NORTH CAROLINA
Department of Transportation

P8 Ferry Stakeholder Group Meeting #1

NCDOT SPOT Office, NCDOT Ferry Division, NCSU ITRE

March 14, 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

Welcome

- *Meeting will be recorded*

- Team introductions

- Virtual meeting housekeeping reminders:
  - When you are not speaking, please mute yourself – this limits disruption from background noise
  - Questions and discussion are welcome:
    - Feel free to use the “Raise Hand” feature if you have a question
    - You can also type “Q” in the chat

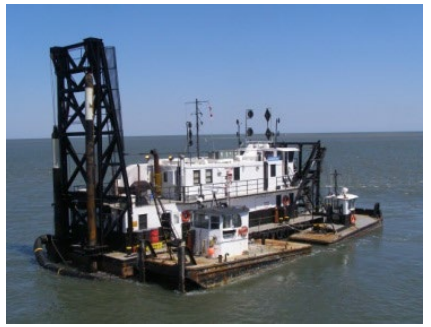
Agenda

- Introduce topic of potential updates to Ferry scoring methodology that have been underway by Ferry Division and ITRE
- Provide background on current methodology and Ferry system
- Review motivations for proposed updates to Ferry scoring based on deficiencies in current scoring data
- Introduce the process the Ferry Division is working through for reviewing data and updating the scoring methodology
  - Complete package of proposed updates is not yet complete and will be presented as a package at the next meeting

Workgroup Meeting #1

Project Eligibility

Statewide	Regional	Division
Not Eligible	• New Installation of Ramp & Gantry (Capacity Expansion) • Bulkhead Expansion (associated with Capacity Expansion) • Additional Mooring Slips (to accommodate Capacity Expansion) • New (Capacity Expansion) Ferry (River or Sound Class)	• Replacement of Ferry (River, Hatteras, or Sound Class) • Replacement of Support Vessels (Barges, Tugs, etc.)



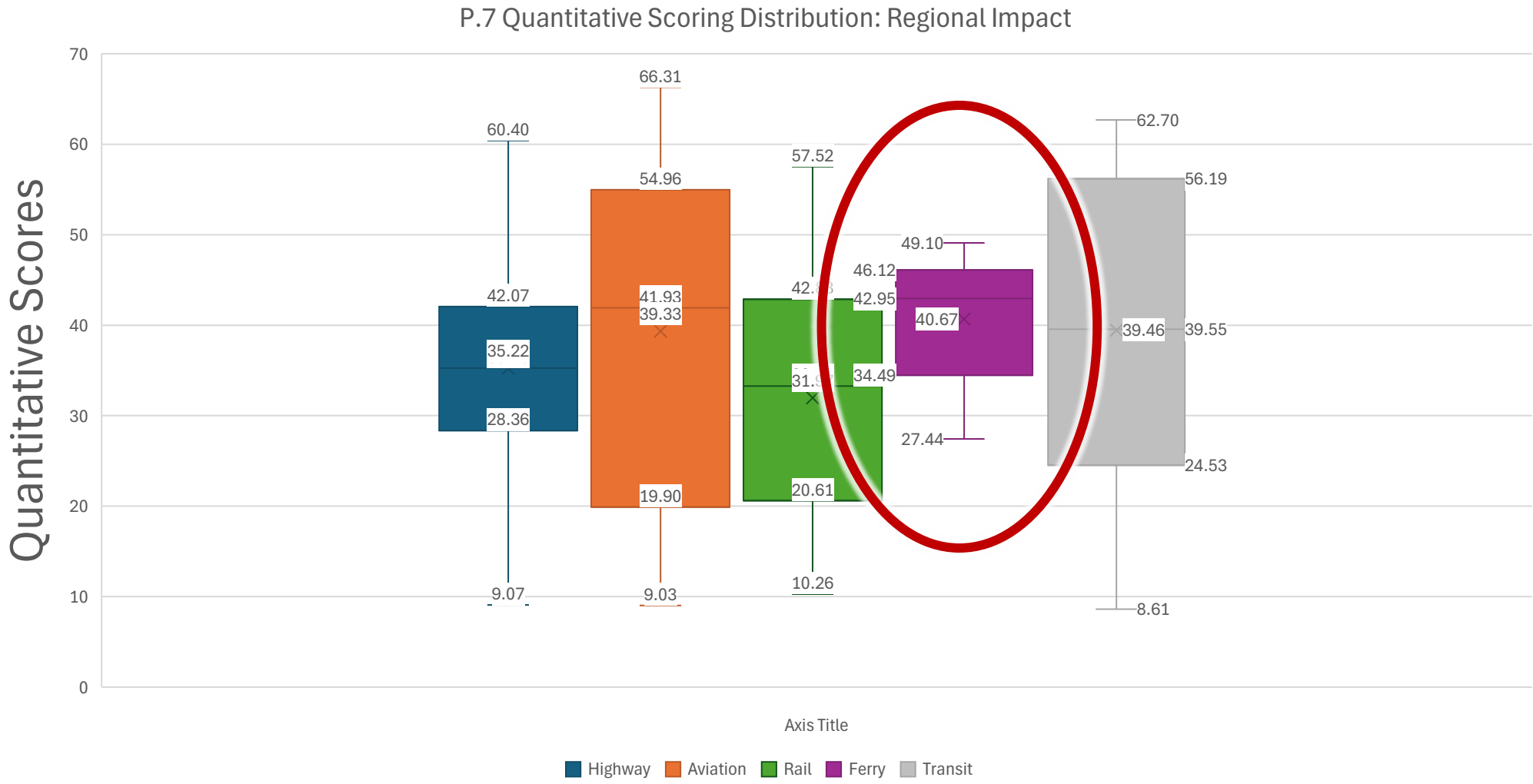
P7 Ferry Scoring

Criteria	Measure Description	Statewide Mobility (100%)	Regional Impact (70%)	Division Needs (50%)
Asset Condition	100 - Asset Condition Rating	N/A	15%	15%
Benefits	Number of hours (in $) saved compared to driving	N/A	10%	10%
Accessibility/ Connectivity	# of nearby Points of Interest	N/A	10%	10%
Asset Efficiency	3-year maintenance cost / 3-year replacement cost	N/A	15%	15%
Capacity/ Congestion	% of vehicles left behind at each departure compared to total carried by the route	N/A	20%	-

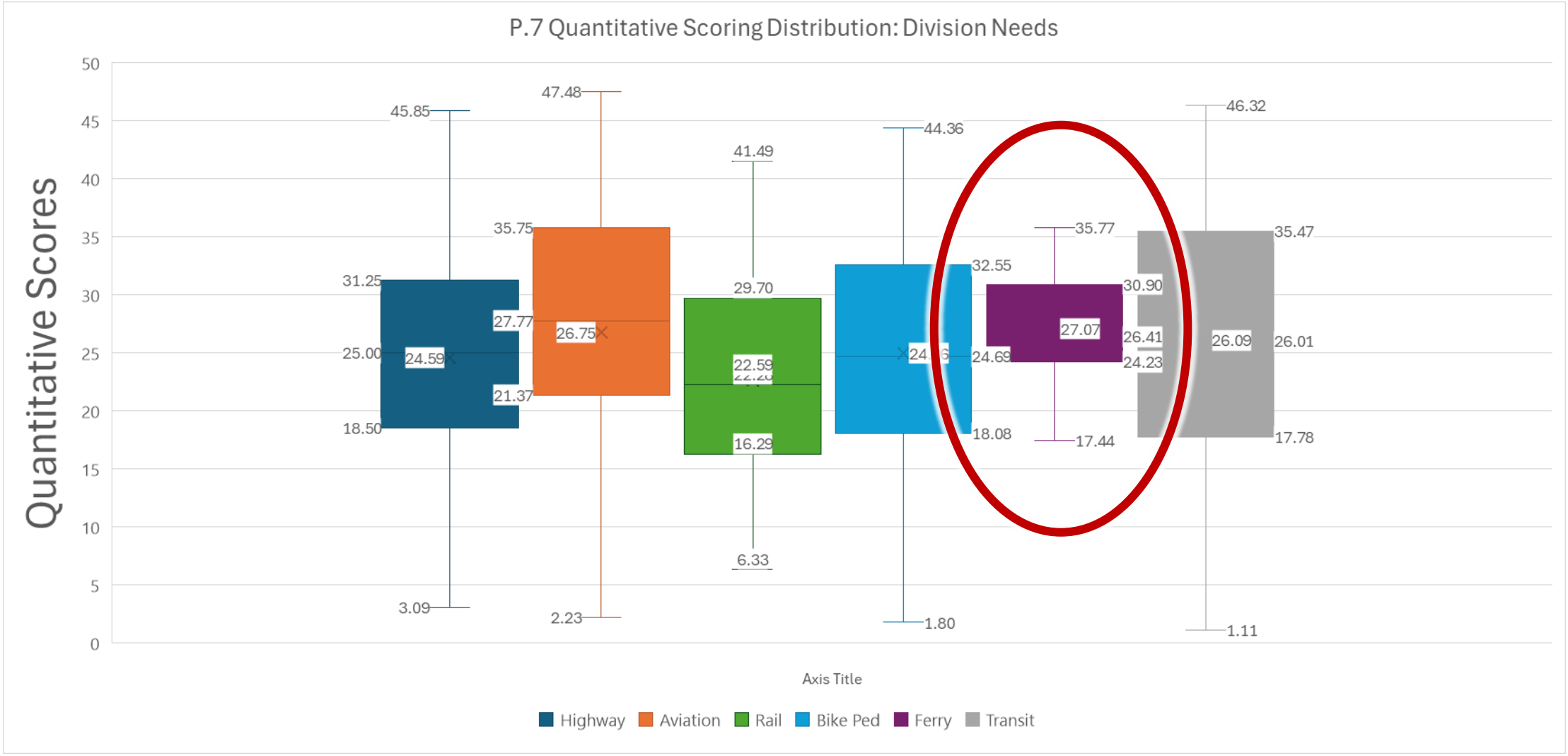
P7 Updates

- Incremental updates:
  - List of Specific Improvement Types
  - List of Ferry Routes/Terminals

P7 Quantitative Scoring Distribution: Regional Impact Scores



P7 Quantitative Scoring Distribution: Division Needs Scores



Ferry Scoring Background for P8

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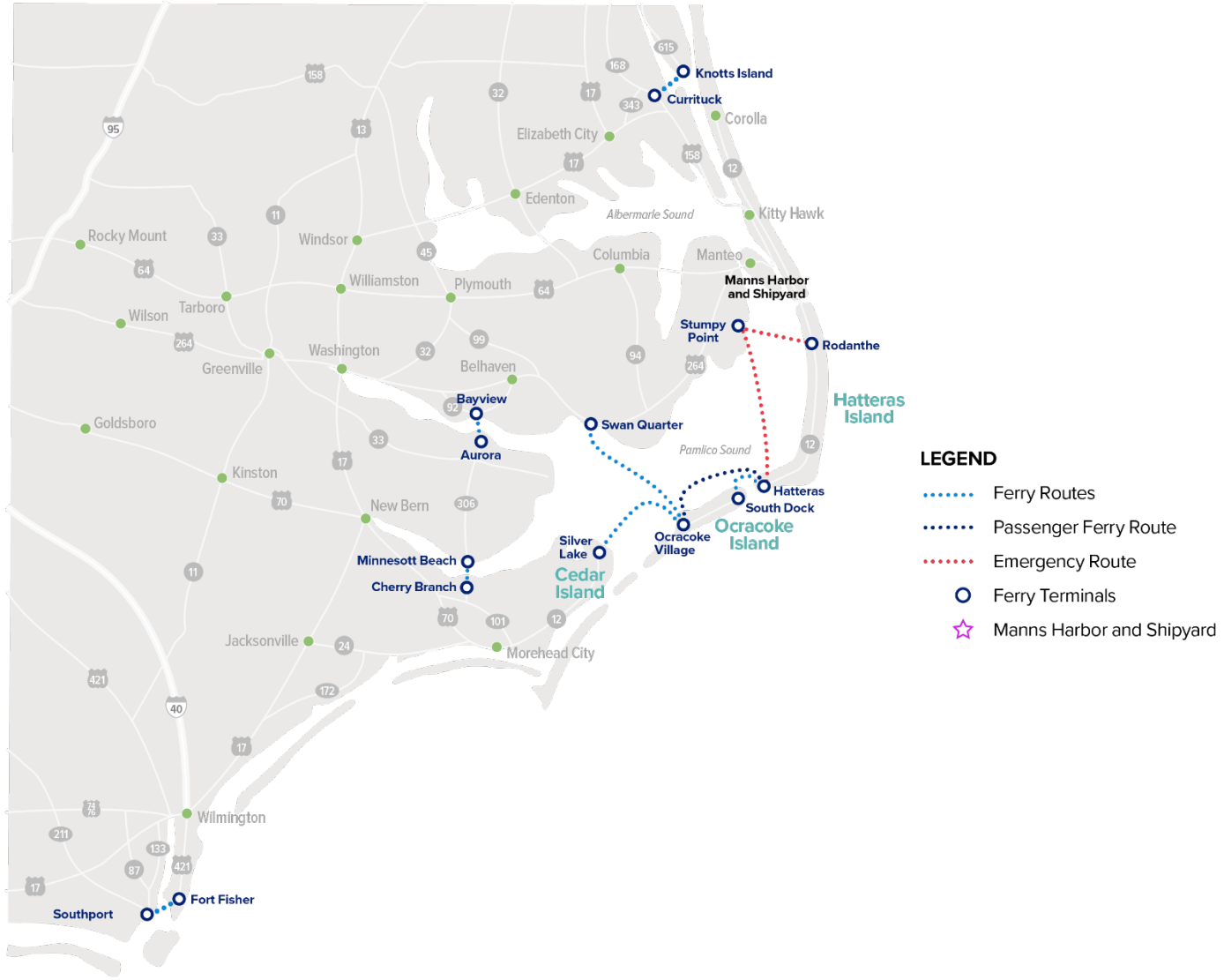
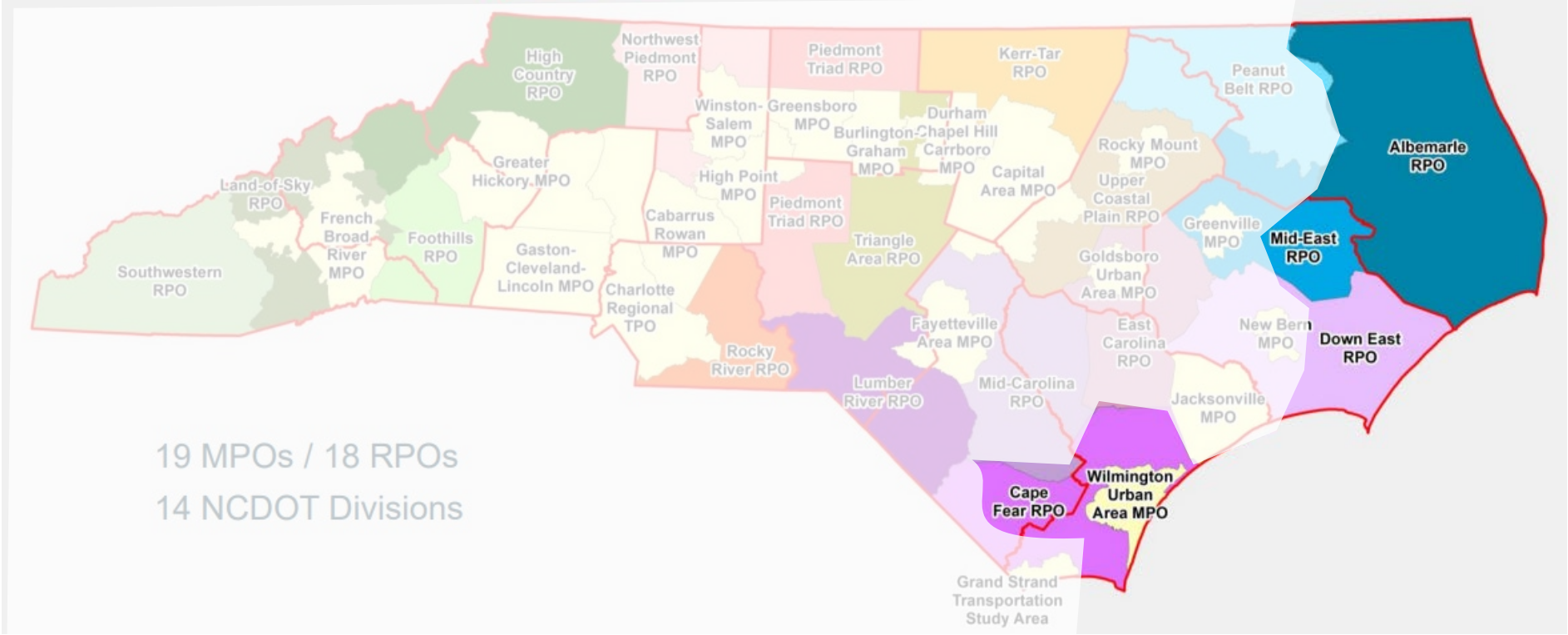
Existing Ferry Service

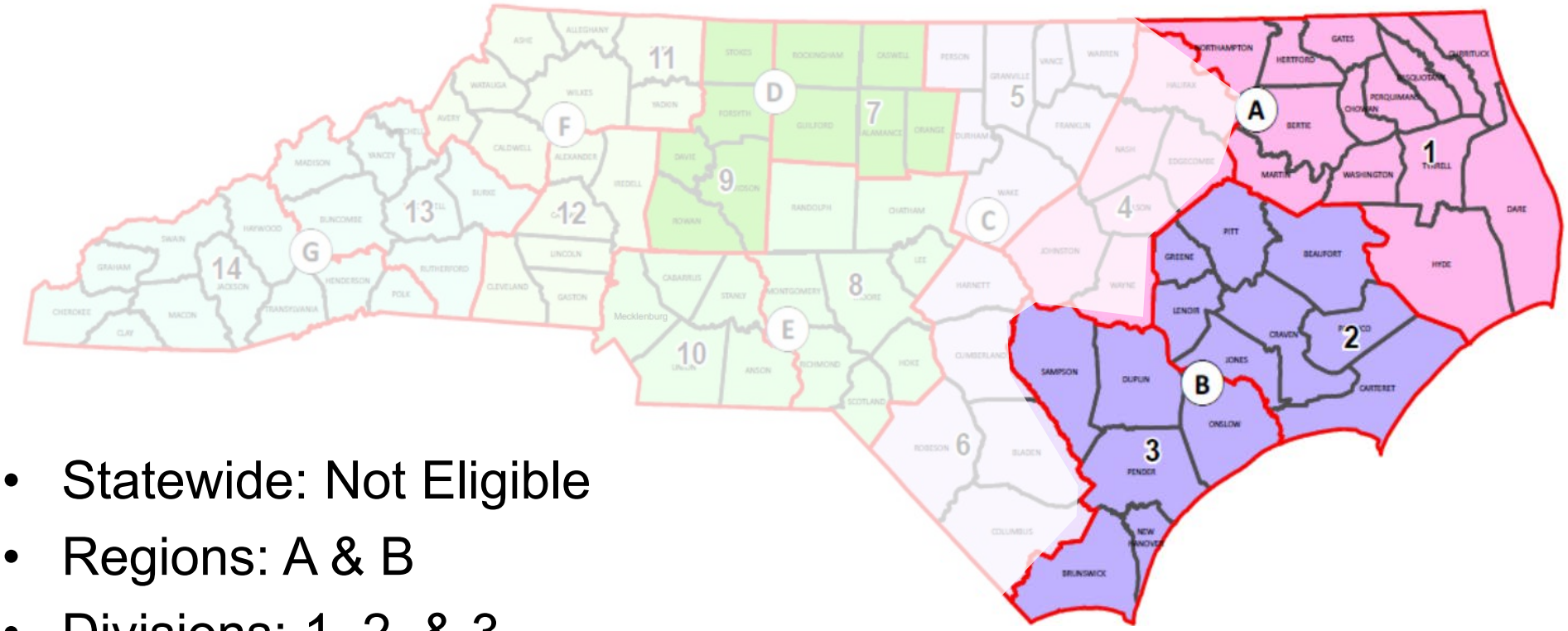


MPOs and RPOs with Ferries



- MPO: Wilmington
- RPOs: Albemarle, Mid-East, Down East, Cape Fear

Divisions and Regions with Ferries



- Statewide: Not Eligible
- Regions: A & B
- Divisions: 1, 2, & 3

Ferries are Special

- Ferries are integral parts of the statewide transportation network for resident services, employment, tourism, and economic vitality
- Ocracoke is dependent on ferry service for everything including local travel, freight, and tourism
- Ferries are vital during emergency events

Source:
Coastland Times

Ferries are Special (continued)

- Conceptually, ferries are a blend of highways and public transportation
- The Ferry Division is not just vessels but a variety of infrastructure projects to keep the system running
- Ferries are the only mode in STI that isn't present statewide
- Ferry projects tend to have high prices and less flexibility in how to deliver the project
- Of the top 3 Divisions with the least amount of funding availability, 2 are Divisions with ferries
- Coastal divisions and regions do not receive additional funding to cover this additional mode

P7 Submitted Projects

All Divisions

Mode	Cost to NCDOT (Millions)	Percent of Total
Aviation	$ 1,675	1.2%
Bicycle & Pedestrian	$ 2,038	1.4%
Ferry	$ 1,001	0.7%
Highway	$ 116,631	81.3%
Rail	$ 17,076	11.9%
Transit	$ 5,060	3.5%
Grand Total	**$ 143,481**	**100%**

Divisions 1, 2, & 3

Mode	Cost to NCDOT (Millions)	Percent of Total
Aviation	$ 253	0.6%
Bicycle & Pedestrian	$ 326	0.8%
Ferry	$ 1,001	2.4%
Highway	$ 32,244	78.9%
Rail	$ 7,055	17.3%
Transit	$ 7	0.0%
Grand Total	**$ 40,885**	**100%**

- 0.7% of total funds requested are for ferry projects
- 2.4% of funds requested in Divisions 1, 2, and 3 in P7 are for ferry projects
- 0% of funds requested in other divisions are for ferry projects

History of Ferries in STI

- Scoring methodology is relatively unchanged since P3
- SITs have been added
- There are specific issues that can be improved upon

Source: NCDOT

Existing Ferry Metrics

- Color-coded based on high/low scores
- Looks balanced at first glance

Asset Condition	Benefits	Accessibility / Connectivity	Asset Efficiency	Capacity / Congestion
58.97	38.46	82.05	35.90	38.46
82.05	100.00	33.33	5.13	100.00
79.49	100.00	33.33	0.00	100.00
58.97	100.00	0.00	35.90	100.00
69.23	66.67	64.10	82.05	66.67
23.08	66.67	64.10	82.05	66.67
76.92	66.67	64.10	7.69	66.67
48.72	28.21	100.00	82.05	56.41

Hatteras - Ocracoke (South Dock) Example

Route / Facility / Project Name	Short Description	Specific Improvement Type (SIT)	Cost To NCDOT	Asset Condition	Benefits	Accessibility / Connectivity	Asset Efficiency	Capacity / Congestion
Hatteras - Ocracoke (South Dock) - vehicle	Replace River Class Vessel	4 - Replacement Vessel - River Class Ferry (like for like)	$ 25,768,160	5.13	100.00	0.00	61.54	100.00
Hatteras - Ocracoke (South Dock) - vehicle	Replace Hatteras Class	7 - Replacement Vessel - Hatteras Class (to increase	$ 25,768,160	41.03	100.00	0.00	58.97	100.00
Hatteras - Ocracoke (South Dock) - vehicle	Replace Facility	13 - Other Terminal or Shipyard Infrastructure	$ 4,950,000	79.49	100.00	33.33	0.00	100.00

- Different projects, different SITs
- Same scores for 2 metrics because scores are fixed based on the project location

Manns Harbor Shipyard Example

Route / Facility / Project Name	Short Description	Specific Improvement Type (SIT)	Cost To NCDOT	Asset Condition	Benefits	Accessibility / Connectivity	Asset Efficiency	Capacity / Congestion
Manns Harbor Shipyard	Replace Lift	13 - Other Terminal or Shipyard Infrastructure	$ 3,000,000	69.23	66.67	64.10	82.05	66.67
Manns Harbor Shipyard	Construct Dormitory	13 - Other Terminal or Shipyard Infrastructure	$ 3,000,000	23.08	66.67	64.10	82.05	66.67
Manns Harbor Shipyard	Replace Water Tower	13 - Other Terminal or Shipyard Infrastructure	$ 10,000,000	76.92	66.67	64.10	7.69	66.67

- Different projects, different SITs
- Same scores for 3 metrics because scores are fixed based on the project location
- Plus, this is the shipyard which function entirely differently than the vehicle/passenger routes

Update Opportunity 1: SITs

1 - Replacement Vessel (Support Fleet) - Tug
2 - Replacement Vessel (Support Fleet) – Barge
3 - Replacement Vessel – Dredge
4 - Replacement Vessel - River Class Ferry (like for like)
5 - Replacement Vessel - Sound Class Vessel (like for like)
6 - Replacement Vessel - Passenger (like for like)
7 - Replacement Vessel - Hatteras Class (to increase capacity)
8 - New River Class Vessel (to increase capacity)
9 - New Sound Class Vessel (to increase capacity)
10 - New Passenger Vessel (to increase capacity)
11 - New Ramp & Gantry (to increase capacity)
12 - Port Expansion (to increase capacity)
13 - Other Terminal or Shipyard Infrastructure
14 - Terminal Replacement
15 - New Terminal & Vessel
16 - New Terminal

Update Opportunity 1: SIT Structure

1 - Replacement Vessel (Support Fleet) - Tug 2 - Replacement Vessel (Support Fleet) - Barge 4 - Replacement Vessel - River Class Ferry 5 - Replacement Vessel - Sound Class Vessel	Replace
12 - Port Expansion (to increase capacity) 8 - New River Class Vessel (to increase capacity) 9 - New Sound Class Vessel (to increase capacity) 11 - New Ramp & Gantry (to increase capacity)	Expand

Update Opportunity 1: SIT Structure

1 - Replacement Vessel (Support Fleet) - Tug 2 - Replacement Vessel (Support Fleet) - Barge	Support
4 - Replacement Vessel - River Class Ferry 5 - Replacement Vessel - Sound Class Vessel	Passenger
12 - Port Expansion (to increase capacity)	Support
8 - New River Class Vessel (to increase capacity) 9 - New Sound Class Vessel (to increase capacity)	Passenger
11 - New Ramp & Gantry (to increase capacity)	Support

Update Opportunity 1: SIT Structure

- Current SIT structure is based on 2 categories, but there may need to be 4 or more categories

Type	Passenger SITs	Support SITs
Replace SITs	• 3 • 4	• 1 • 2
Expand SITs	• 6 • 7	• 5 • 8

Update Opportunity 2: SIT Comprehensiveness

- Verify that all potential project types have a matching SIT

1 - Replacement Vessel (Support Fleet) - Tug

2 - Replacement Vessel (Support Fleet) – Barge

3 - Replacement Vessel – Dredge

4 - Replacement Vessel - River Class Ferry (like for like)

5 - Replacement Vessel - Sound Class Vessel (like for like)

6 - Replacement Vessel - Passenger (like for like)

7 - Replacement Vessel - Hatteras Class (to increase capacity)

8 - New River Class Vessel (to increase capacity)

9 - New Sound Class Vessel (to increase capacity)

10 - New Passenger Vessel (to increase capacity)

11 - New Ramp & Gantry (to increase capacity)

12 - Port Expansion (to increase capacity)

13 - Other Terminal or Shipyard Infrastructure

14 - Terminal Replacement

15 - New Terminal & Vessel

16 - New Terminal

Update Opportunity 3: Metric Review

- Are the current metrics addressing the need for capital improvements and measuring the benefits?
- Will changes in the SIT structure and/or additional SITs require metric changes?

Next Steps

1. Reorganizing the SITs
2. Reviewing the SIT appropriateness
3. Exploring the effectiveness of the metrics for assessing the need and measuring the benefit
4. Considering how the Manns Harbor Shipyard fits into the SITs and metrics

Workgroup Meeting #2

Ferry Division Scoring Changes for P8: Initial Approach

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Form the Team

- Catherine Peele, NCDOT Ferry Division
- Mary Miller, NCDOT Ferry Division
- Kai Monast, NCSU/ITRE

Brainstorm Potential Metrics (example)

- Additional Capacity
- Approaching/Exceeding Useful Life
- Cost to NCDOT
- Expanded Economic Output
- Freight Cubic Feet
- Freight Tonnage Capacity Expansion
- Freight Tonnage Delay
- Freight Vehicle Feet
- Left Behind Vehicles
- Maintenance Versus Replacement Cost
- New Jobs Supported
- New Jobs Supported
- Occupancy Rate
- Passenger Counts compared to capacity
- Stacking Lane Capacity Expansion
- Trips
- Utilization Rate
- Vehicle Counts compared to Capacity
- Vehicle Miles Traveled Reductions
- Vehicles Not Carried…

Categorize Potential Metrics

- Economic Impact
- Volume/Capacity
- Modernity of Infrastructure
- Connectivity of Transportation Infrastructure
- Placemaking
- Cost Effectiveness
- Unit Cost…

Deep Assessment of Potential Metrics

AVAILABLE DATA	POTENTIAL METRICS	WHAT METRIC EXPLAINS	MEASURES	PROJECT TYPES			
				Vessel	*Support Vessels*	*Support Facilities*	*Operational Facilities*
Volume/Capacity							
Freight Tonnage Capacity Expansion	New Tonnage Max / Old Tonnage	Increased potential for freight	Benefit	X			X
Freight Tonnage Delay	Freight Tonnage Left per Sailing	Lack of capacity for freight	Need	X			X
Freight Cubic Feet				X			X
Freight Vehicle Feet				X			X
Vehicle Counts compared to Capacit	Existing Vehicles Carried / Existing	Vehicle Capacity	Need	X			X
Passenger Counts compared to capacity				X			X
Stacking Lane Capacity Expansion	Vehicle Stacking Lane Length with	Expansion of stacking area	Benefit	X			X
Utilization Rate	Engine Hours per Year	Need for expansion vessel	Need	X	X		
Occupancy Rate	Max Usage / Capacity	Need for expansion facility	Need			X	X
Left Behind Vehicles	Vehicles Left Behind / Vehicle Spa	Need for additional vessel	Need	X			

Discuss Potential Issues

POTENTIAL METRICS	ISSUES/CONCERNS
New Tonnage Max / Old Tonnage Max	Existing tonnage not being tracked now. New tonnage may require difficult estimations.
Freight Tonnage Left per Sailing	Prioritizing freight as a policy may influence the results. Difficult to track.
Existing Vehicles Carried / Existing Vehicle Capacity	Not all vehicles are the same
Max Usage / Capacity	Includes parking, stacking lanes, dorm rooms, maintenance bays, etc
Vehicles Left Behind / Vehicle Spaces Available	This will sway toward the routes without reservations. Use people left behind for passenger ferries
Infrastructure Age / Expected Useful Life	Only applies to replacements. Diffucult to measure some infrastructure useful life, not always directly associated with obselecense
Expected VMT with project / Exist	Estimations can get complex and/or seem inaccurate
Vehicles captured at origin	Lofty goal
Additional Trips, Sailings, Volume / Cost to NCDOT	Not sure how to measure capacity improvements across all project types

Use Case

Source: https://thumbs.dreamstime.com

SIT 2 Replace Barge

Why would we need a replacement barge?

- In poor condition
- Isn’t available when we need it
- Maintenance costs are high compared to replacement cost
- Age/Obsolescence

SIT 2 Replace Barge

How does the current scoring match with the reasons why we need to replace a barge?

Metric	Existing	Need Addressed
Asset Efficiency	3 year maintenance cost vs. 3 year replacement cost	Maintenance costs are higher than replacement cost
Asset Condition Rating	Determined by the Ferry Division	In poor condition
# of Points on Interest	Public interest sites nearby, fixed based on location	--
Benefits	Driving hours saved, fixed based on location	--
Capacity/ Congestion	Number of vehicles left behind, fixed based on location	--

SIT 2 Replace Barge

Why would we need a replacement barge?

- In poor condition
- **Isn't available when we need it**
- Maintenance costs are higher than replacement cost
- **Age/Obsolescence**

SIT 2 Replace Barge

- Remove Points of Interest, Benefits, & Capacity/Congestion
- Identify new metrics that address why a barge is needed
- Result is 4 metrics that use readily available and reliable data, connected to benefits/needs of the project

Metric	Proposed	Need Addressed
Asset Efficiency	(Vessel + facility costs) / Useful Life	Maintenance costs are higher than replacement cost
Asset Condition Rating	Determined by the Ferry Division	In poor condition
Accessibility	Vessel down days / 365	Isn't available when we need it
Age	Age / Useful Life	Age/Obsolescence

Next Steps 1

1. Repeat the process for all SITs, starting with the benefits/needs of the project
2. Match benefits/needs to existing metrics
3. Identify gaps
4. Fill in with new metrics
5. Assess viability/reliability of data sources for new metrics
6. Compile test data using P7 projects
7. Model scores

Next Steps (cont.)

8. Consolidate SITs where possible
9. Model Scores
10. Consider scaling impacts
11. Model Scores
12. Consider percentages
13. Model Scores
14. Final Proposal

Recap & Next Steps

Next Steps

- Questions or clarifications?
- Today's slides and recording will be distributed to the Ferry Stakeholder Group
- March 26 meeting will introduce package of proposed scoring methodology updates
  - Will include specific details such as new SIT list and draft concepts / setup of criteria, measures, and data
- Feedback from Ferry Stakeholder Group will be shared with the P8 Workgroup

Upcoming Meetings

Meeting #2

Wednesday, March 26, 2025

1:00pm – 2:30pm

Meeting #3

TBD

Thank you!

Attendance









Meeting Attendance – virtual

Name	Organization
Sarah Lee	NCDOT SPOT Office
Cat Peele	NCDOT Ferry
Kai Monast	NCSU ITRE
Win Bridgers	Division 1
Ronnie Sawyer	Division 1
Brooks Braswell	Division 1
Mary Beth Houston	Division 2
Cadmus Capehart	Division 2
Len White	Division 2
Roham Lahiji	Division 2
Heather Lane	Division 2
Michelle Howes	Division 3
Adrienne Cox	Division 3

Name	Organization
Abby Lorenzo	Wilmington Urban Area MPO
Sam Singleton	Mid-East RPO
Mickey Anderson	Down East RPO
Lloyd Griffin	Albemarle RPO
Saman Jeffers	NCDOT SPOT Office
Ben Chola	NCDOT SPOT Office
Richard Brown	NCDOT SPOT Office