



## **SPOT 4.0 Prioritization Process**

### *The Mid-Carolina Rural Planning Organization*

Bladen, Cumberland, Harnett, & Sampson Counties

**Introduction:** As part of the implementation of House Bill 817, all Rural and Metropolitan Planning Organizations (RPOs and MPOs) are now required to develop a local ranking process for projects across all modes of transportation (highway, bicycle/pedestrian, public transit, aviation, rail, and ferry).

**Applicability:** This process will be used to rank all projects within the Mid-Carolina RPO Boundaries in Bladen, Cumberland, Harnett and Sampson Counties, that fall into the Regional or Division funding levels. Funding Levels are designated according to the 2013 Strategic Transportation Investments law.

**Schedule:** The Mid-Carolina RPO solicited new candidate projects beginning on August 25, 2015. The RPO, working through and with the Mid-Carolina RTCC and RTAC, requested projects from the local member governments and transportation planning partners (counties, towns, transit departments, airports, etc.). Projects will be received until the September 22, 2015 RTAC Meeting, where the project list will be approved. Projects are required to be submitted to the North Carolina Department of Transportation Strategic Prioritization Office of Transportation (SPOT) by November 20, 2015.

**Local Point Methodology:** This process, along with the local point methodology, will be considered for approval by the RTAC at their January 26, 2016 meeting and a final methodology will be sent to the SPOT Office for their final approval no later than April 1, 2015.

**Project Rankings:** The Mid-Carolina RTCC and RTAC will evaluate all projects with their respective funding designation upon their release from the SPOT Office. For Regional projects, final approval and point assignment by the RTAC will take place no later than the May 1, 2016 SPOT Office deadline. For Division projects, final approval and point assignment by the RTAC will take place no later than the September 1, 2016 SPOT Office deadline.

**Public Input Process:** This prioritization methodology, along with the project rankings and point assignments will be made readily available to the public. During the point assignment period, the RTAC Meetings will all be advertised in each of the four (4) counties' major newspapers. The advertisements will let it be known that project prioritization will be discussed, and will include the Mid-Carolina RPO Website ([http://www.mccog.org/regional\\_transportation\\_document.asp](http://www.mccog.org/regional_transportation_document.asp)), which will include links to all of these documents. The advertisements and website ([http://www.mccog.org/regional\\_contact.asp](http://www.mccog.org/regional_contact.asp)) also provide contact information for the public to reach RPO staff for input.



**Ranking Formula:**

<b>Criteria</b>	<b>Score Range</b>
<p align="center"><b>Safety Score</b></p> <p align="center">Maximum 30 Points</p>	<p align="center">&gt;60 = 30 points            40.01 – 60 = 20 points            20.01 – 40 = 10 points            &lt;20 = 0 points</p>
<p align="center"><b>Congestion (V/C Ratio)</b></p> <p align="center">Maximum 30 Points</p>	<p align="center">&gt;1.99 = 30 points            1.98 – 1.50 = 25 points            1.49 – 1.00 = 20 points            0.99 – 0.80 = 10 points            &lt;0.79 = 0 points</p>
<p align="center"><b>Connectivity (Linkage/Accessibility)</b></p> <p align="center">Maximum 25 Points</p>	<p align="center">Regional (Multiple Counties) = 25 points            County (Multiple Municipalities) = 20 points            Municipal (One Local Government) = 15 points</p>
<p align="center"><b>Functional Classification (Corridor Enhancement)</b></p> <p align="center">Maximum 20 Points</p>	<p align="center">Principal Arterial = 20 points            Minor Arterial = 15 points            Major Collector = 10 points            Minor Collector = 5 points            Not Functionally Classified = 0 points</p>
<p align="center"><b>Multi-Modalism (Modal Connections)</b></p> <p align="center">Maximum 15 Points</p>	<p align="center">4+ Modes = 15 points            3 Modes = 12 points            2 Modes = 9 points            1 Mode = 6 points</p>
<p align="center"><b>Airport Passenger Service (Airport Capacity)</b></p> <p align="center">Maximum 10 Points</p>	<p align="center">Project Increases Capacity = 10 points            Project Does Not Increase Capacity = 0 points</p>
<p align="center"><b>Airport Safety (Safety)</b></p> <p align="center">Maximum 10 Points</p>	<p align="center">Project Improves Airport Safety = 10 points            Project Does Not Improve Airport Safety = 0 points</p>
<p align="center"><b>Transit Expansion (Service Expansion)</b></p> <p align="center">Maximum 10 Points</p>	<p align="center">Project Expands Service = 10 points</p>

**Use of Public Input:** The RPO will accept all public comments between September 1, 2015, and April 1, 2016. The comments will be documented and filed by the RPO and will be shared with the RTCC and RTAC for their information in current and future prioritization processes and transportation planning.

**Final Ranking and Local Points Assignment:** After the scoring of all of the projects submitted using the methodology, points will be assigned to each of the projects. The projects will be ranked based upon the score they receive. The Mid-Carolina RPO has 1400 points to assign toward Regional Projects and another 1400 points to assign toward Division Projects. Each project can receive a maximum of 100 points (except projects that cross MPO/RPO boundaries, in which case the maximum points correspond to the percentage of the project within the RPO Boundary).

The Mid-Carolina RPO proposes giving the top scoring projects in the Regional Funding Category and the top scoring projects in the Division Category the maximum points each, until the 1400 total points per category have been met. The remaining projects will receive no local input points from the RPO, but will receive their points based upon the SPOT assigned quantitative scoring system.

The Mid-Carolina RPO Transportation Advisory Committee (TAC) holds authority over the final ranking and local points assignments. The TAC may modify, based on public input or other documented reasons, the ranking and points assignment prior to approval. All final point assignments and any final adjustments made to the scoring by the TAC will be posted to the website and will be available for review at the RPO offices.

## **CRITERIA DEFINITIONS**

**Safety Score (SAFETY)** – a calculation based on the crash frequency and severity along sections of a particular roadway. The safety score is the score generated in the quantitative scoring process and is calculated in accordance with the SPOT calculation detailed in Attachment 1 of this document. This criterion applies to highway projects only.

**Congestion - Current Volume/Capacity Ratio (MOBILITY)** – The ratio of the most recently available average daily traffic volume on the highest volume segment of the highway relative to the design capacity of that highway. A ratio of one (1) indicates that the current volume of traffic is equal to the capacity of the highway to safely handle that amount of traffic. This is a measurement of traffic congestion. This criterion may apply to Highway, Transit, or Bike Ped projects. For transit and Bike/Ped projects, the project must be within ½ mile of a roadway segment with a known V/C ratio to receive points under this criterion. In that case, the closest roadway segment to the project with a V/C Ratio score will be used.

**Connectivity (ACCESSIBILITY/LINKAGE)** – This criterion examines how many areas benefit from the project (defined by project touching or crossing boundary).

- Regional (multiple counties)
- County (multiple municipalities within one county)
- Municipal (one local government)

This criterion may apply to Highway, Transit, Rail, or Bike Ped projects.

**Functional Classification (CORRIDOR ENHANCEMENT)** – This criterion is used to give priority to the highways that are integral in serving persons and goods movements. These roadways are identified by a functional classification system defined by the Federal Highway Administration and recognized for the type of trip purpose served. A map showing the functional classification will be used to evaluate these criteria. This criterion may apply to Highway, Transit, or Bike Ped projects.

**Multi-Modalism (MULTI-MODALISM)** – Projects will be reviewed for connectivity to other means of transportation such as train stations, airports, designated bicycle routes, or fixed transit routes. This criterion may apply to all modes.

**Airport Passenger Service (AIRPORT CAPACITY)** – Projects primarily intended to increase airport capacity. This criterion applies only to Aviation projects.

**Airport Safety (SAFETY)** – Projects primarily intended to increase airport safety. This criterion applies only to Aviation projects.

**Transit Expansion (SERVICE EXPANSION)** – All STI eligible transit projects will expand service and will receive points. This criterion applies only to Transit projects.

## ATTACHMENT 1: SAFETY SCORE EXPLANATION

The calculation of safety scores varies depending on whether the project is located along a roadway segment or at an intersection:

**Segments** → (Crash Density x 33%) + (Severity Index x 33%) + (Critical Crash Rate x 33%)

**Intersections** → (Crash Frequency x 50%) + (Severity Index x 50%)

Safety scores for segment projects will be calculated automatically in the SPOT On!ine tool, based on a GIS safety score data layer provided by the Mobility and Safety Division. This layer contains the Crash Density, Severity Index, and Critical Crash Rate scores for all segments on state-maintained roadways (each safety component is scored using a 0-100 point scale). Scores are based on a 2010-2012 crash data.

Intersection safety scores will be calculated manually by the Mobility and Safety Division.

Definitions for each safety component are as follows:

- **Crash Density:** Number of reported crashes per mile.
- **Severity Index:** Locations with a high severity index have higher than average injury rates and/or more severe injuries. This index uses the reported "Crash Severity" data described below. NCDOT has established "Equivalent Property Damage Only" (EPDO) coefficients which are used to compare crash severity types among each other. One "B-injury" crash or "C-injury" crash is equivalent to 8.4 "PDO" crashes. One "K-injury" crash or "A-injury" crash is equivalent to 76.8 "PDO" crashes. The severity index of a location is equal to the total EPDO divided by the number of crashes.
  - Crash Severity:** Crash severity is reported based on the "KABCO" scale. The crash injury status is the most severe injury to a person involved in the crash.
    - K-Fatal – A death results from injuries within 12 months after the crash.
    - A-Disabling – Prevents the person from performing normal activities for at least one day.
    - B- Evident – Obvious injury.
    - C- Possible – No visible injury may have momentary loss of consciousness.
    - O- Property Damage Only (PDO).
- **Critical Crash Rate:** A statistically derived number, which is often used a screening tool to identify locations where crash rates are higher than should be expected for a given facility type and where further engineering investigations may be considered. Crash Rate is defined for a section of highway as the number of crashes per 100 million vehicle miles travelled.
- **Crash Frequency:** The number of reported crashes during a given timeframe.