



NORTH CAROLINA
Department of Transportation

P8 Modernization Subcommittee Meeting #1

NCDOT SPOT Office

December 5, 2024

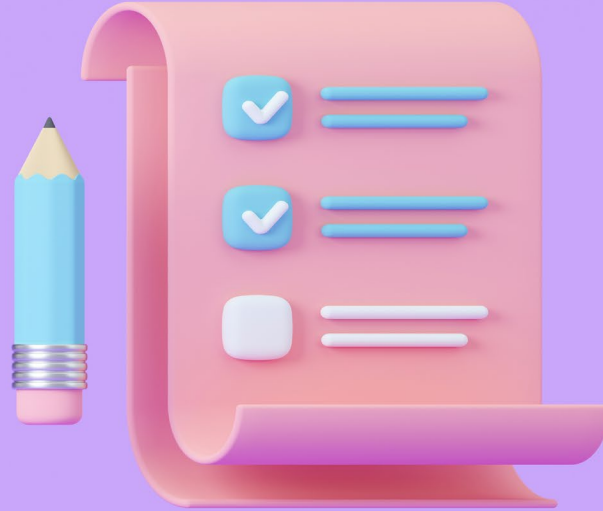
Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Highway Modernization



Agenda

- Introduction
- Background
- Problem Definition
- Goals Definition
- Meeting Frequency
- Next Steps
- Adjourn



Background

- What are Highway Modernization projects?
 - These are projects with the intent of improving a substandard or aging roadway to current design standards or improving an existing freeway to Interstate design standards
- What SITs are used for scoring Modernization projects?
 - SIT 16 – Modernize Roadway
 - SIT 17 - Upgrade Freeway to Interstate Standards
- Why was there a need to have a different criteria for Modernization projects?
 - Since Modernization projects rarely address congestion concerns, the P6 Workgroup came to consensus on a set of default criteria weights for evaluating these projects that align more with their intent as compared to the Mobility projects.

Background - Continued

- All projects were scored under the Mobility Criteria in P1, P3 through P5
- P2 used a similar method to P6 for scoring Modernization projects (slide 6)
- P6 Workgroup
 - The Highway Subcommittee discussed criteria and weights for Mobility vs. Modernization projects
 - Developed Modernization weights for Statewide, Regional, and Division categories
 - Reached consensus on Highway Modernization weights (slide 7)
- P7 Workgroup
 - Reached consensus to use P6 Modernization Criteria weights
 - Added one tweak to allow Road Diet projects to compete as either Mobility or Modernization projects
 - Road diet projects scored as Mobility projects by default unless requested by submitters.



P2 Highway - Modernization

STATEWIDE:

Congestion	10%
Benefit/Cost	10%
Safety	20%
Lane Width	20%
Shoulder Width	20%
Pavement Cond.	20%

REGIONAL:

Congestion	5%
Benefit/Cost	5%
Safety	20%
Lane Width	15%
Shoulder Width	15%
Pavement Cond.	10%

DIVISION:

Congestion	5%
Benefit/Cost	5%
Safety	15%
Lane Width	10%
Shoulder Width	10%
Pavement Cond.	5%



P6/P7 Highway - Modernization

Criteria	Measure Description	Statewide Mobility (100%)	Regional Impact (70%)	Division Needs (50%)
Congestion	[Volume] and [Volume/Capacity]	10%	5%	-
Safety	SEG: Crash Density, Crash Severity, Crash Rate, Safety Benefits INT: Crash Frequency, Crash Severity, Safety Benefits	25%	25%	20%
Freight	[Truck Volumes] and [Truck Percentage]	25%	10%	5%
Lane Width	Existing lane width vs. DOT design standard	10%	10%	5%
[Paved] Shoulder Width	Existing paved shoulder width vs. DOT design standard	20%	10%	10%
Pavement Condition	Existing Pavement Condition Rating (PCR) along the project	10%	10%	10%

Project Types: Modernize Roadway and Upgrade Freeway to Interstate Standards



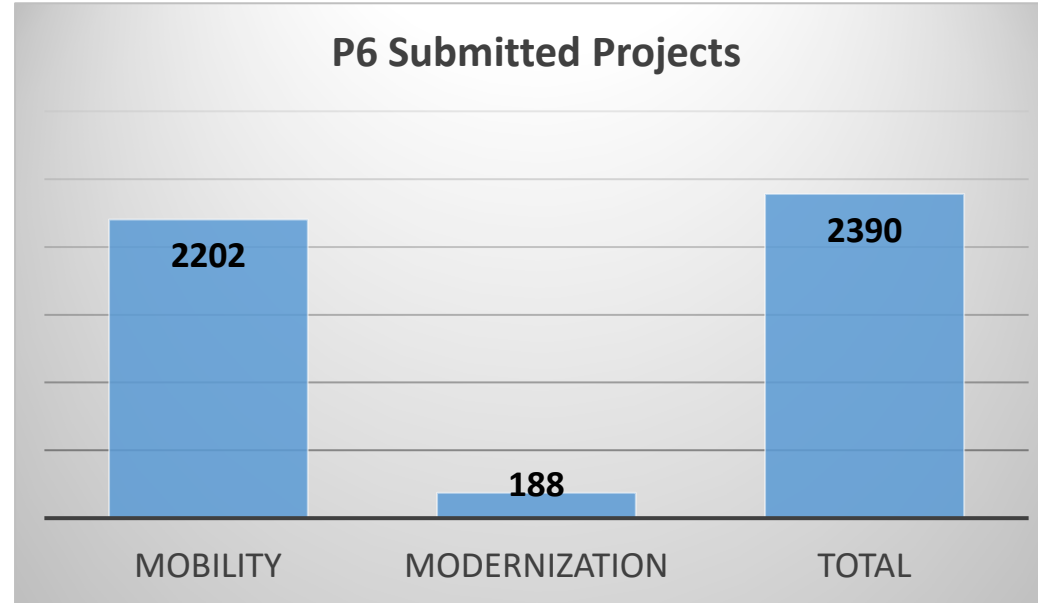
P6/P7 Highway - Mobility

Criteria	Measure Description	Statewide Mobility (100%)	Regional Impact (70%)	Division Needs (50%)
Congestion	[Volume] and [Volume/Capacity]	30%	20%	15%
Benefit/Cost	[10-year Travel Time Savings benefit] + [10-year Safety Benefit] / [Cost to NCDOT]	25%	20%	15%
Safety	SEG: Crash Density, Crash Severity, Crash Rate, Safety Benefits INT: Crash Frequency, Crash Severity, Safety Benefits	10%	10%	10%
Freight	[Truck Volumes] and [Truck Percentage]	25%	10%	5%
Economic Competitiveness	TREDIS Model Output: [% Change in Long-Term Jobs] and [% Change in County Economy over 10 years]	10%	-	-
Accessibility / Connectivity	[Measurement of county economic distress indicators] and [degree the project upgrades mobility of the roadway]	-	10%	5%

Project Types: Widening, Intersection/Interchange Improvements, Access Management, and other capacity additions

P6 Modernization Project Scores (Quantitative)

- How many modernization vs mobility projects submitted?



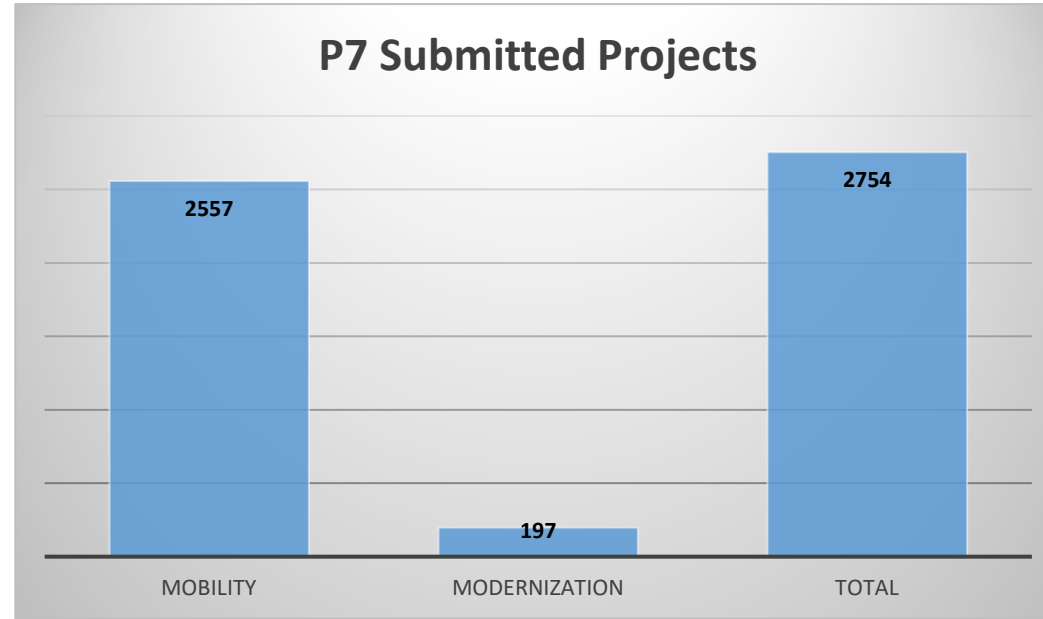
- How did modernization projects score in P6?

P6 Modernization Project Scores			
	Statewide	Regional	Division
Average	58.45	28.55	21.63
Min	28.29	6.74	3.97
Max	76.08	55.19	41.91

P6 Mobility Project Scores			
	Statewide	Regional	Division
Average	55.11	36.01	25.49
Min	2.41	1.61	1.92
Max	96.48	67.00	47.98

P7 Modernization Project Scores (Quantitative)

- How many modernization vs mobility projects submitted?



- How did modernization projects score in P7?

P7 Modernization Project Scores			
	Statewide	Regional	Division
Average	53.89	25.52	15.82
Min	27.98	7.25	1.86
Max	73.38	43.37	35.28

P7 Mobility Project Scores			
	Statewide	Regional	Division
Average	58.96	35.36	22.45
Min	13.56	7.69	3.13
Max	89.98	55.22	45.85

Problem Definition

- What is working well for Modernization projects?
- What could be working better?
- Note that maintaining the status quo is fine if that is what the subcommittee decides

Goals Definition

- What would an ideal solution look like?
- How would we know we have reached that goal?
- What does an ideal future look like?

Discussion/Questions

- Want to look at criteria used for SIT 16 – high number of projects, but majority of projects score a zero; Is the data correct? Is the scaling correct?
- What is working well?
 - The basics – historical deficiency for design criteria, for example
- What could be better?
 - More than just the basics – need to have evaluation process and criteria
 - Need to bring more clarity to the definition of modernization
 - Disheartening to hear that we got zero scores for lane width and paved shoulder width – those are important in rural areas, so we should take a closer look
 - What is the vetting process for determining that projects are correctly categorized as modernization?
 - Submitters identify what they think is the best fit – SPOT verifies that the SIT matches the project description and project purpose
 - Refine cost estimates, particularly for road diets
 - Cost estimation tool is flawed – we need to identify projects to advance and work with feasibility study unit to get an express design completed if we want more accurate cost estimates
 - Highway testing spreadsheet – SPOT to review and see if the sheet can be used to choose mobility or modernization weights
 - We need to review the modernization scores and the scoring process overall
 - Dive deeper into lane width, paved shoulder width, and pavement condition criteria

Meeting Frequency

- When and how often do we want to meet going forward?
- Would the afternoons of virtual meetings work?
 - Note that next virtual meeting is January 28, 2025
- What other days/time would work?

Discussion/Meeting Plan

- December 19th, 2024, at 2:00 pm – 3:30 pm
- Thursdays during weeks of Workgroup In-Person Meetings at 2:00 pm – 3:30 pm
 - January 16th, 2025
 - February 13th, 2025
 - March 13th, 2025
- Afternoons of Workgroup Virtual Meetings at 2:30 pm – 4:00 pm
 - January 28th, 2025
 - February 25th, 2025
 - March 25th, 2025
- May skip or cancel a meeting if needed

Next Steps & Adjourn

- Next Steps
 - Highway testing spreadsheet – SPOT to review and see if the sheet can be used to choose mobility or modernization weights
 - Provide level-setting information on how projects are scored (potentially walk through an example)
 - How common are zero scores for other criteria and for modernization? SPOT to look up and share at next meeting
- Adjourn
 - Next meeting: December 19th, 2024 @ 2:00 PM to 3:30 PM

Meeting Summary

- SPOT office shared information on Modernization
 - Background, criteria/associated SITs, P6 vs P7 scores (min, max, average)
- Discussion Summary
 - The Modernization basics such as bringing deficient standards to current design standards are currently working well
 - There is more to Modernization than meeting the basics
 - Need to review and bring more clarity to the definition of modernization
 - Need an evaluation process and criteria that will capture the current and future meaning of modernization
 - Majority of Modernization projects have a zero score under the *Lane Width criterion* and the *Shoulder Width criterion*
 - Need to review the Modernization scores and the scoring process overall
 - The detail review will address questions such as: Is the correct SIT being used for projects with zero scores and is this the correct criteria for such projects if the data being used is correct?

Thank you!



Meeting Attendance - Virtual

Name	Organization
Amin Hezaveh	NCDOT
Andy Bailey *	NCDOT
Benard Chola *	NCDOT
Brian Murphy *	NCDOT
Chris Lukasina *	Capital Area MPO
David Graham *	High County RPO
Deanna Trebil *	New Bern Area MPO
Drew Finley	Fountainworks
Fredrick D. Haith	NCDOT
Gretchen Belk *	NCDOT
Janet Robertson *	Lumber River RPO
Jason Myers *	NCDOT
Raunak Mishra	Greensboro MPO
Richard Brown *	NCDOT
Rose Bauguess	Southwestern RPO
Saman Jeffers *	NCDOT
Sarah Lee *	NCDOT
Scott Miller	NCDOT
Stephen Sparks	NCDOT
Tristan Winkler *	French Broad River MPO

*Workgroup Participant, Alternate, or Advisory