

Prioritization 3.0 Aviation Scoring Criteria Summary Report

May 2014

In 2013, the North Carolina General Assembly created the Strategic Transportation Investments Act (STI) to strengthen the state's economy and provide a new formula to direct construction funds through strategic transportation investments. Governor Patrick McCrory signed the Act on June 26, 2013. Governor McCrory and the N.C. Department of Transportation (NCDOT) are committed to improving the quality of life for citizens in North Carolina. The desire is to find more efficient ways to better connect all North Carolinians - to jobs, health care, education and recreational experiences. The STI law will help make that possible by better leveraging existing funds to enhance the state's infrastructure, providing greater opportunity for economic growth.

The STI law outlines a new Strategic Mobility Formula (SMF) which 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.

It was apparent even in the early stages of the STI draft bill that the identification of scoring criteria, methodologies, and transportation data to quantify the need of a future project would be critical to potential bill implementation. A Workgroup (previously established by NCDOT for its Prioritization 3.0 process) provided recommendations for both highway and non-highway scoring methodologies to support bill requirements. The Workgroup consisted of representatives from MPO's, RPO's, NCDOT planning staff, Division Engineers and other advocacy organizations. Aviation Division staff attended meetings and brought forward criteria and data recommendations that would best represent and point to the needs of the state's airports and airport systems. The Division of Aviation used a combination of quantitative criteria to assess each project based on the role of the airport in the overall aeronautical system as measured against the Federal Aviation Administration's (FAA) design criteria and demonstrated needs.

Each airport sponsor, the community or county where the airport resides, develops a plan for the airport referred to as the Airport Layout Plan (ALP). This plan incorporates the current or existing conditions at the airport and shows the long-term or ultimate plan for the airport. These plans are updated as needed by the community to accommodate the aeronautical needs of the community as well as to reflect changes in FAA guidelines. All projects are based on this community developed ALP. The ALP is used by the Federal Aviation Administration as well as the NCDOT Division of Aviation to evaluate the needs of the airport and to prioritize funding.

Two measures, based on project scope, are used to assess each project submitted for consideration in the Strategic Transportation Investment (STI) process. The first measure had been developed and used by the Division of Aviation since 2006. The Division of Aviation developed baseline criteria for the type of airport and community it serves to quantitatively assess the safety, infrastructure health and mobility needs of the airport. Each project is measured against its baseline for prioritization. The second measure is the FAA's Federal Aviation Regulation Order 5100.39. This order defines and quantifies projects using national standard descriptions and prioritizes these projects against the needs of the National Airspace System (NAS).

Funding programed by the NCDOT in STI for Aviation projects is not total. Each sponsor will complete the financial requirements of the project with either local matching funds or a

combination of local and federal funds. The Local and Federal Investment Indexes measure the level of local and federal involvement.

Airports serve their communities in seemingly unnoticeable ways, providing economic and quality of life benefits to the areas surrounding them. The Volume/Demand Index measures activity at the airport as well as the potential impact on employment in the surrounding area. A combination of based aircraft, total operations and Instrument Flight Rules (IFR) operations are used to index the operational use of the airport. Finally, employment density within 10 mile radius or a 15 minute average drive measures the potential economic and quality of life benefits to the businesses and citizen of North Carolina.

The NCDOT Board of Transportation, on November 7, 2013, approved the criteria, weights and measures that will be used in the SMF. The following pages provide a brief description of Aviation’s criterion, how it will be measured, the data sources and the weights associated with a project’s overall score. This summary provides a clear, concise and transparent summary of the data used in the SMF.

Eligibility Definitions for Aviation

- Statewide: Large Commercial Service Airports: Funding not to exceed \$500K per airport project per year
- Regional: Other Commercial Service Airports not in Statewide: Funding not to exceed 300K per airport project per year
- Division: All Airports without Commercial Service: Funding not to exceed \$18.5M for Airports within this category

Criteria	Statewide Mobility	Regional Impacts	Division Needs
	% Wt	% Wt	% Wt
Division Of Aviation Project Rating	40	40	30
FAA ACIP Rating	40	20	10
Local Investment Index	10	5	5
Federal Investment Index	10	5	
Volume / Demand Index			5
	100%	70%	50%

Division of Aviation (DOA) Project Rating

Definition

Projects prioritized and classified within the North Carolina Division of Aviation (DOA) project categories which is based on a data-driven process that was published to all the airports and in use since 2006.

Why use this criteria: Assigns point values based on priority and need of the project.

Formula

Scoring based on points assigned to project as evaluated by NCDOA minimum and recommended criteria

Master Project Categories	Tier 1 Minimum	Tier 2 Recommended
Runway Approach / Safety Area / Protection Zones	100 – 92	31 – 29
Pavement Conditions – Airfield	95 – 91	28
Pavement Construction /Expansion/Modification – Runways	90 – 81	27 – 19
Visual Navigational Aids/Other Part 77 Obstruction	80 – 77	18
Airfield Lighting & Signage – Runway	76 – 73	18 – 15
Instrument Navigational Aids / Weather Reporting Equipment	72 – 65	15 – 13
Pavement Construction /Expansion/Modification – Taxiway and Apron	64 – 54	12 – 11
Terminal building	53 – 50	11
Airfield Lighting & Signage – Taxiway and Apron	49 – 43	10 – 6
Ground Communication	42 – 41	6 – 5
Approach Lighting	40 – 38	4
Aircraft Rescue & Fire Fighting (ARFF) Equipment	37 – 34	3
Storage Buildings	34	3
Wildlife Safety & Security Fencing	33	3
Aircraft Fuel Facilities	32	3

Data Source

- NC Airport Development Plan
- Airport’s Federal Aviation Administration’s (FAA) approved Airport Layout Plan
- NC Airport System Plan

Criteria Percent Weight by STI Category:

- Statewide Mobility – 40%
- Regional Impact – 40%
- Division Needs – 30%

FAA ACIP Rating

Definition

Uses FAA’s Airport Capital Improvement Plan (ACIP) rating system.

Why use this criteria: The ACIP rating serves as the primary planning tool for the FAA for systematically identifying, prioritizing and assigning funds to critical airport development and associated capital needs for the National Airspace System (NAS).

Formula

Priority Equation = $[k5 \cdot P \cdot (k1 \cdot A + k2 \cdot P + k3 \cdot C + k4 \cdot T)] \times 0.75$

A = Large and Medium Hub = 5 points

B = Small and Non Hub = 4 points

Priority Number = $.25P(A + 1.4P + C + 1.2T)$ Non-Primary Commercial

K1 = 1.00

K2 = 1.40

K3 = 1.00

K4 = 1.20

K5 = 0.25

K6 = 0.00

Category	NPIAS-ACIP Standard Descriptions, ACIP Codes and National Priority Ratings Project Description	Airport Code			
		A	B	C	D
		5	4	3	2
Equipment	Acquire Aircraft Rescue and Fire Fighting Vehicle [Part 139 only]	98	95	93	90
Runways	<Apply Friction Course/Groove> Runway	86	84	82	80
	Construct Runway {name} (environmental mitigation)	76	74	72	70
	Rehabilitate Runway {name}	72	70	68	66
	Rehabilitate Runway <Lighting/Electrical Vault>	72	70	68	66
Taxiways	Rehabilitate Taxiway	68	66	64	62
	Rehabilitate Taxiway {name} Lighting	68	66	64	62
Apron	Construct {name} (environmental mitigation)	66	64	62	60
	Rehabilitate {name}	62	60	58	56
	Construct {name}	56	54	52	50
Runways	<Construct/Extend/Improve> Runway {name} Safety Area [Non-Primary Airports]	50	48	47	45
	Install Runway Lighting (HIRL, MIRL, TDZ, LAHSO, or CL)	50	48	47	45
	<Extend/Widen/Strengthen> Runway {name} [to meet standards]	50	48	47	45
Taxiways	Construct Taxiway {name} [includes relocation]	50	49	47	46
	Install Taxiway {name} Lighting (e.g., SMGCS, reflectors, MITL)	47	45	44	42
New Airports	Construct New Airport	44	43	41	40
Equipment	Acquire Aircraft Rescue and Fire Fighting Safety Equipment{describe} [Not part 139]	41	40	38	37
Terminal Development	Expand Terminal Building	40	39	37	35
	Construct Terminal Building	40	38	37	35

New Airports	Acquire [existing] Airport	35	34	32	31
Buildings	<Construct/Expand/Improve/Modify/Rehabilitate> {describe} Building	34	32	31	29

Airport Code: Primary Commercial Service Airports Non Primary Commercial Service, Reliever, and General Airports
 A – Large and Medium Hub Based Aircraft or Itinerant Operations
 B – Small and Non Hub A – 100 or 50,000 C – 20 or 8,000
 B – 50 or 2,000 D ≤ 20 and < 8,000

Data Source

- Federal Aviation Regulation (FAR) Order 5100.39
- Airport Capital Improvement Plan

Criteria Percent Weight by STI Category:

Statewide Mobility – 40%; Regional Impact – 20%; Division Needs – 10%

Local Investment Index

Definition

Provides greater points for those projects that have a higher percent of local funding sources (i.e. local, FAA non-primary entitlement or public-private funds)

Why use this criteria: Lessens burden on state capital dollars and measures financial commitment of the airport to the project.

Formula

Local participation for the project compared to state participation toward the project cost. Scored by range of points depending on ratio of local to state investment.

Number of points based on percent of local funds compared to state funds toward the project.

Project Cost	FAA Funds	State Funds	Local Funds	State Share	Points Awarded
\$ 1,000,000	\$ 0	\$ 900,000	\$ 100,000	90%	10
\$ 1,000,000	\$ 0	\$ 800,000	\$ 200,000	80%	20
\$ 4,000,000	\$ 3,100,000	\$ 500,000	\$ 400,000	56%	44

Data Source

Quantified at project request stage by the airport sponsor.

Criteria Percent Weight by STI Category

Statewide Mobility – 10%

Regional Impact – 5%

Division Needs – 5%

Federal Investment Index

Definition

A measurement of the project's federal funds compared to state funds, and provides greater points for projects with higher percentage of federal funds vs. state funds.

Why use this criteria: To prioritize projects with greater return on investment for state funding participation.

Formula

Federal participation for the project compared to state participation toward the project cost. Scored by range of points depending on ratio of federal to state investment.

Project Cost	FAA Funds	State Funds	Local Funds	State Share	Points Awarded
\$ 500,000	\$ 0	\$ 450,000	\$ 50,000	100%	0
\$ 1,000,000	\$ 700,000	\$ 200,000	\$ 100,000	22%	78
\$ 4,000,000	\$ 3,300,000	\$ 300,000	\$ 400,000	8%	92
\$ 6,000,000	\$ 4,900,000	\$ 500,000	\$ 600,000	9%	91

Data Source

- FAA Airport Improvement Program
- NCDOA
- Airport Capital Improvement Plan

Percent Weight by STI Criteria

Statewide Mobility – 10%
Regional Impact - 5%
Division Needs – N/A

Volume/Demand Index

Definition

Index representing traffic (aircraft operations) plus employment density (jobs near the airport).

Why use this criteria: Identifies projects where there is more traffic and in areas with more user demand.

Formula

Based aircraft, aircraft operations, recorded Instrument Flight Rule (IFR) operations, and employees within 10 miles or 15 minute average daily drive time of the airport

$$\text{Total Points} = [(BA \times 40\%) + (TO \times 20\%) + (IO \times 20\%) + (ED \times 20\%)] \times 20$$

Scoring is on a 100-point scale, Range of points is 20 to 100

Measure	Point Range	Weight
BA = Based Aircraft	1 - 5	40%
TO = Total Operations	1 - 5	20%
IO = Instrument Flight Rules Operations	1 - 5	20%
ED = Employment Density	1 - 5	20%

Data Source

- NCDOT GIS
- FAA Criteria
- U.S. Census
- NC Airport System Plan

Percent Weight by STI Criteria

- Statewide Mobility – N/A
- Regional Impact – N/A
- Division Needs – 5%