

Upper Coastal Plain RPO

RANKING METHODOLOGY – (2/14/14 Revisions)

STI Prioritization 3.0 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.

The formula breaks down the Upper Coastal Plain Rural Organizations (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 UCPRPO 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% UCPRPO Input	25% UCPRPO Input

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

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

- 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 methodology will tentatively be approved by the TAC in its March, 2014 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 prior to the TAC meeting in May, 2014. 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 1,400 points based upon population. The UCRPO TAC will preliminarily rank transportation projects by allocating its allotted 1400 points to projects at its May, 2014 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. Prior to the TAC July, 2014 meeting there will be another public meeting/hearing to provide the public an opportunity to submit their comments. After all public input is received the TAC will be asked to approve the final project points allocation.

UCRPO POINT ALLOCATION METHODOLOGY

As part of the ranking process the UCRPO will have 1400 points to allocate to its Regional Level projects and 1400 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:

**UCRPO POINT ALLOCATION
REGIONAL PROJECTS**

MODE	POINTS ALLOCATED
Highway	1200 Points (12 Projects)
Transit	100 Points (1 Project)
Aviation	No Projects Applicable
Rail	100 Points (1 Project)
Bike/Pedestrian	No Projects Applicable

**UCRPO POINT ALLOCATION
DIVISION PROJECTS**

MODE	POINTS ALLOCATED
Highway	700 Point (7 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 10%. 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:</p> <p>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>
Upper Coastal Plain Rural Planning Organization Transit Ranking Criteria - Division	
Quantitative Criteria	<p>NCDOT Data-Driven Scores = 30% The data-driven scores provided by NCDOT will be weighted at 30%. http://www.ncdot.gov/strategictransportationinvestments/</p>
Qualitative Criteria (This is measured by a numerical	<p>Transit Expansion = 30% This criterion will be applied to transit projects that increase service to citizens versus projects which do not.</p>

<p>exercise described in Section Qualitative Criteria Measurement)</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>
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<p align="center">Upper Coastal Plain Rural Planning Organization Aviation Ranking Criteria – Division</p>	
<p>Quantitative Criteria</p>	<p>NCDOT Data-Driven Scores = 20% The data-driven scores provided by NCDOT will be weighted at 10%. http://www.ncdot.gov/strategictransportationinvestments/.</p>
<p>Qualitative Criteria (This is measured by a numerical exercise described in Section Qualitative Criteria Measurement)</p>	<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 10%. 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>Aviation Operational Improvements 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 10%. 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 = 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>

UCPRPO Prioritization Process Schedule: FY 2013-2014

- **November 2013:**
 - a. Projects - Submission of new Transportation Projects to the TCC and TAC Committee meetings. After submittal, all projects will be posted to the UCPRPO web site <http://ucprpo.org/Projects/SPOTProjects.html> for Public Review.
 - b. Methodology - The UCPRPO will develop a SPOT project ranking methodology for preliminary approval by the TAC at its March, 2014 meeting.

- **January-February 2014:**
 - a. Projects - Submission of projects will be submitted through NCDOT SPOT ONline between January 21, 2014 and February 21, 2014.
 - b. Methodology - The TCC/TAC Committees will present the proposed UCPRPO Ranking Criteria Methodology for public review at the TAC's March, 2014 meeting. The proposed methodology will be posted on the UCPRPO website to provide a 30 day public review period.

- **March 2014:**

Methodology - At the TAC meeting a public hearing will be held to consider any public comments on the proposed UCPRPO SPOT 3.0 Prioritization Ranking Criteria Methodology. After considering all public comment the TCC/TAC will then approve the final SPOT 3.0 Prioritization Ranking Criteria Methodology and submit to NCDOT for approval by May 1, 2014 deadline. SPOT Quantitative scores will be posted on the UCPRPO website (www.ucprpo.org) once received from NCDOT for public review.

- **May 2014:**

Projects - At the TAC meeting a public hearing will be held to consider any public comments on projects to be scored by the UCPRPO. After the public hearing and receiving/reviewing the SPOT 3.0 scores for the projects, all projects will be scored utilizing 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.

- **July 2014:**

Projects - At the TCC/TAC meetings a public hearing will be held to consider any public comments on the proposed UCPRPO SPOT 3.0 Scoring. The TCC/TAC will then take into consideration any public comments and approve the projects scores for submittal to NCDOT by the July 31, 2014 deadline.

Qualitative Public Comment Criteria Measurement:

TAC members will hear from the UCPRPO Community at each of the public hearing/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

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 criteria 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 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 UCPRPO website (www.ucprpo.org) for public review.

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 12 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 7 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.

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 hold a public hearing/meeting in July, 2014 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).