NORTH CAROLINA
Department of Transportation

P8 Highway Modernization
Subcommittee Meeting #6

NCDOT SPOT Office

February 25, 2025

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

Agenda

- Additional Analysis
  - Scenario F Stats Comparison
  - Scenario G for Lane/Shoulder Width Deficiency % Difference
- Discussion Follow-Up
  - Proposed Modernization Changes/Improvements
  - SIT-16 and SIT-24 Definitions
  - Cross Sections for Modernization projects
- Adjourn

Housekeeping

- Virtual etiquette:
  - When you are not speaking, please mute yourself. This limits disruption from background noise.
  - Feel free to use the “Raise Hand” feature if you have a question. You can also type “Q” in the chat.

Meeting Goals

- ***Desire to reach agreement*** on the following items:
  - Reducing Pavement Condition criteria weight to zero for Modernization scoring
  - Combining Lane Width and Paved Shoulder Width
  - Including a Congestion weight at the Division Needs level
  - Determine which scenarios over-correct Modernization scoring
- ***Finish revising definitions and reach agreement*** for SIT-16 and SIT-24 and discuss addition of cross-sections for Modernization projects in SPOT Online

Additional Analysis

Scenario F and Mobility Stats

Scenario F Results

	Statewide Mobility	Regional Impact	Division Needs
Average Score	60.71	27.60	16.81
Median Score	59.04	27.85	17.01
Top Quartile	72.12	33.16	21.58
Bottom Quartile	54.28	22.75	11.40

VS

Mobility Results

	Statewide Mobility	Regional Impact	Division Needs
Average Score	58.96	35.17	22.45
Median Score	60.22	35.36	22.48
Top Quartile	70.55	41.70	30.48
Bottom Quartile	49.72	29.06	14.28

- Summary
  - Statistical values for Modernization projects are greater than Mobility projects at Statewide Mobility level
  - 197 projects were evaluated for Modernization compared to 1,244 projects for Mobility

P7 Score Analysis without Pavement Condition Criterion

- **Scenario G**: Same weight distribution as Scenario F. Using ***percent difference*** instead of standard difference for combined Lane/Shoulder Width deficiency.

	Existing Weights				Scenario G Weights		
Criteria	**Statewide Mobility** (100%)	**Regional Impact** (70%)	**Division Needs** (50%)	**Criteria**	**Statewide Mobility** (100%)	**Regional Impact** (70%)	**Division Needs** (50%)
Congestion	10%	5%	-	Congestion	10%	10%	10%
Safety	25%	25%	20%	Safety	35%	30%	25%
Freight	25%	10%	5%	Freight	30%	20%	10%
Lane Width	10%	10%	5%	Lane Width & [Paved] Shoulder	25%	10%	5%
[Paved] Shoulder Width	20%	10%	10%	[Paved] Shoulder Width	-	-	-
Pavement Condition	10%	10%	10%	Pavement Condition	-	-	-

P7 High Scoring Modernization Projects – Scenario G

Existing Results

	Statewide Mobility	Regional Impact	Division Needs
Average Score	53.89	25.52	15.82
Median Score	52.28	26.03	14.18
Top Quartile	61.65	29.77	20.37
Bottom Quartile	50.25	21.46	11.28

VS

Scenario G Results

	Statewide Mobility	Regional Impact	Division Needs
Average Score	64.22	28.85	17.46
Median Score	63.35	28.82	17.01
Top Quartile	76.95	33.57	22.38
Bottom Quartile	56.51	24.40	11.88

VS

Mobility Results

	Statewide Mobility	Regional Impact	Division Needs
Average Score	58.96	35.17	22.45
Median Score	60.22	35.36	22.48
Top Quartile	70.55	41.70	30.48
Bottom Quartile	49.72	29.06	14.28

- Summary
  - Statistical values for Modernization projects Scenario G are greater than Mobility projects at Statewide Mobility level

Discussion





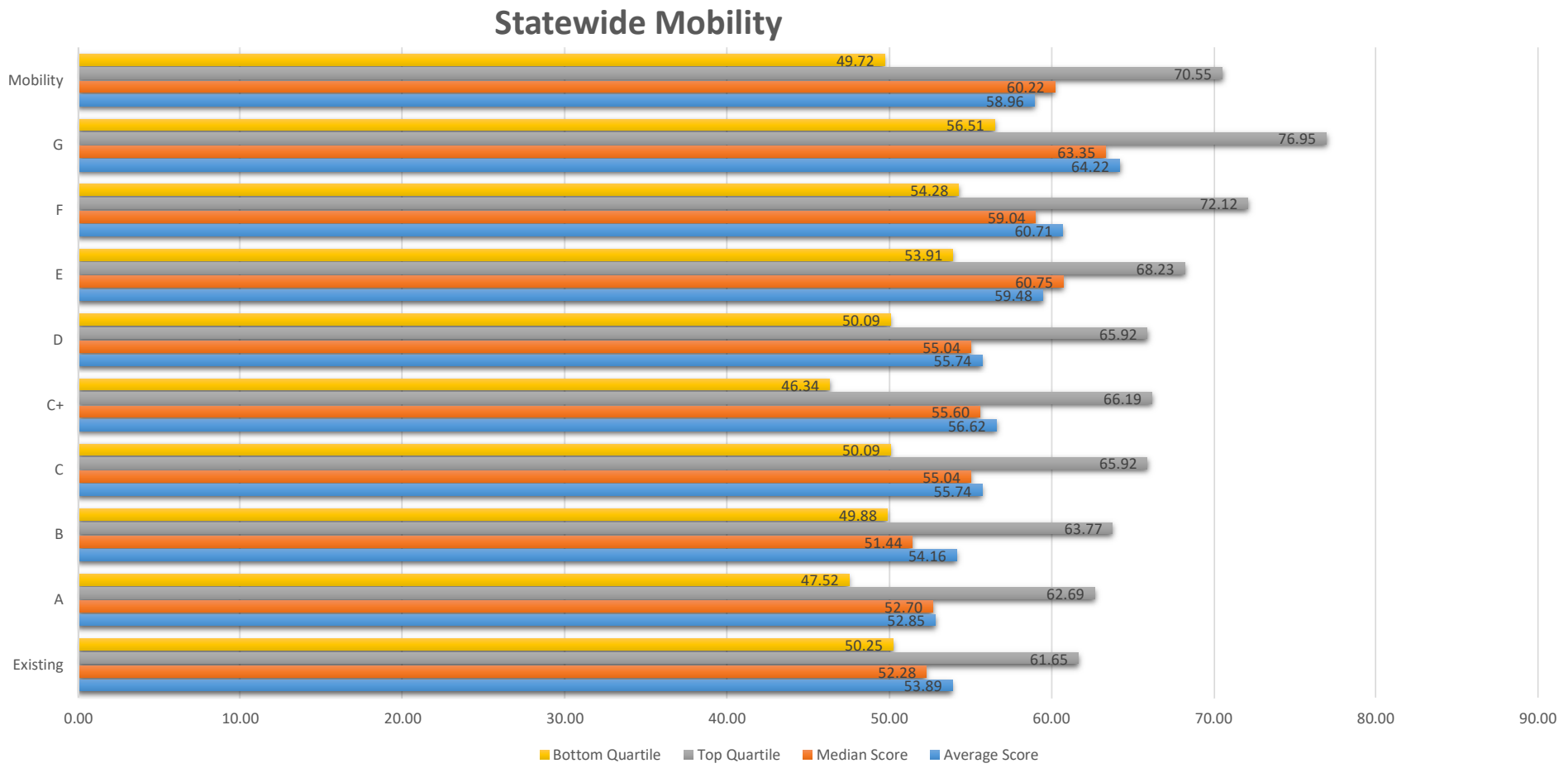




Reference Slide: Scenario Descriptions

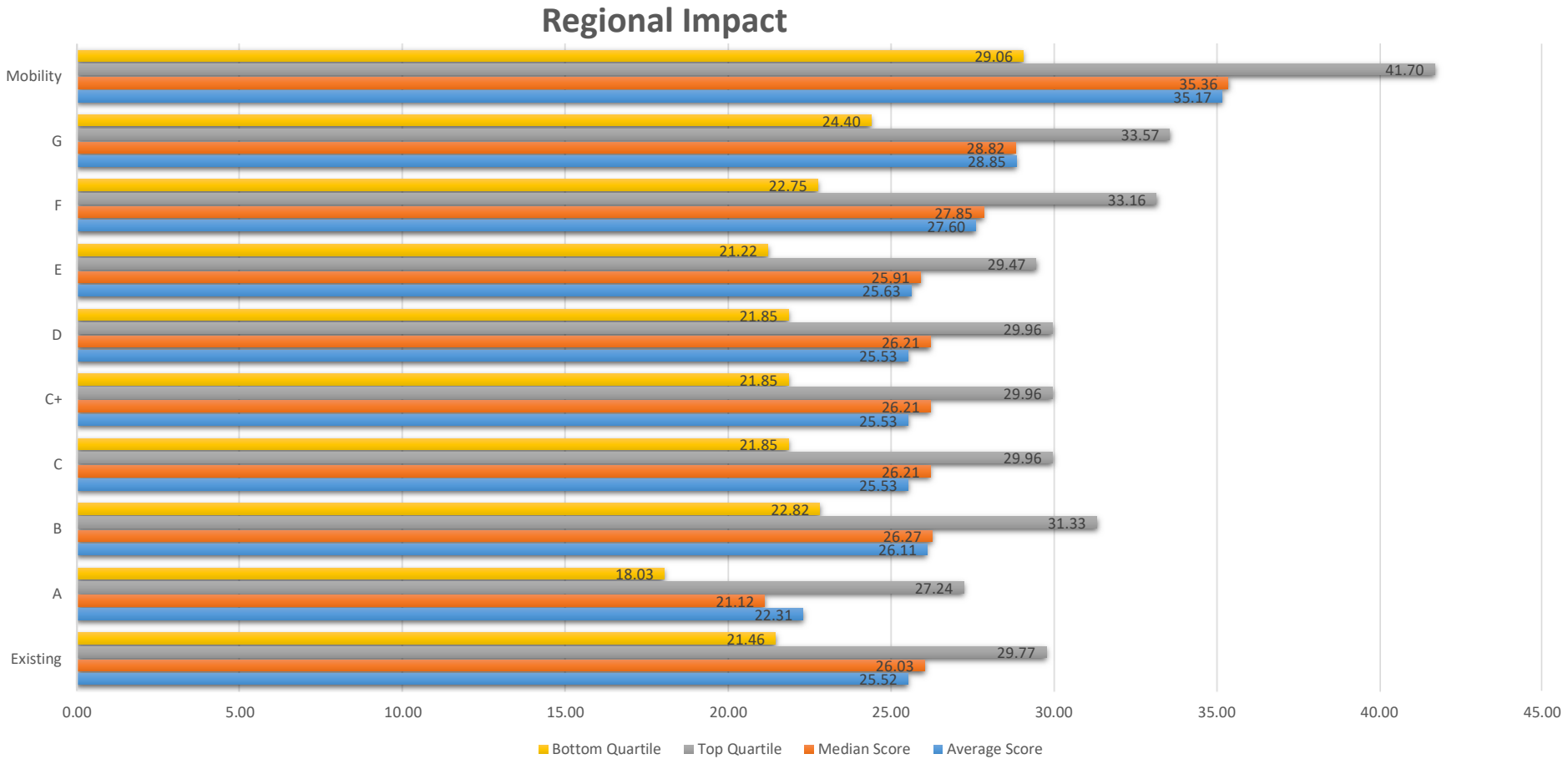
- Scenario A
  - Distribute Pavement Condition weight (10%) to Lane and Shoulder Widths
- Scenario B
  - Add Pavement Condition weight (10%) to Safety
- Scenario C
  - Distribute Pavement Condition weight (10%) to Safety and Freight
- Scenario C+
  - Scenario C plus add 5% from Paved Shoulder Width to Freight at Division Category and distribute (10%) from Paved Shoulder Width to Safety and Freight at Statewide Category
- Scenario D
  - Distribute Pavement Condition weight (10%) to Safety and Freight and add 5% from Paved Width to Congestion @ DN Category
- Scenario E
  - Combine Shoulder and Lane Widths into one criterion
- Scenario F
  - Distribute Pavement Condition weight (10%) to Safety and Freight. Combine Shoulder and Lane Widths and distribute weights: 25% SM, 10% RI, and 5% DN
- Scenario G
  - Same weight distribution as Scenario F. Using *percent difference* instead of standard difference for combined Lane/Shoulder Width deficiency.

Current Scenarios



- What stands out from this data?
- Which scenarios do we think are over-correcting Modernization scoring?

Current Scenarios



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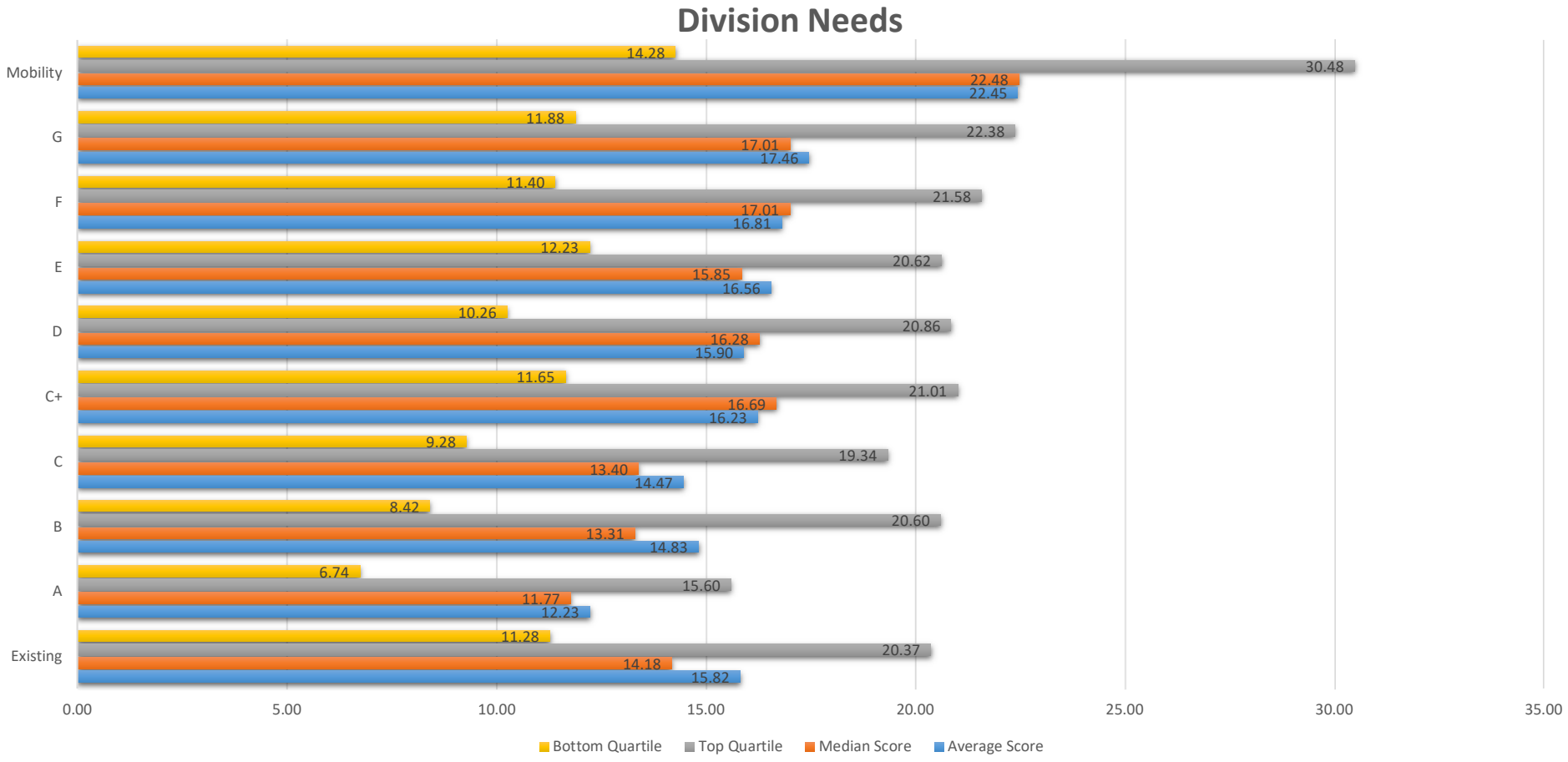

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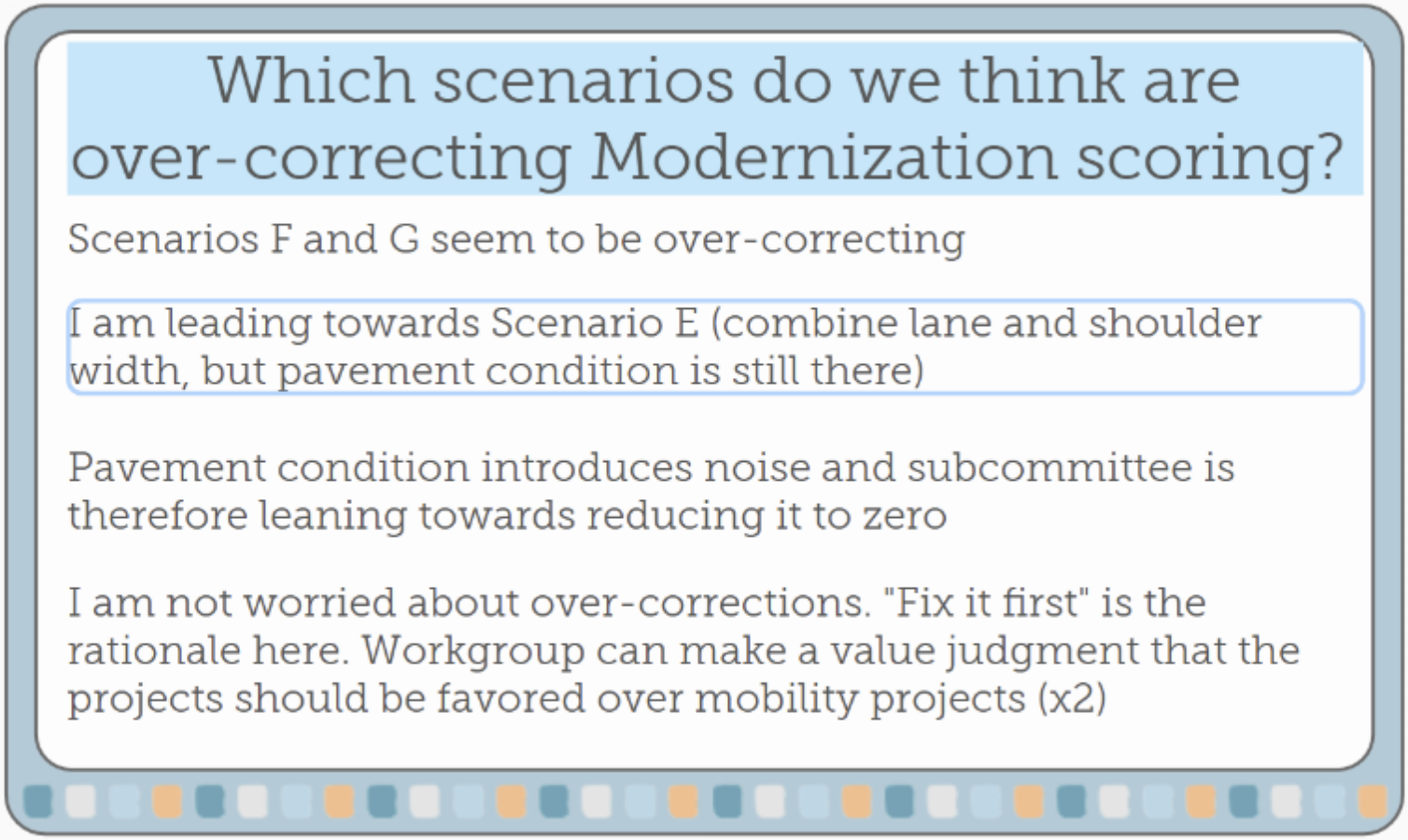
Mural Discussion Notes



Mural Discussion Notes

Which scenarios do we think are over-correcting Modernization scoring?

Scenario F makes the most sense to me (x2)

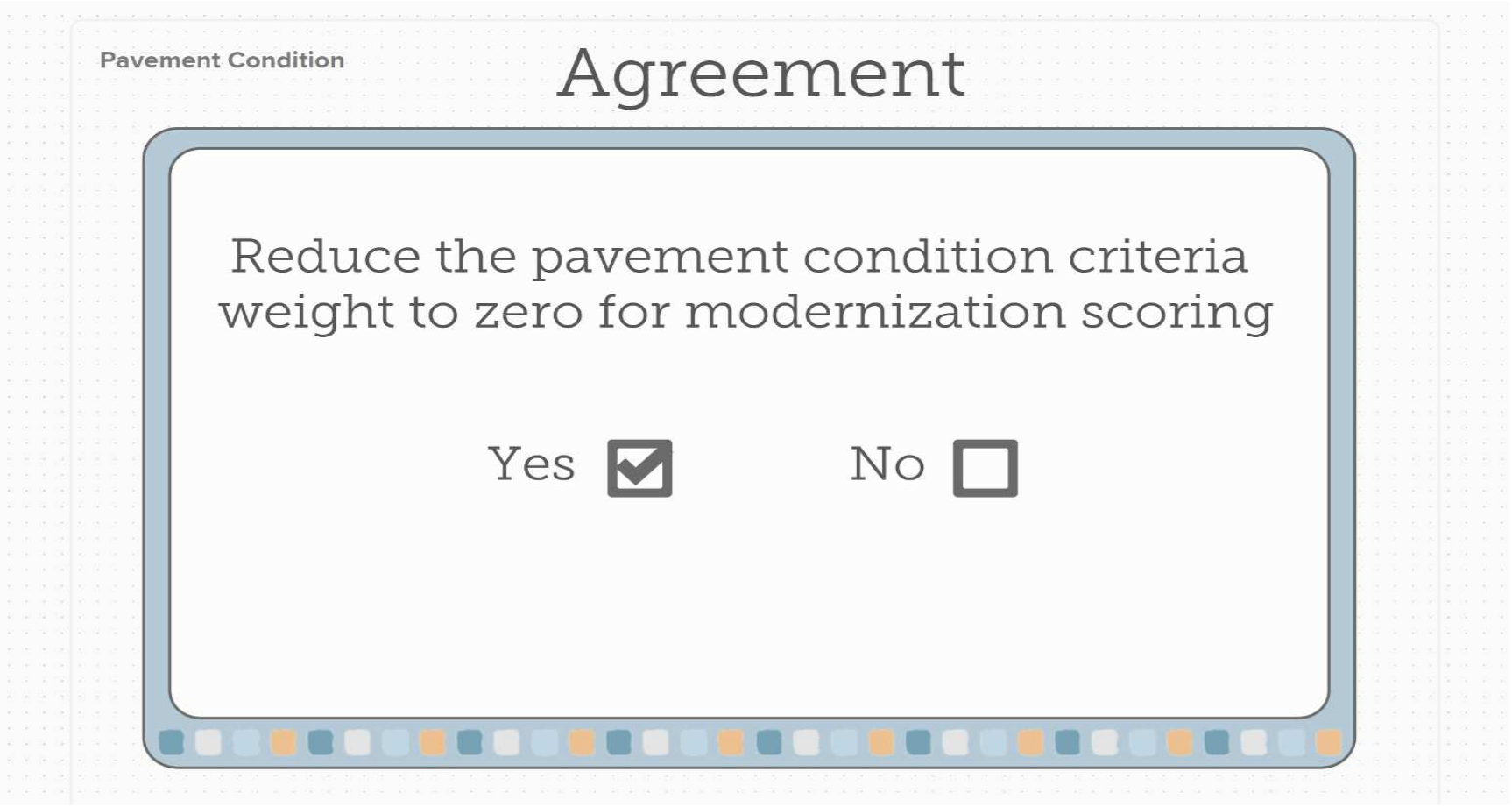
Scenario F is a preferred scenario

Scenario F, but shift pavement condition to safety and congestion, instead of safety and freight.

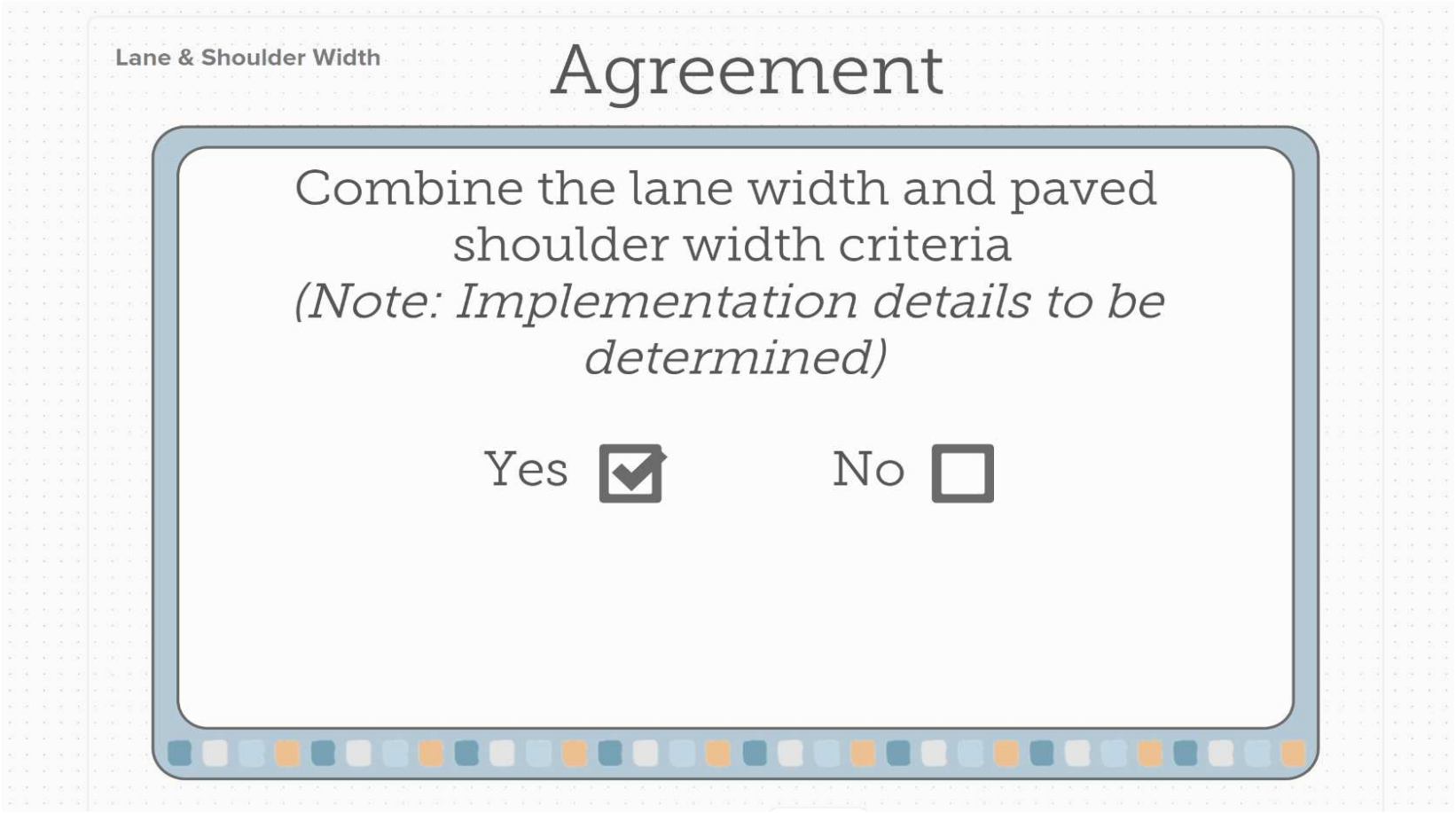
SPOT will run some more testing and make tweaks to Scenario F

I would like to see the calculation for combining lane and shoulder width and the reference standard for each for different facilities

Mural Discussion Notes



Mural Discussion Notes



Mural Discussion Notes

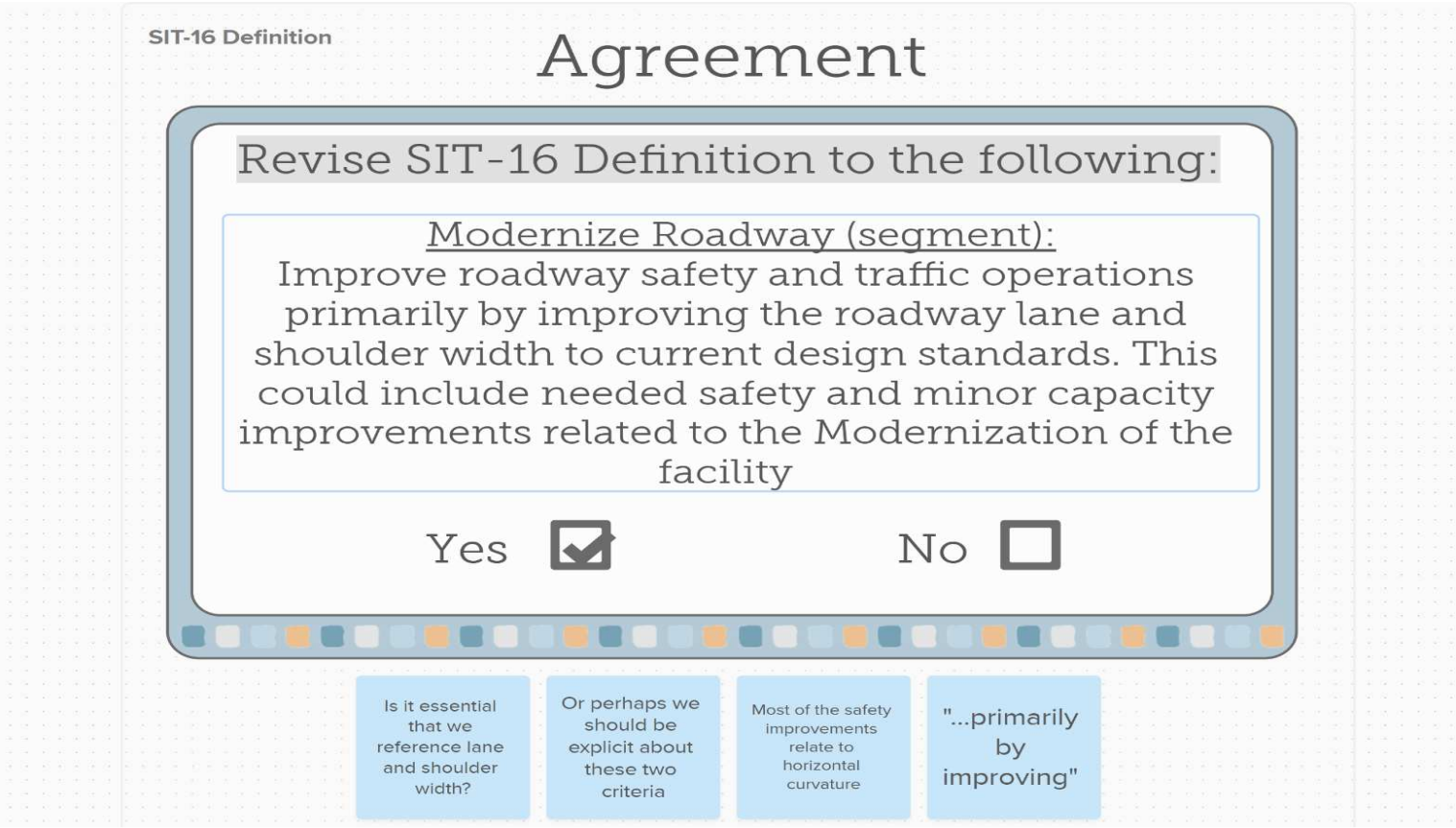
SIT-16 Definition Revision

- ***Desire to reach agreement*** on proposed revision

  - Existing: Modernize Roadway (segment): - Improving a roadway to current design standards primarily by increasing the lane and/or shoulder width. Could also include improving the horizontal or vertical geometry. Could also include adding turn lanes at intersections to help improve mobility on the through route

  - Proposed: Modernize Roadway (segment): - Improve roadway safety and traffic operations primarily by increasing the lane and/or shoulder width to current design standards. This could include needed safety and minor capacity improvements to help improve mobility that are related to the Modernization of the facility

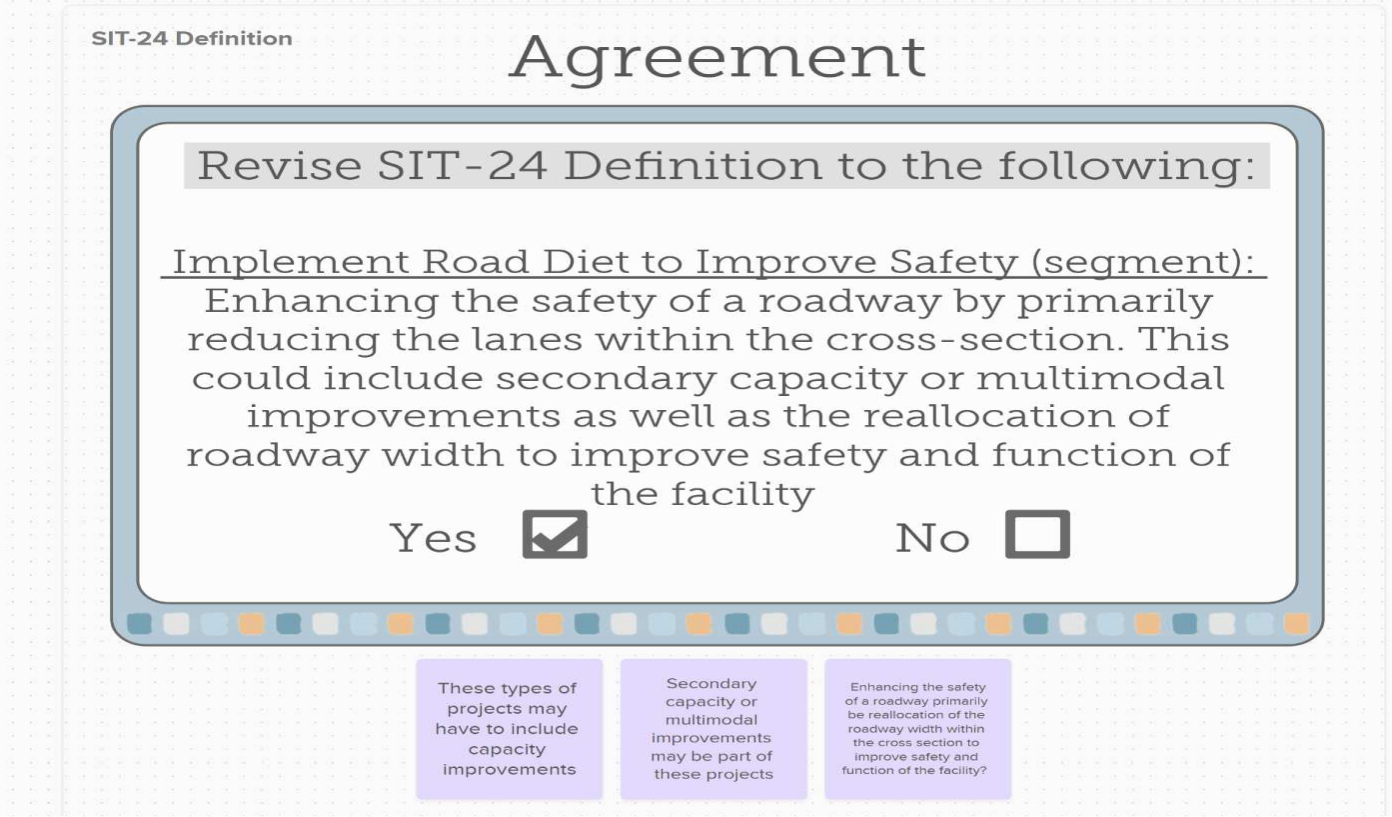
Mural Discussion Notes



SIT-24 Definition Revision

- ***Desire to reach agreement*** on proposed revision
  - Existing: Implement Road Diet to Improve Safety (segment) – Enhancing the safety of a roadway by reducing the lanes within the cross-section
  - Proposed: Implement Road Diet to Improve Safety (segment) – Enhancing the safety of a roadway by primarily reducing the lanes within the cross-section. This could include the reallocation of roadway width to improve safety and function of the facility

Mural Discussion Notes



Modernization Cross-Sections

- ***Improvement Suggested:*** Including cross-sections in SPOT Online for Modernization projects
- ***Desired Outcome:*** Improved cost estimates for Modernization projects
- ***SPOT Office Recommendation:*** Improved use of “Primary Purpose” and “Additional Notes” fields in SPOT Online
- ***SPOT Office Rationale:*** Detailed information is what is needed to improve cost estimates, and it could be provided in these fields in SPOT Online. Submitters could identify a cross-section here if they so desired. Detailed information will help the Feasibility Studies Unit review of cost

Meeting Summary Notes

- The Subcommittee has ***reached agreement*** on the following changes/improvements:
  - Reduce the Pavement Condition criterion weight to zero for Modernization criteria
    - *Rationale for recommendation*: Pavement Condition Rating is a reflection of a facility's status in the pavement rehabilitation program and not necessarily a reflection of need for an improvement. For this reason, it is not very meaningful for project selection.
  - Combine Lane Width and Paved Shoulder Width into one criterion (total deficiency approach)
    - *Rationale for recommendation*: Most of P7 Modernization projects had either a deficiency in Lane Width or Paved Shoulder Width, but not both. The result is Modernization projects are not able to achieve maximum scores. The combination of Lane Width and Shoulder Width is an improvement that provides a measure for total deficiency. The total deficiency approach would allow more Modernization projects to theoretically reach a maximum score.

Meeting Summary Notes - Continued

- The Subcommittee has ***reached agreement*** on the revised definition for SIT-16
  - *Rationale for SIT-16 Revision*: The current definition appears to exclude traffic flow and minor capacity improvements that could be part of some Modernization projects
    - ***Existing***: Modernize Roadway (segment): - Improving a roadway to current design standards primarily by increasing the lane and/or shoulder width. Could also include improving the horizontal or vertical geometry. Could also include adding turn lanes at intersections to help improve mobility on the through route
    - ***Revised****: Modernize Roadway (segment) – Improve roadway safety and traffic operations primarily by improving the roadway lane and shoulder width to current design standards. This could include needed safety and minor capacity improvements related to the Modernization of the facility*

Meeting Summary Notes - Continued

- The Subcommittee has ***reached agreement*** on the revised definition for SIT-24
  - *Rationale for SIT-24 Revision*: Most Road Diet projects involve reducing the number of lanes, but this is not always the case. Road Diet projects could include the reallocation of roadway width for safety and function improvements while maintaining the number of lanes. These projects could also include related capacity and multimodal improvements.
    - ***Existing***: Implement Road Diet to Improve Safety (segment) – Enhancing the safety of a roadway by reducing the lanes within the cross-section
    - ***Revised:*** *Implement Road Diet to Improve Safety (segment) – Enhancing the safety of a roadway by primarily reducing the lanes within the cross-section. This could include secondary capacity or multimodal improvements as well as the reallocation of roadway width to improve safety and function of the facility*

Meeting Summary Notes - Continued

- The Subcommittee discussed the inclusion of cross-sections in SPOT Online for Modernization projects to help improve cost estimates
  - The addition of cross-sections does not necessarily improve cost estimates
  - The improved utilization of the “Primary Purpose” and “Additional Notes” fields in SPOT Online to submit detailed information would help improve the cost estimates
  - Submitters could identify a cross-section in these fields if so desired and the detailed information will help the Feasibility Studies Unit review of the cost estimate
  - The *inclusion of cross-sections* in SPOT Online is *not recommended* at this time as the concerns can be addressed using the existing SPOT Online options

Meeting Summary Notes - Continued

- The Subcommittee will continue to discuss the following in the next meeting:
  - Inclusion of a Congestion weight at the Division Needs category
  - Viable *options* for criteria weight distribution to implement the proposed changes/improvements
  - Road Diet scoring improvements
- The Subcommittee may finish remaining discussions in March and present final recommendations to the Workgroup during the April in-person meeting

Next Steps & Adjourn

- Next Steps
  - Follow-Up Analysis/Discussion
  - Road Diet Scoring Improvements
- Next Meeting
  - **March 13th, 2025 @ 2:00 PM to 3:30 PM**

Thank you!

Meeting Attendance – Virtual

Name	Organization
Andy Bailey *	NCDOT
Benard Chola *	NCDOT
Brian Murphy *	NCDOT
Tyler Meyer *	Greensboro MPO
David Graham *	High County RPO
Deanna Trebil *	New Bern Area MPO
Drew Finley	Fountainworks
Fredrick D. Haith	NCDOT
Janet Robertson *	Lumber River RPO
Jason Myers *	NCDOT
Richard Brown *	NCDOT
Rose Bauguess	Southwestern RPO
Saman Jeffers *	NCDOT
Brian Wert *	NCDOT
Scott Miller	NCDOT
Stephen Sparks	NCDOT
Tristan Winkler *	French Broad River MPO

*Workgroup Participant, Alternate, or Advisory