	0	20	20					
889	50	15	65					
262	0	15	15					
874	0	25	25					
420	50	20	70					
1277	50	0	50					
891	50	20	70					
	250	165	415					
Sample Evaluation Results for Regional Highway Projects								
SPOTID	Data Driven - Quantitative Score - 20%	Qualitative Score - Public Comments - 40%	Viability Score of Project - 40%	Data Driven Z-Score*	Public Comments Z-Score*	Project Viability Z-Score*	Total Score (Data* X .10) + (Public Comment* X .50) + (Viability* X .40)	UCPRPO Points Given
417	-18.31	25	-75	-1.170155049	7.133560014	-12.03814897	-2.195866591	100
892	-16.94	32	-25	-0.906203509	8.475579642	-2.452294477	2.228073364	
893	-16.11	25	-20	-0.747716742	7.133560014	-1.493709028	2.106397046	
889	-15.83	26	-65	-0.693610345	7.325277103	-10.12097807	-1.257002455	100
262	-15.37	24	-15	-0.606643738	6.941842924	-0.535123579	2.44135899	
874	-8.52	24	-25	0.707799403	6.941842924	-2.452294477	1.937379259	
420	-6.67	37	-70	1.061325717	9.434165091	-11.07956352	-0.445894227	100
1277	-6.15	37	-50	1.162531252	9.434165091	-7.245221722	1.108083598	
891	-5.99	5	-70	1.192673012	3.299218217	-11.07956352	-2.873603518	100
Mean	-12.21	26.11	-46.11					
Standard Deviation	5.22	9.55	24.72					
Note: For the Regional Highway category the lowest 12 z-scoring projects receive the highest prioritization and receive 100 points each. This example highlights the 4 priority projects based on receiving the lowest z-scores as an example only.								

The Formula for computing the Z-Scores is:

$$Z = \frac{X - M}{SD}$$

Z= Z-Score; X=Raw Score; M=Mean; SD=Standard Deviation

The Z-Scores will then be weighted based upon the criterion weights required. Note that in the event of a tie between projects the project with the highest data-driven score will prevail. Once the scores have been tabulated they will be published on the UCRPO website (www.ucprpo.org) for public review.

SCHEDULE AND PUBLIC OUTREACH

UCRPO Prioritization Process Schedule: FY 2017-2018

- **September 2017:**
 - a. Projects - Submission of new Transportation Projects to the TCC and TAC Committee meetings. After submittal, all projects will be posted to the UCRPO web site <http://ucprpo.org/Projects/SPOT.html> for Public Review.
 - b. Methodology - The UCRPO will develop a SPOT project ranking methodology for preliminary approval by the TAC at its January, 2018 meeting.

- **July-January 2017-2018:**
 - a. Projects - Submission of projects will be submitted through NCDOT SPOT ON!line between July, 2017 and September 30, 2017.
 - b. Methodology - The TCC/TAC Committees will present the proposed UCRPO Ranking Criteria Methodology for public review at the TAC's January, 2018 meeting. The proposed methodology will be posted on the UCRPO website to provide a 30 day public review period.

- **January 2018:**

Methodology - At the TAC meeting the public will be heard and comments will be considered on the proposed UCRPO SPOT 5.0 Prioritization Ranking Criteria Methodology. After considering all public comment the TCC/TAC will then approve the final methodology. The final SPOT 5.0 Prioritization SPOT Quantitative scores will be posted on the UCRPO website (www.ucprpo.org) once received from NCDOT for public review.

- **April-June 2018:**

Regional Projects - At the TCC/TAC meetings, members will hear and consider any public comments on Regional projects to be scored by the UCRPO. After hearing public comments and receiving/reviewing the SPOT 5.0 scores for the projects, all projects will be scored utilizing
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the adopted Ranking Methodology and the preliminary results of the scores will be posted on the UCRPO website for a 30 day public review period. Final point allocation for Regional projects by the TAC will be adopted at the June 2018 TAC meeting.

- **September-October 2018:**

Division Projects - At the TCC/TAC meetings, members will hear and consider any public comments on Division projects to be scored by the UCPRPO for SPOT P5 projects. The TCC/TAC will then take into consideration any public comments and approve the projects scores for submittal to NCDOT by the October, 2018 deadline. Final point allocation for Division projects by the TAC will be adopted at the October 2018 TAC meeting.

POINT ASSIGNMENT PROCESS

Point Allocation:

Once scores have been computed for each project, the projects with the lowest Z-Scores will be used to determine which projects receive the 100 point allocation for each mode. The maximum number of points any project can receive is 100. All projects receiving points will receive the highest maximum points of 100. Points for each transportation mode will be allocated for the Region and Division categories as follows:

Region Level Projects

- Highway – The top 13 Z-Scoring highway projects will receive 100 points each.
- Transit – The top single Z-Scoring transit project will receive 100 points.
- Rail – The top single Z-Scoring rail project will receive 100 points.

Division Level Projects

- Highway – The top 8 highway Z-Scoring projects will receive 100 points each.
- Transit – The top 3 Z-Scoring transit projects will receive 100 points each.
- Aviation – The top 2 Z-Scoring aviation projects will receive 100 points each.
- Rail – The top 1 Z-Scoring rail project will receive 100 points.
- Bike/Pedestrian – The top 1 bike/pedestrian Z-Scoring project will receive 100 points.

Note: Any points not allocated in non-highway modes will transfer to the next highest Z-Scoring project with the consensus of the TAC Members on which transportation mode to apply the points. For example if there are no rail projects competing within the Division Level the TAC will vote on which transportation mode the points should be allocated. The next top Z-Scoring project within the elected mode will receive the points.

For each Regional and Division projects the preliminary allotted point's allocation will be posted to the UCPRPO website (www.ucprpo.org) for public review and comment during the 30 day comment period prior to being finalized.

Final Point Allocation:

Once the public comment period ends the UCPRPO will hear from the public at their regularly scheduled meetings in June and October, 2018 to hear final public input. Afterwards the TAC will be asked to approve the final point allocation. All public comments received and all final point assignments and any justification/rationale for point assignment which deviates from this local Methodology will be placed on the UCPRPO website (www.ucprpo.org) and documented in meeting minutes.

MATERIALS SHARING

During the entire STI prioritization process the Upper Coastal Plain Rural Planning Organization (UCPRPO) will maintain a website with up to date information on public input opportunities. The website will include:

1. Link to the NCDOT STI Prioritization Resources website:
<https://connect.ncdot.gov/projects/planning/Pages/PrioritizationResources.aspx>
2. Adopted local input methodology document.
3. Highlights of schedule milestones, as well as specific public comment and public meeting schedules when available.
4. Preliminary and final local input point assignment sheet(s) (including record of deviations, as applicable).

The UCPRPO Prioritization website url is: <http://www.ucprpo.org/SPOT.html>

**UPPER COASTAL PLAIN RURAL PLANNING ORGANIZATION
TRANSPORTATION ADVISORY COMMITTEE**

**RESOLUTION ADOPTING THE UPPER COASTAL PLAIN RURAL PLANNING ORGANIZATION'S
(UCPRPO) STRATEGIC TRANSPORTATION INVESTMENT ACT (STI) RANKING METHODOLOGY**

WHEREAS, the Upper Coastal Plain Rural Planning Organization provides transportation planning services for Edgecombe County, Johnston County, Nash County and Wilson County, and

WHEREAS, as per Session Law 2012-84 amended Section 2 of the General Statutes 136-18 Prioritization Process; and

WHEREAS, House Bill 817 outlines the Strategic Prioritization Funding Plan for Transportation Investments; and

WHEREAS, based on this legislation Rural Transportation Planning Organizations (RPOs) have been given an opportunity to provide their local input into the STI Prioritization Process; and

WHEREAS, the Upper Coastal Plain RPO is located in Regions A as defined by the legislation and the North Carolina Department of Transportation; and

WHEREAS, based on this legislation the amount of input allotted to local input is 15% for the Upper Coastal Plain RPO in Region A; and

WHEREAS, the Upper Coastal Plain RPO is located in Division 4 of the North Carolina Department of Transportation; and

WHEREAS, based on this legislation the amount of input allotted to local input is 25% for the Upper Coastal Plain RPO in Division 4; and

WHEREAS, prioritization (also known as Prioritization 5.0, or P5.0) is primarily a data driven process, involving local assignment of points for projects in the Regional Impact and Division Needs levels by the UCPRPO; and

WHEREAS, the UCPRPO has developed a P5.0 Local Prioritization Input Methodology (UCPRPO Strategic Transportation Act (STI) Ranking Methodology (8/28/17 Revisions)), which is in compliance with state law and NCDOT guidance; and

WHEREAS, the P5.0 Local Prioritization Input Methodology has received conditional approval from NCDOT; and

NOW THEREFORE, be it resolved by the Upper Coastal Plain Rural Planning Organization's Transportation Advisory Committee that the UCPRPO Strategic Transportation Act (STI) Ranking Methodology is hereby adopted this ____ day of _____, _____.

Brent Wooten, Chair
Transportation Advisory Committee

James Salmons, UCPRPO