



House Select Committee on Strategic Transportation Planning and Long Term Funding Solutions

February 1, 2016

Sterling Baker, P.E. Multimodal Special Projects Engineer



Key Items

- Ferry System Overview
 - System-wide Overview
 - Vessel Overview
- Overview of 2014 Ferry Div. Long Range Asset Management Plan
- SPOT3.0 Overview/Project Summary
- SPOT4.0 Update
- Update on 2016 Ferry Div. Long Range Asset Management Plan

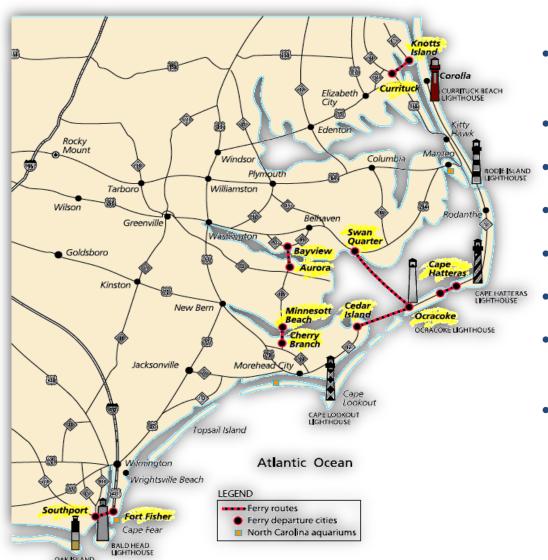


System-wide Overview





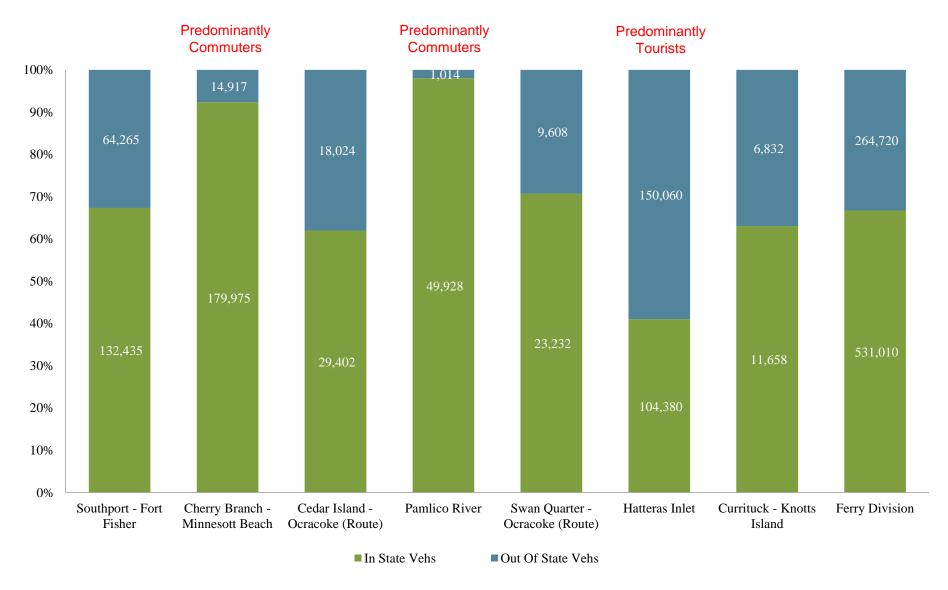
System-wide Overview



- 2nd largest state operated ferry system in the US
- 7 scheduled routes
- 1 emergency route
- 12 terminals
- State owned shipyard
- 4 field maintenance shops
- 21 ferries (5 sound class, 9 river class, & 7 hatteras class)
- Support Fleet (4 tugs, 3 barges, 1 crane barge, & 1 dredge)

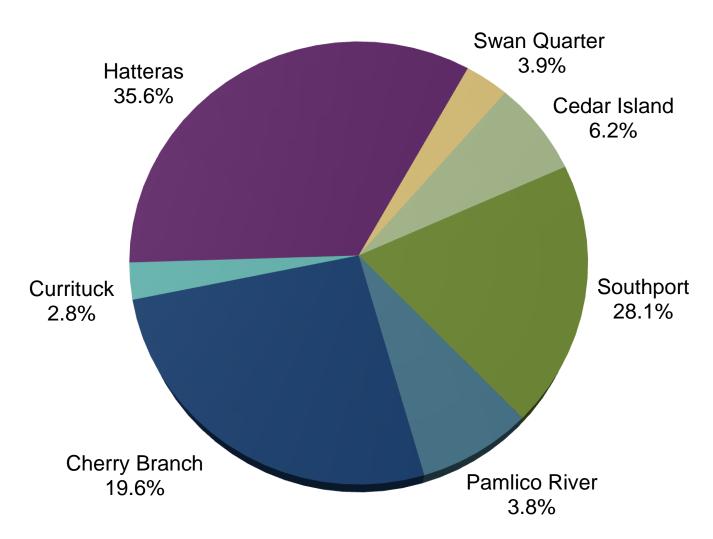


Vehicles Carried: In State Comparison to Out of State



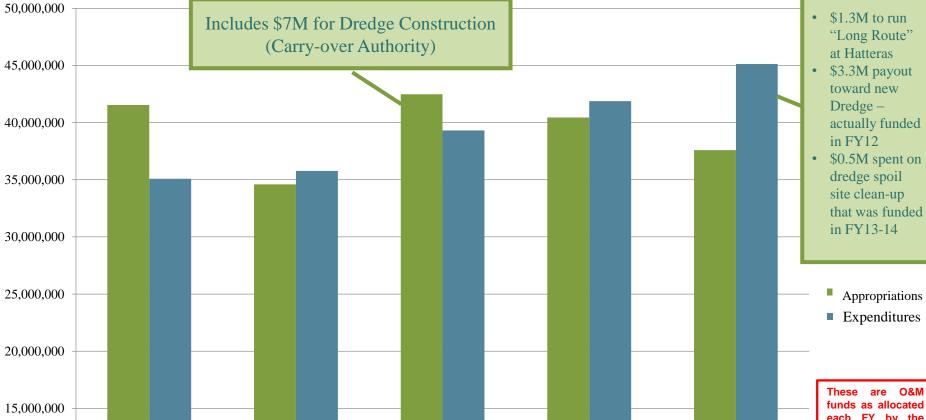
Transportation and the state of the state of

Percent of Vehicles Carried per Route Comparison for CY15









These are O&M funds as allocated each FY by the General Assembly. These funds do not cover projects unless specifically named as one time funding allocation.

Expenditures in

excess of allocation:



FY 14-15

7 Transportation

FY 13-14

FY 12-13

10,000,000

5,000,000

0

FY 10-11

FY 11-12

Vessel Overview





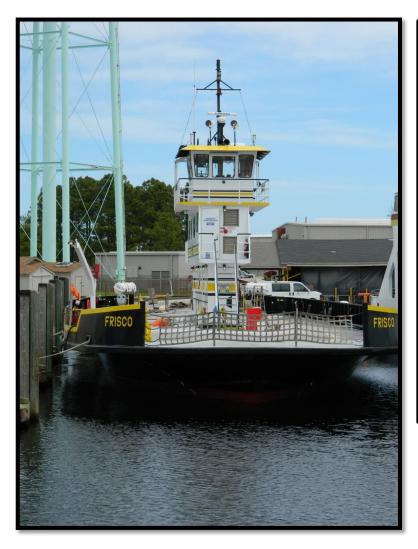
Vessel Overview

<u>Vessel Class</u>	No. in Class	<u>LOA</u>	<u>Breath</u>	<u>Draft</u>	Carrying Capacity (Vehicles)	Carry Capacity (Passengers)	Average Vessel Age of Fleet in Each Class
Hatteras	7	149' – 9"	42'-0"	4'-6"	26	149	25
River	8	180'-0"	40"	4'-3"	38	300	16
River (Hunt)	1	159' – 3"	40"	4'-3"	22	150	32
Sound	5	220' -6''	50'-0"	5'-6"	50	300	23
Dredge	1	80'-0"	30'-0"	4'-0"	N/A	N/A	48
Barges	3	39'-0"	18'-0"	2'-0"	N/A	N/A	49
Crane Barge	1	136' – 0''	40'-0"	4'-0"	N/A	N/A	8
Tug (Small)	1	34'-0"	12'-0"	4'-0"	N/A	N/A	33
Tug (Medium)	2	40'-0"	14'-0"	4'-0"	N/A	N/A	49
Tug (Large)	1	56'-0"	22'-0"	6'-6"	N/A	N/A	39

General Dimensions as each vessel varies slightly



Hatteras Class Vessels





Average Age Of This Class = 25 years Oldest Vessel In This Class = 27 years Newest Vessel in This Class = 21 years

Note: All 7 Hatteras Class Vessels in the Fleet were constructed between 1989 and 1995.



River Class Vessels



Average Age Of This Class = 16 years Oldest Vessel In This Class = 23 years Newest Vessel in This Class = 10 years



The Gov. Hunt was built in 1984 (32 yr. old). This boat is unique to the entire fleet as it was designed to mainly service school children in Currituck County. It is not reflected in the numbers to the left.



<u>Transportation</u>

Sound Class Vessel



Average Age Of This Class = 23 years Oldest Vessel In This Class = 51 years Newest Vessel in This Class = 5 years



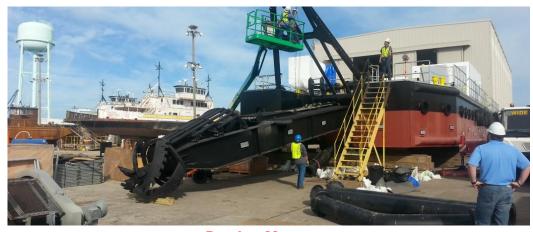
Support Fleet Vessels



Dredge Carolina Built: 1968



Tug Buxton, Jr. Built: 1983



Dredge Manteo Built: 2016



Crane Barge: Skyco Built: 2008



Overview of 2014 Ferry Div. Long Range Asset Management Plan





			CONTROL MOST	CT INFORMATION AND DATE						_				20.00	15.16										T-18					,	
				U IV AND LINE OF THE PARTY OF T		7			l e						-																_
								Ę	2																						Į.
						i	2		2 5	8	9		9					8		3			9				2	9		3	10
				_	1:1				6.5	×	ă.	M.	ă.	l 🛔	<u>.</u>	×	<u>*</u>	Į į	×	X.	Ě	, š	X	×	. X	. A	, a	M.		<u> </u>	28
	2		2	ě	111	1	1 1	8.4	1 2		_	-	_	-	_	_					-	-	-	-	_	-		_		- 1	3.
	1	NAME PRODUCT DESCRIPTION	2	3	211	1	i i	211	1																						
		100000000000000000000000000000000000000	ě		115	ě	1	121																							
		Interest lie	61705.000	Independ that To	ian			2013			175,000	775,000	775,000																		=
•		latetifiation Core large laplacement Tag	51,785,000 51,755,000	Core large fahabilitation September (South Top	Signe Sustan in			2010		_	(25.000	725,000	705,000														150,000	675,000	675,000	$\overline{}$	
		September Top	95,000,000	September House Top	Alternatio	Yes	100	1008	-88		500,000	2250,000	3,300,000																	-	$\overline{}$
П	- 6	September Rage (Imported) NC 2 feet Barge	(200,000	leplacement lissel large	IC2 hellege	Yes	100	1008	-88.		36,600	180,000			20,400	E3.500														=	=
14	80	laşlarımının Baya (kin İnquatur) KC-1 Fijalina Baya Başlarımının Baya (kin İnquatur) KC-1 İşaliyanını	5185,000 545,000	leplacement literal Burgo Septembert literal Burgo	K.i Pjalra laga K.i Issipnari laga					_					30,800	80,586 83,586													$\overline{}$	$\overline{}$	
ш	04M42	Sahahilitation - Smilge (Camillo II)	\$1,780,000	Draige Sahah Bariton	Design Carolina II	No.	2005																								\blacksquare
24	06M35	Sahakof Spreitro Life	\$1,580,000	Speins Life Salvabiliation	N/A	No.																150,000	1,351,000						-	-	-
E	-	Total Garded Incorporated Products (CPI Hearts for Year for this Books o				_	-		_		670,000	3450,000	3,750,000		60,000	107,000	165,000			ů	ů.					ů.				$\overline{}$	MARKE
2		Total Operations & Maintenance Project (S&M) Needs for Year for this books o																					1,353,000				150,000				188,800
		Total GP & GENT Names For Four for Title Southern									25,86	\$180,000	1,761,860		60,800	105,000	161,000			ê	ê	250,000			ê		250,000	671,000	675,000	9	104,000
		Inhabitation - New Case Vessel Inhabitation - New Case Vessel		Vessel Retrolitation (River) Vessel Retrolitation (River)	A Faher II Southeast II			2000														120,000	130,000	120,000	2,160,000				\blacksquare	-	-
		South purchase & Gardey (Security Alburya 200)		Samp & Cartry Symmetry	N/A			2006												120,000	540,000	140,000	LEGISLO	Concession						$\overline{}$	$\overline{}$
		for Faher lang & Gertry (Inveture Miles Vanner 53)		larg & Carty Taxonination	N/A			2018	26											120,000	540,000	540,000									=
	M.	Additional Mounting Facilities to accommists new heat for Court Fort See: New Case Vessel (Armana Capacity)		Society Society Expension New York: Form (Short)	N/A TRO			N/A.	_	_				-															120,300	12,000,000	\vdash
31		GP lapport tissues. From the upit for this mode based on traffic service.	8478		Person Traffic Carriedos			-		0	185,608	260,651	765,438		7,638	31,466	31,466			ů	ŵ	0	ů.		ŵ	ů.	0		ŵ		\Box
i.		04M Support Visuals Provide gills for this mote hasel or traffic seried	8676		a Persont Traffic Carriadies	ethia mute				۵					0	٥	0	a a		۵		38,608	367,446	â			38,68	136,738	126,718	-	$\overline{}$
ġ.	-	Total Capital Improvement Projects (CIF) Heals For Year for this Books o				_	-		-		165,506	246,454	765,626		7,636	31,400	31,466			ě.	ů.				ě	ů.			120,000	$\overline{}$	PLAG
		Total Specifics & Making and Project (MAS) Needs for Year for this books o													0		0						467,445				38,485		126,728		MAAN
		Total CP & CENT Stanls For Four for Title States								ů.	165,608	765,651	76,436	ů.	7,638	31,466	31,466	ů	ů				467,445	1,360,860	3,460,000		38,685	136,738	268,728	13,080,000	CHIC
_		Replacement - Sound Class Housel Schaliblation - Sound Class Housel	515,80,000	Replacement Housel Florry (Sound) Vessel ReduckStarter (Sound)	Familia Soun Souther			206		_										1,400,000	7,300,000	7,200,000							igwdow	Lancage	
		Creation (Charles Land Larter House, Park 114)	51,300,000		SA.			200															130,000	\$40,000	940,000					Carcina	$\overline{}$
ŧ.	G8M33	Some Country Same & Contry Structure Work (CS)	61,200,000	Same & Garter Separatruption	N/A			20%	- 10															120,000						=	=
ı.		Sour Gueter Sony & Centy (Source: Wipts 198) OF Support Source: From the spite for this make based on traffic sortial.	51,30,000	lary & Cartry Tournstration	o Permant Traffic Carriedos		2005	20%	ia.		27.666	134,674	186.290		1,370	530	130	-	_						540,000			-			
		SAM Support Vascals From the opinifor this mote has all or troffe carried	3186		a Persont Traffic Carriador													-		0		4,770	43,650				4,770	31,465	21,465		$\overline{}$
1										_		DATE					C)(f)			1,000,000						_	٥			=	BALD
8	-	Total Capital Improvement Projects (CIF) Names for Year for this South o Total Operations & Maketanama Project (CE M) Names for Year for this South o				_			_			0					0		-	C CONTRACTOR			163.630							-	186,776
		Total CP & GENT Stanks For Four for TSS Stanton									27,666	134,674	116,350		1,370	530	530			1,600,000	7,200,000	7,304,770	843,680	780,000	L630,000	L080,000	4,770	3LMI.	21,465	5,400,000	MAJES
		Septement - Der Gest Head	60,8000		leun it			308			1,200,000	5,000,000	5,400,000																		
	GEM 36	Salabilitation (See Cass Vessel			Settem 1			2006		_				-						120,000	126,666	130,000 2,140,000	3,060,000						-	-	-
	7	Intellibetion - Non-Cass Vessel Replacement - Notice or Cass Vessel		Vesai Retublisator (Braz) Replacament Social Famy (Braz)	Creation 8 Crise H			2000					1,300,000	0.400,000								-								$\overline{}$	-
	8	Replacement - National Class Visual	\$12,880,000	Replacement House Forcy (House)	Man it	Yes	1860	3636	7					1,300,000	5,400,000																\blacksquare
•		Sahahilisation - Humanas Casa Visual Sahahilisation - Steen Casa Visual		PERSON Case Many Vessel Retroit Returns	Cape Point III Star White II			2000		_					120,000	136,000	2,180,000		120,000	120,000	2.460,000									$\overline{}$	$\overline{}$
	GEMIS	Sahahilitation - Hutteres Graw Visual	(2,480,000	Vessel BahaloBatton (Katteres)	Inerdia II	No	1863	2000	100							126,666	130,000	3,060,000	-												\Box
8		Schaldhatton - Surteres Gravitosel		Vessel Rehabilitation (National)	Gerandia H			2626									130,000	130,000	1,86,660								-			=	=
٠.		Antonia James S. Gerter Streetson (Gertal) Antonia James S. Gerter Streetson (Gertal)	51,300,000 51,300,000	Leve & Carter Inscription Leve & Carter Inscription	WA.			301		-																540,000				-	
Ш	G6M37	Setters Serie & Gerter Structure (Gara 45)	GL200.000	Service Service Separateurise	N/A	No.	1891	301																		540,000					
	0684.00	Omenia (South Smil) Samp & Centry (Smothum Bifyrin 112)	\$1,300,000	larg & Cartry Reportmenton	N/A			2008													(26,666 (26,666	\$40,000 \$40,000	\$40,000 \$40,000							\Box	\Box
1		Greenis (South Smit) Samp & Cartry (Structure Styris 113) Greenis (South Smit) Samp & Cartry (Structure Styris 116)		tary & Certy Insuranceiro Saro & Certy Insuranceiro	N/A			2000													126,666	140,000	\$40,000 \$40,000							$\overline{}$	
1	04M1	South South Subhead Septement	\$5,000,000	Decking Sardiny Subhead Septembers	KA.			308			500,000	3,250,000	3,350,660																		
	GEM 8	Notices lies the Months for the Vessia. Of Legaci Seast: Francia split for this main based on traffic service.	95,880,000 33,70%	Decking Sanity Modifications for New Yorks	igia. o Parmant Traffic Carriacios						263,180	1200.000	12020		500,000	2,250,000	2,250,000 95,405													\Box	$\overline{}$
•		OP Support Visuals. From this upit for this mote based on motific carried OAM Support Visuals. From this grift for this mote based on troffe carried.	3170% 3170%		a Persons Traffic Carriedos a Persons Traffic Carriedos					0	0	O O	8		0	0	O O		-	0	0		454,050	-	0		60,800	307,616	207,478	-	
		Total Garden Incompanies Projects (CAT Needs for Year for this Sente of Total Companies & Maleston and Project (CATA) Sents for Year for this Sente of								0	500,000	£75£410 2250,000		6,600,000					3200,000	20,000	2750000	0 3440.880	420490	-	0 W0.000	L420,000	L420,880	327,679	0 200,406	$\overline{}$	LOCATO
		Total Operations & Materian and Project (MEM) House for Year for this Books of Total CP & CENT South For Your for This Books o								ä				64000									4204,60				FR26100				LINGING
٠	(2)	Septement - Star Cass Head	60,00000	fortespert though farm filters	Set I	Yes	1884	2014	- 1											1,300,000	5,600,000	5,400,000								-	
5				lare Edictor Ignoritation	100		2005		20										120,000	540,000	540,000									\neg	$\overline{}$

- Developed in CY2014 as a basis for SPOT3.0 projects
- Used to define a 20 year plan for managing the Ferry Division's assets
- Leaned heavily on vessel rehabilitation versus vessel replacement.
- Project needs are shown by route to make the spreadsheet easier to review.



Key Decision Factors in the Development of the Asset Management Plan:

- 1. Based on a life cycle and rehabilitation costs we are defining asset life of ferry vessels as 30 years.
- 2. Plan developed with heavy focus on vessel rehabilitation around the 20 year mark.
- 3. The Hatteras Class vessels are being phased out and replaced with River Class vessels in order to provide greater capacity and continuity of operations throughout the Ferry Division.
- 4. Replacement Costs:
 - Sound Class Vessel Replacement (New Construction) equals approximately \$ 15M
 - River Class Vessel Replacement (New Construction) equals approximately \$ 12M



Capital Improvement Projects:

- New Installation of Ramp & Gantry (Capacity Expansion)
- Bulkhead Expansion (Associated with Capacity Expansion)
- Additional Mooring Slips (Associated with Capacity Expansion)
- New Ferry Vessels
- Replacement of Ferry Vessels
- Replacement of Support Fleet Vessels

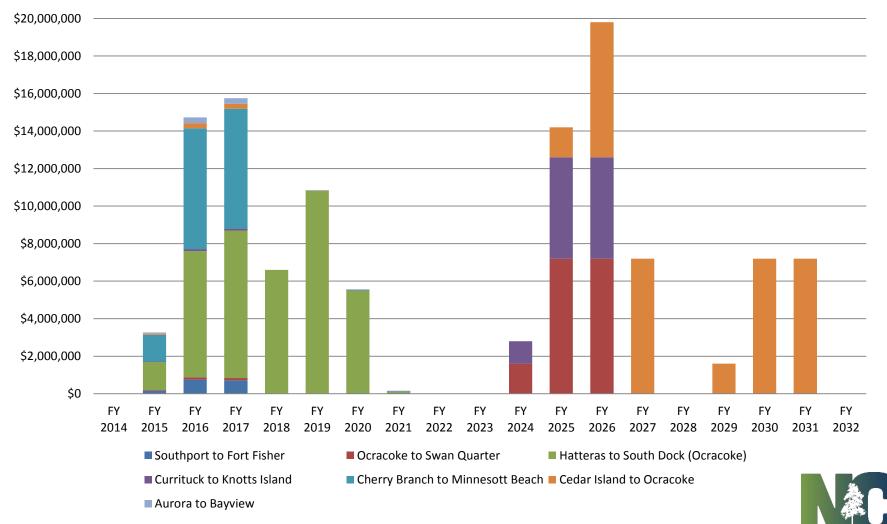
Operations & Maintenance Projects:

- Vessel & Fleet Maintenance
- Rehabilitation of Ferries and Support Vessels
- Ramp & Gantry Replacement or Rehabilitation
- Bulkhead Repair/Rehabilitation
- Dredging
- Rehabilitation or Replacement of High Value Assets at the Shipyard (i.e.: the Synchrolift, Water Tower, Platen railcars, etc.)
- Maintenance of Stormwater Retention Ponds
- Maintenance/Restoration of Dredge Spoil Sites



Transportation and the second

20 Year CIP Funding Needs For Ferry Division



CY2014 Long Range CIP Projects

		O	O	J		
FERRY DIVISION PRIORITY	BRIEF PROJECT DESCRIPTION	ESTIMATED COST	VESSEL BEING REPLACED	ROUTE CARRIED	DIV.	RPO / MPO
						Albemarle, Mid East, Down
				System-wide	1, 2	East, Cape Fear RPOs
1	Replacement Tug	\$5,000,000	Albemarle	Support Vessel	& 3	& Wilmington MPO
				Contain ordala		Albemarle, Mid East, Down
		44 705 000		System-wide	1,2,	East, Cape Fear RPOs
2	Replacement Tug	\$1,725,000	Dare	Support Vessel	& 3	& Wilmington MPO
3	Replacement - River Class Vessel	\$12,000,000	Baum-H	Yes	1	Albemarle RPO
				System wide	4.3	Albemarle, Mid East, Down
4	Double come and Tive	Ć4 725 000	Dto In	System-wide	1, 2,	East, Cape Fear RPOs
4	Replacement Tug	\$1,725,000	Buxton Jr	Support Vessel	& 3	& Wilmington MPO
	Replacement -Barge (Inspected) NC-2 Fuel			System-wide	1, 2,	Albemarle, Mid East, Down East, Cape Fear RPOs
5	Barge	\$200,000	NC-2 Fuel Barge	Support Vessel	& 3	& Wilmington MPO
6	Replacement - River Class Vessel	\$12,000,000	Kinnakeet-H	Cherry Branch	2	Down East RPO
7	Replacement - River Class Vessel	\$12,000,000	Chico-H	Hatteras	1	Albemarle RPO
8	Replacement - River Class Vessel	\$12,000,000	Frisco-H	Hatteras	1	Albemarle RPO
0	Replacement - River Class Vessel	\$12,000,000	F113CO-11	Tiatteras	1	Albemarle, Mid East, Down
	Replacement -Barge (Not-Inspected) NC-1		NC-1 Pipeline	System-wide	1, 2,	East, Cape Fear RPOs
9	Pipeline Barge	\$185,000	Barge	Support Vessel	& 3	& Wilmington MPO
	Tipeline barge	Ψ103,000	Burge	Support vesser	<u> </u>	Albemarle, Mid East, Down
	Replacement - Barge (Not-Inspected) NC-3		NC-3 Equipment	System-wide	1, 2,	East, Cape Fear RPOs
10	Equipment	\$185,000	Barge	Support Vessel	& 3	& Wilmington MPO
11	Replacement - Sound Class Vessel	\$16,000,000	Pamlico	Swan Quarter	1	Albemarle RPO
12	Replacement - River Class Vessel	\$12,000,000	Hunt-R	Currituck	1	Albemarle RPO
	David account Count Class Vassal					Albemarle RPO &
13	Replacement - Sound Class Vessel	\$16,000,000	Silver Lake	Cedar Island	1 & 2	Down East RPO
	Replacement - Sound Class Vessel					Albemarle RPO &
14	nepiacement - Sound Class vesser	\$16,000,000	Carteret	Cedar Island	1 & 2	Down East RPO
	Additional Mooring Facilities for					Cape Fear RPO &
15	additional boat to addressed increased capacity	\$1,500,000	N/A	Southport	3	Wilmington MPO
			Additional Boat			Come Facil DDO 0
16	Now Pivor Class Voscol (to increase canacity)	\$12,000,000	@ SP-FF	Southport	2	Cape Fear RPO &
16	New River Class Vessel (to increase capacity)	\$12,000,000	[@ 3P-FF	Southport	3	Wilmington MPO

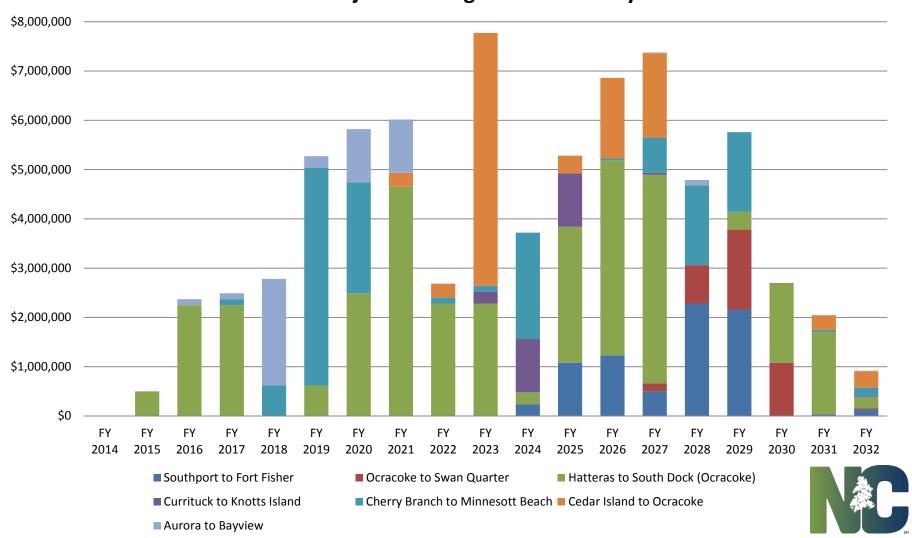
20 Year Boat Replacement Plan

Vessel	New Boat Replacement
Tugs	3
Barges	3
Dredge	0
Syncro-Lift	0
Class Ferry	9
Number of Vessels	15
Estimated Total 20-year Cost	Approximately \$120M
Average Cost Per Year	Approximately \$6M per year



CY2014 Long Range Operations & Maintenance Projects

20 Year O&M Project Funding Needs For Ferry Division



CY2014 Long Range O&M Project Listing (Partial Listing)

O&M-1	South Dock Bulkhead Replacement	\$5,000,000	N/A
O&M-2	Rehabilitation - River Class Vessel	\$2,400,000	Russell-R
O&M-3	Rehabilitation - River Class Vessel	\$2,400,000	Neuse-R
O&M-4	Cherry Branch Bulkhead Replacement	\$5,000,000	N/A
O&M-5	Rehabilitation - Hatteras Class Vessel	\$5,700,000	Cape Point-H
O&M-6	Aurora Ramp & Gantry (Structure #Beauf 321)	\$1,200,000	N/A
O&M-7	Bayview Ramp & Gantry (Structure #Beauf 322)	\$1,200,000	N/A
O&M-8	Hatteras Basin Modifications for New Vessels	\$5,000,000	N/A
O&M-9	Rehabilitation - Hatteras Class Vessel	\$2,400,000	Roanoke-H
O&M-10	Rehabilitation - Sound Class Vessel	\$5,700,000	Cedar Island
O&M-11	Rehabilitation - Hatteras Class Vessel	\$2,400,000	Ocracoke-H
O&M-12	Rehabilitation - River Class Vessel	\$2,400,000	Lupton-R
O&M-13	Rehabilitation - River Class Vessel	\$2,400,000	Stan White-R
O&M-14	Currituck Island Ramp & Gantry (Structure #Curr 32)	\$1,200,000	N/A
O&M-15	Knotts Island Ramp & Gantry (Structure #Curr 19)	\$1,200,000	N/A
O&M-16	Rehabilitation - River Class Vessel	\$2,400,000	Croatoan-R
O&M-17	Southport Ramp & Gantry (Structure #Brunsw 209)	\$1,200,000	N/A
O&M-18	Fort Fisher Ramp & Gantry (Structure #New Hanover 50)	\$1,200,000	N/A
O&M-19	Ocracoke (South Dock) Ramp & Gantry (Structure #Hyde 112)	\$1,200,000	N/A
O&M-20	Ocracoke (South Dock) Ramp & Gantry (Structure #Hyde 113)	\$1,200,000	N/A
O&M-21	Ocracoke (South Dock) Ramp & Gantry (Structure #Hyde 116)	\$1,200,000	N/A
O&M-22	Cedar Island Ramp & Gantry (Structure #Cart 99)	\$1,200,000	N/A
O&M-23	Cedar Island Ramp & Gantry (Structure #Cart 100)	\$1,200,000	N/A
O&M-24	Rehabilitation - River Class Vessel	\$2,400,000	Hatteras-R
O&M-25	Rehab of Synchro-Lift	\$1,500,000	N/A



20 Year Operations & Maintenance Project Plan

Project Type	Number of Projects
Rehabilitation – Hatteras/ River Class Vessel	10
Rehabilitation – Sound Class Vessel	4
Ramp & Gantry Rehab	22
Synchro-Lift Rehab	1
Other Various Projects	5
Number of Projects	42
Estimated Total 20-year Cost	Approximately \$75.1M
Average Cost Per Year	Approximately \$3.8M per year



SPOT3.0 Project Summary





SPOT3.0 Project Eligibility

Types of Ferry Division Eligible Projects evaluated in P3.0:

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 (tugs, barges, etc.)



SPOT3.0 Project Scoring Overview

	Statewide Mobility	Regional Impact	Division Needs
	N/A	State-maintained Routes	Replacement of Vessels
Eligible Projects:	N/A	Regional	Regional Division
Overall Weights:	N/A	70% Quantitative Data/30% Local Input	50% Quantitative Data/ 50% Local Input
Quantities Criteria:	N/A	 Safety -15% Benefit/Cost - 15% Accessibility/Connectivity - 10% Asset Efficiency - 10% Capacity/Congestion - 20% 	 Safety – 15% Benefit/Cost – 15% Accessibility/ Connectivity – 10% Asset Efficiency – 10%



SPOT3.0 Project Listing

SPOT ID	First MPO/RPO	Route	Description	Cost to NCDOT
F130001	Albemarle RPO	Statewide: Support Vessel	Replacement Vessel (Support Fleet) for the Tug Albemarle	\$ 5,000,000
F130002	Albemarle RPO	Statewide: Support Vessel	Replacement Vessel (Support Fleet) for the Tug Dare	\$ 1,725,000
F130003	Albemarle RPO	Hatteras - South Dock (NC 12)	Replacement Vessel - River Class Ferry (for M/V Baum)	\$ 12,000,000
F130004	Albemarle RPO	Statewide: Support Vessel	Replacement Vessel (Support Fleet) for the Tug Buxton Jr.	\$ 1,725,000
F130005	Albemarle RPO	Statewide: Support Vessel	Replacement Vessel (Support Fleet) for the Fuel Barge (NC-2)	\$ 200,000
F130006	Down East RPO	Cherry Branch - Minnesott (NC 306)	Replacement Vessel - River Class Ferry (for M/V Kinnakeet)	\$ 12,000,000
F130007	Albemarle RPO	Hatteras - South Dock (NC 12)	Replacement Vessel - River Class Ferry (for M/V Chico)	\$ 12,000,000
F130008	Albemarle RPO	Hatteras - South Dock (NC 12)	Replacement Vessel - River Class Ferry (for M/V Frisco)	\$ 12,000,000
F130009	Albemarle RPO	Statewide: Support Vessel	Replacement Vessel (Support Fleet) for the Pipeline Barge (NC-1)	\$ 185,000
F130010	Albemarle RPO	Statewide: Support Vessel	Replacement Vessel (Support Fleet) for the Equipment Barge (NC-3)	\$ 185,000
F130011	Albemarle RPO	Swan Quarter - Ocracoke (NC 45)	Replacement Vessel - Sound Class Ferry (for M/V Pamlico)	\$ 16,000,000
F130012	Albemarle RPO	Currituck - Knotts Island (NC 615)	Replacement Vessel - River Class Ferry (for M/V Hunt)	\$ 12,000,000
F130013	Albemarle RPO	Cedar Island - Ocracoke (NC 12)	Replacement Vessel - Sound Class Ferry (for M/V Silver Lake)	\$ 16,000,000
F130014	Albemarle RPO	Cedar Island - Ocracoke (NC 12)	Replacement Vessel - Sound Class Ferry (for M/V Carteret)	\$ 16,000,000
F130015	Cape Fear RPO	Southport - Ft Fisher (NC 211)	Port Expansion: Additional Mooring Facilities to future additional boat	\$ 1,500,000
F130016	Cape Fear RPO	Southport - Ft Fisher (NC 211)	New River Class Vessel (to increase capacity)	\$ 12,000,000



SPOT3.0 Ferry Division Projects that are in 10 Year Plan

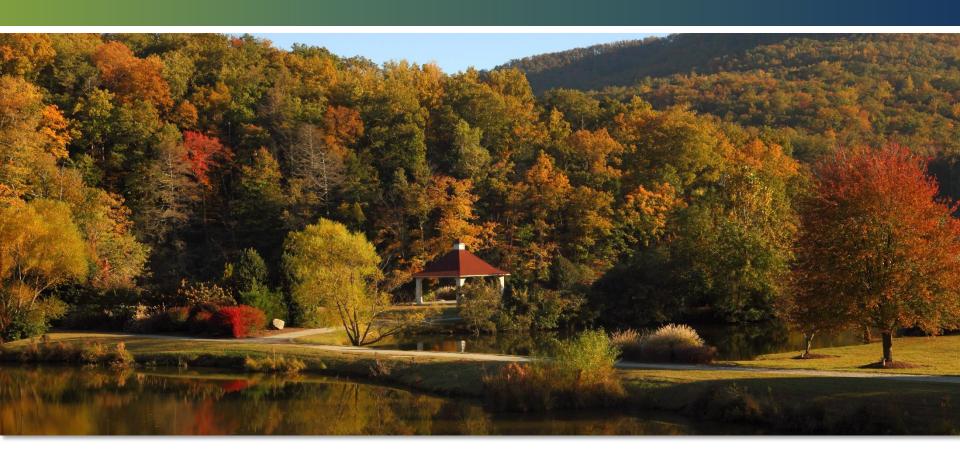
Capital Improvement Projects Currently Funded / Planned in the STI are as shown:

- FY2017- FY2018: F-5700: Construct River Class Ferry (replacement for the M/V Baum) = \$12,000,000 Construction = \$6M each respective FY
- FY2021: F-5701: Construct Tug (replacement for the Tug Dare) = \$1,750,000

Note: Only projects programmed through FY20 are considered funded. Projects shown after FY20 shall compete again in SPOT4.0. Therefore F-5701 will have to compete again in SPOT4.0.



SPOT4.0 Updates





SPOT4.0 Project Eligibility

Types of Ferry Division Eligible Projects evaluated in P4.0:

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 (tugs, barges, etc.)

Note: Project eligibility in SPOT4.0 is identical to SPOT3.0.



SPOT4.0 Project Scoring Updates

P4.0 Proposed Ferry Project Scoring Overview

	Statewide Mobility	Regional Impact	Division Needs
	N/A	State Maintained Routes	Replacement of Vessels
Eligible Projects:	N/A	Regional	Regional Division
Overall Weights:	N/A	70% Quantitative Data/ 30% Local Input	<u>50%</u> Quantitative Data/ 50% Local Input
Quantities Criteria:	N/A	 Asset Condition* -15% Benefits* - 15%10% Accessibility/Connectivity - 10% Asset Efficiency - 10%15% Capacity/Congestion - 20% 	 Asset Condition* – 15% Benefits* – 15%10% Accessibility/Connectivity – 10% Asset Efficiency – 10%15%



Transportation and the second

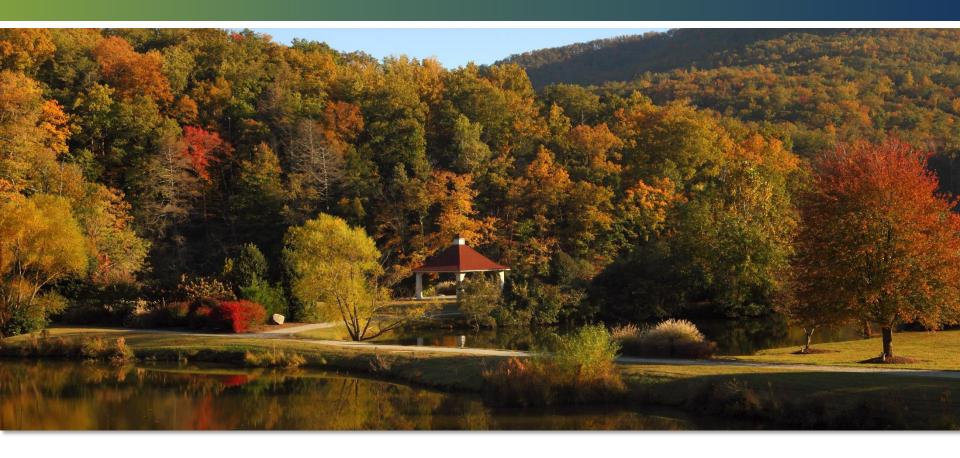
^{*}Methodology related to computing score is also proposed to be revised

Projects that will compete in SPOT4.0

SpotID	Existing or Submittal	Project Category	Submitter	ProjectDescription	All MPOs/RPOs	All Divisions	Estimated Total Project Cost
F130001	Existing	Division Needs	Division 1	Replacement Vessel (Support Fleet) for Tugs & Barges - Tugs: Albemarle, Dare, & Buxton Jr Barges: Fuel Barge(NC-2), Pipeline Barge(NC-1), Equipment Barge(NC-3)	Albemarle RPO, Down East RPO, Cape Fear RPO, Wilmington MPO	Division 1, Division 2, Division 3	\$ 10,745,000
F130006	Existing	Division Needs	Division 2	Replacement Vessel - River Class Ferry (for M/V Kinnakeet)	Down East RPO	Division 2, ,	\$ 15,000,000
F130007	Submittal	Division Needs	Division 1	Replacement Vessel - River Class Ferry (for M/V Chico)	Albemarle RPO	Division 1, ,	\$ 15,000,000
F130008	Submittal	Division Needs	Division 1	Replacement Vessel - River Class Ferry (for M/V Frisco)	Albemarle RPO	Division 1, ,	\$ 15,000,000
F130012	Submittal	Division Needs	Division 1	Replacement Vessel - River Class Ferry (for M/V Hunt)	Albemarle RPO	Division 1, ,	\$ 15,000,000
F130013	Existing	Division Needs	Division 1	Replacement Vessel - Sound Class Ferry (for M/V Silver Lake)	Albemarle RPO, Down East RPO,	Division 1, Division 2,	\$ 15,000,000
F130014	Submittal	Division Needs	Division 1	Replacement Vessel - Sound Class Ferry (for M/V Carteret)	Albemarle RPO, Down East RPO,	Division 1, Division 2,	\$ 18,000,000
F150235	Submittal	Division Needs	Wilmington Urban Area MPO	Acquire new river class vessel for Southport to Ft. Fisher route.	Cape Fear RPO, Wilmington MPO	Division 3	\$ 15,000,000
F150236	Submittal	Regional Impact	Wilmington Urban Area MPO	Construct additional mooring facilities at Southport Terminal.	Cape Fear RPO, Wilmington MPO	Division 3	\$ 1,500,000



Update on 2016 Ferry Div. Long Range Asset Management Plan





						O				O											O									
IORTH CAROLINA	NCDOT FERRY DIVISION 20 YR ASSET MANAGEMENT PLAN														INCOLUMN STREET, STREE															
and the state of t	NCDOT FERRY DIVISION PROJECT INFORMATION AN	O O O O O O O O O O O O O O O O O O O	Replacement (Yes or No)	REHABILITATED	-Based on Assel Life	NING YEARS OF ASSETS USEFULLIFE	FY 2016	FY 2017	FY 2018	FY 2019	10 YEAR P	FY 2021	FY2022	FY 2 023	FY2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	20 YEAR PLA	N C	FY 2033	FY 2034	FY 2035	Cumlative Totals	Tolls raised On the Respective Routes (can only be spent on CIP vessel replacements as per STI legislation)	FRAGED ANNUAL NEEDS 'S (immediate Needs) us ted to account for pated to lling revenues	AFRAGED ANNUAL NEEDS Adjusted to account for pated to lling revenues	VERAGE ANNUAL NEEDS Adjusted to account for pated tollings revenues
BRIEF PROJECT DESCRIPTION	E STIMA.	REPLACI Vessel C of other	, Vessel	BUILT 0	REPLACI 30 year	REMA																						SYR AV COS Ad antic	10YR A COSTS antic	20YR / COSTS antk
Capital Replacement Tug	\$1,725,000 Replacement Vessel: Tug	Dare			2013	0					175,000	775,000	775,000																	
Capital Replacement - Crane Barge Capital Replacement Tug	\$1,500,000 Crane Barge Replacement \$1,725,000 Replacement Vessel: Tug	Skyco Buxton Ir	No Yes	2008 2983	2038	25			-									175.000	725.000	725.000	150	675,	675,00	0					-	
Capital Replacement Tug	\$1,725,000 Replacement Vessel: Tug	Cumituck			1998							175,000	725,000	725,000				273,000	72,000	23,000										
Capital Replacement Tug	\$5,000,000 Replacement Vessel: Tug	Albemarle	Yes	2968	1998					500,000	2,250,000	2,250,000																		
Capital Replacement - Barge (Inspected) NC-2 Fuel Barge	\$200,000 Replacement Vessel: Barge	NC-2 Fuel Barge	Yes	2968	1998	-15		1		20,000	180,000									_										
Capital Replacement -Barge (Not-Inspected) NC-1 Pipeline Barge Capital Replacement - Barge (Not-Inspected) NC-3 Equipment	\$185,000 Replacement Vessel: Barge \$185,000 Replacement Vessel: Barge	NC-1 Pipeline Barge NC-3 Equipment Barge		1968 1968	1998 1998			+	_				82,500 82,500							_		_	_	_	_					
Capital Rehabilitation - Dredge (Carolina II)	\$2,500,000 Dredge Rehabilitation	Dredee Carolina	No.	2016	2046	33	Take Delivery	_	_			20,000	10,300	82,300	_		_	_	_	_			_	_			1			
Capital Dredge (Carolina I)	\$0 Dredge - Plan is to take Off Line in 2018	2,	No	2962	1992	-21																								
O&M Advertising & PIO Budget	\$100,000 Advertsing & PIO Budget	N/A	No	N/A			100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000 10	00,000	100,000	100,000	100,000 1	100,000	100,000 100	000 100,	000 100,00	0 200,000	100,000					
O&M Ultra-High Pressure Washer	\$600,000 Replacement Ultra-High Pressure Washer \$500,000 Water Tower Rehabilitation	N/A	No No	N/A 2982		-		600,000					-		65.000		-		-	-	- 61	voo	_	_						
O&M Water Tower Rehabilitation & subsequent routine painting O&M Rehab of Synchro-Lift	\$3,500,000 Water Tower Rehabilitation \$1,500,000 Synchro-Lift Rehabilitation	N/A N/A	No No	2982				500,000	1				-		60,000				150,000 1,	350,000	60)		_							
	lated Capital Improvement Projects (CIP) Needs Per Year for this Route						0	0		520,000	2,605,000	3,240,000			0	0			725,000 7			000 675,	000 675,00	0 0	0	12,045,000				
	OTHER Capital Improvement Projects (CIP) Needs Per Year for this Route - Gantry Operations & Maint Proj (O&M) Needs Per Year for this Route -		-			-	0	0	0	0	0	0		0		0		0	0	0	0 0		0 0	0	0	0				
	Dredging Operations & Maint Proj (O&M) Needs Per Year for this Route =		+				0	0			0			0		50,000	0	0	0		0 0				450,000	900,000				
	Marine Maintenance (O&M) Needs Per Year for this Route						0	0	0	0	0	0	0			0	0	0	0	0	0 0		0	0	0	0				
	Ferry Personnel Operational (O&M) Needs Per Year for this Route																													
	Facilities Capital Projects (CIP) Needs Per Year for this Route - Facilities and Operational (O&M) Needs Per Year for this Route -		+				445,000 90,000	290,000 110,000	1,200,000	0	150,000	0	2,200,000	0 2	,000,000 3	10,000			1,400,000 1, 110,000 1	,200,000	35,000 185	000 0	0	0	0	9,135,000 2,180,000				
	Vessel Operational & Maint (O&M) Needs Per Year for this Route						0	0	0	0	0	0	0	110,000	0	0	0	0	0	0	0 0	1 (0 0	0	0	0				
	Total CIP Needs Per Year for this Route								1,200,000	520,000	2,755,000	3,240,000	3,865,000	890,000 2	(000,000)	000,000		175,000	2,125,000 1,	,925,000	35,000 335	000 675,	000 675,00	0 0	0	21,180,000		\$ 1,042,000	\$ 1,523,500	\$ 1,059,000
	Total O&M Needs per Year for this Route Total CP & O&M Needs Per Year for This Route						635,000 1,080,000	1,600,000	1,410,000	210,000	360,000	210,000	2,410,000	210,000 2 1,100,000 4	275,000 66	90,000	210,000	210,000	1,760,000 2, 3,885,000 4,	760,000	245,000 460 280,000 795	000 210,	000 210,00	0 210,000	660,000	36,945,000 38,125,000		\$ 843,000 \$ 1,885,000		\$ 847,250 \$ 1,906,250
		ft fisher.it	+	_	2030		1,080,000	1,890,000	2,610,000	730,000	3,115,000	3,450,000	6,2/5,000	1,100,000 4	,275,000 72	20,000	210,000	385,000	3,885,000 4,	,085,000	280,000 793	000 880,	UUU 885,UU	0 210,000	660,000	38,125,000		\$ 1,885,000	5 2,524,500	5 1,906,250
Capital Replacement - River Class Vessel Capital Replacement - River Class Vessel	\$15,000,000 Vessel Replacement (River) \$15,000,000 Vessel Replacement (River)	Ft. Fisher-R Southport-R	Yes	2000 2996	2030 2026	17		+	1						12	200,000	6,900,000	6.900.000	1,	,200,000 6	5,900,000 6,900	,000	_	_						
O&M Southport Ramp & Gantry (Structure #Brunew 209)	\$1,750,000 Ramp & Gantry: Reconstruction	N/A	No	2008	N/A										150,000 80	00,000	800,000			_										
O&M Fort Fisher Ramp & Gantry (Structure #New Hanover 50)	\$1,750,000 Ramp & Gantry: Reconstruction	N/A	No	2008	N/A										150,000 80	00,000	800,000													
Capital Additional Mooring Facilities to accommodate new boat for South Port	\$1,500,000 Docking Facility: Expansion	N/A	No	N/A	N/A						125,000	1,375,000		C 000 000						-		_		_						
Capital New River Class Vessel (increase Capacity) OP Support Vessels: Pro-rate solit for this route based on traffic carr	\$15,000,000 New Vessel: Ferry (River)	TBD	No	N/A	N/A							1,200,000	6,900,000	6,900,000																
OSM Support Vessels: Pro-rata split for this route based on traffic or	29.07% - Percent Traffic Carried on this route																													
	lated Capital Improvement Projects (CIP) Needs Per Year for this Route		+				0	0	0	0	0	1,200,000	6,900,000	6,900,000	0 1,2	200,000	6,900,000		0 1,		5,900,000 6,900	,000 0	0	0	0	45,000,000 1.500,000				
	THER Capital Improvement Projects (CIP) Needs Per Year for this Route - Gantry Operations & Maint Proj. (O&M) Needs Per Year for this Route =		1 -				0	0	0	0	0	0	0	0	300,000 1,6	900,000	1,600,000		0	0	0 0		0	0	0	3,500,000				
	Dredging Operations & Maint Proj (O&M) Needs Per Year for this Route						0	0	0	475,000	0	0	0	0	475.000	0	0	0	0 4	475.000	0 0		0	475,000	0	1,900,000				
	Marine Maintenance (O&M) Needs Per Year for this Route						0	0	0	0	0	0	0	0 3,487,680 3	0	0	0	0	0	0	0 540 3,590,884 3,600	000 240,	000 0	0	0	780,000				
	Ferry Personnel Operational (O&M) Needs Per Year for this Route - Facilities Capital Projects (CIP) Needs Per Year for this Route -		+				2,589,035	2,651,980	2,665,240 85,000	2,678,566	2,691,959	45.000	2,718,946 35.000	3,487,680 3	0 3,5	0 0	3,519,955	0	3,555,243 3,	0 0	0 0	,039 3,626	(aasi 3,645,0	1/ 3,663,24	2,350,000	2.515,000	Based on an average from 1994-2014 toll revenues for this	-CIP yearly average needs adjusted to reflect the utili		
	Facilities Capital Projects (CIP) Needs Per Year for this Route - Facilities and Operational (O&M) Needs Per Year for this Route -		1				20,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000 2	5,000	25,000	25,000	25,000	25,000	25,000 25,	000 25.0	000 25.000	25,000	25,000	520,000	toll revenues for this route = \$760,000 annually	raised for use in CIP projet		
	Vessel Operational & Maint (O&M) Needs Per Year for this Route						1,577,726	1,585,615	1,593,543	1,601,511	1,609,518	1,617,566	1,625,654	2,162,120 1	,172,930 2,1	183,795	2,294,714	2,205,687	2,216,716 2,	,227,799 2	2,238,938 2,250	,133 2,261	384 2,272,6	91 2,284,05	2,295,474	40,177,568	\$ 760,000	the STI legislation		
	Total CIP Needs Per Year for this Route		1											6,900,000		200,000	6,900,000	6,900,000	0 1,	,200,000 6	5,900,000 6,900	,000 0	0	0	2,350,000	49,015,000		\$ (718,000)	\$ 1,786,500	\$ 1,690,750
	Total OSM Needs per Year for this Route -		+ -				4,186,761	4,262,595	4,283,783	4,780,077	4,326,477	4,347,985 6,967,985	4,389,600	5,674,800 6 12,574,800 6	457,948 7,3	511,238 511 238	7,339,669	5,768,242	5,796,959 6,	500,818	5,854,822 6,42 2,754,822 13,32	972 6,153	267 5,942,7	06 6,447,29	8 352 032	161,046,050		\$ 4,367,939		\$ 5,601,553
Capital Replacement - Sound Class Vessel	\$18,000,000 Replacement Vessel: Ferry (Sound)		No	2011	2041	28	4,180,701	4,200,393	4,300,703	4,780,077	4,404,417	0,800,803	11,304,000	12,374,800 C	(430,940 8,3	744,430	24,239,009	12,000,242	2,780,839 7,	,300,610 14	2,739,862 23,86	2,972 0,133	2,012,7	0,440,20	10,332,033	202,040,030		3 4,409,939	5 6,786,626	3 8,052,303
O&M Ocracoke (Silver Lake) Ramp & Gantry (Structure #Hyde 114)	\$1,750,000 Ramp & Gantry: Reconstruction	Swan Quarter N/A	No	2012	N/A													150,000	800,000 8	800,000										
O&M Swan Quarter Ramp & Gantry (Structure Whyde 120)	\$1,750,000 Ramp & Gantry: Reconstruction	N/A	No	2001	N/A														150,000 8	800,000	800,000									
O&M Swan Quarter Ramp & Gantry (Structure #Hyde 120)	\$1,750,000 Ramp & Gantry: Reconstruction	N/A	No	2001	N/A														150,000 8	800,000	800,000									
OSM Support Vessels: Pro-rata split for this route based on traffic care OSM Support Vessels: Pro-rata split for this route based on traffic care	\$ 3.18% = Percent Traffic Carried on this route \$ 3.18% = Percent Traffic Carried on this route																												l -	
	The state of the s																													
	lated Capital Improvement Projects (CIP) Needs Per Year for this Route						0	0	0	0	0	0		0	0	0	0	0	0	0	0 0		0	0	0	0				
	THER Capital Improvement Projects (CIP) Needs Per Year for this Route		+			-	0	0	0	0	0	0	0	0	0	0		0	0 1,100,000 2,	0	0 0		0	0	0	5.250.000	1		l	
	Gantry Operations & Maint Proj (O&M) Needs Per Year for this Route = Oredging Operations & Maint Proj (O&M) Needs Per Year for this Route =		1				0	0						0		50.000			0 2,	0 0	0 0		0	0	0	350,000			l —	
	Marine Maintenance (O&M) Needs Per Year for this Route								0	0	0	0	0	0	600,000				0	0	0 0	600,	000 0	0	255,000	1,710,000			i	
	Ferry Personnel Operational (O&M) Needs Per Year for this Route						1,834,049	1,893,219	1,902,685	1,922,198	1,921,759	1,931,368	1,941,025	0 1,950,730 1	,960,484 1,9	770,286	1,980,138	1,990,038	1,999,989 2,	,009,988 2	0 0	,139 2,040	2,050,4	91 2,060,74	2,071,047	39,470,703	Based on an average from 1994-2014	-CIP yearly average needs		
	Facilities Capital Projects (CIP) Needs Per Year for this Route		_					0		0	0	0	0	0	0	0	0	0	0	0	0 (40,000 40,		0	0	0	0	toll revenues for this	adjusted to reflect the utili		
	Facilities and Operational (O&M) Needs Per Year for this Route - Vessel Operational & Maint (O&M) Needs Per Year for this Route -	1	1				2,073,649	2.084,000	2.094.428	40,000 2.304.901	40,000 2.115.425	40,000 2.126.002	2.136.632	40,000 2,147,315 2	158.052 2.1	168.842	179.686	4J,000 2.190.585	2.201.539 2	212.545 2	40,000 40, 2,223,608 2,234	726 2.745	1900 2.257 1	29 2,268 41	40,000	795,000 41,503,135	route = \$760,000 annually S 215,000	raised for use in CIP project the STI legislation	t funding as per	
	Total CIP Needs Per Year for this Route						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0		0	0	0	0	215,000	\$ (215,000)	s -	\$ (215,000)
	Total O&M Needs per Year for this Route						3,942,689	4,017,227	4,037,113	4,057,099	4,077,184	4,097,370	4,117,657	4,138,045 4	758,536 4,5	529,128	2,454,824	4,370,623	5,341,528 6,	,662,533 5	5,883,646 4,30	,865 4,926	189 4,347,6	30 4,369,15	4,645,804	89,078,838		\$ 4,026,262	\$ 4,177,205	\$ 4,453,942
	Total CIP & O&M Needs Per Year for This Route						3,942,689	4,017,227	4,037,113	4,057,099	4,077,184	4,097,370	4,117,657	4,138,045 4	758,536 4,5	529,128	2,454,824	4,370,623	5,341,528 6,	,662,533 5	3,883,646 4,30	,865 4,926	189 4,347,6	20 4,369,15	4,645,804	89,078,838		\$ 4,026,262	\$ 4,177,205	\$ 4,453,942

- The 2016 Long Range Plan will be finalized February 2016
- Increased detail in regards to O&M and CIP



Key Decision Factors in the Development of the 2016 Asset Management Plan:

- Based on a life cycle and rehabilitation costs we are defining asset life of ferry vessels as 30 years. Ferry Division is working with the Research Section to provide a scope of study for a North Carolina university to develop a data driven approach in defining the true asset life of vessels within the Ferry Division.
- 2. Vessel Rehabilitation (Extensive) was eliminated as a planned approach in this asset management plan because there is no existing funding source for this costly procedure.
- 3. The Hatteras Class vessels are being phased out and replaced with River Class vessels in order to provide greater capacity and continuity of operations throughout the Ferry Division.
- 4. Replacement Costs:
 - Sound Class Vessel Replacement (New Construction) equals approximately \$ 18M
 - River Class Vessel Replacement (New Construction) equals approximately \$ 15M
- This plan is much more in depth and breaks O&M and CIP projects into smaller and better defined sub-sets
- 6. Facility CIP needs are added but not counted toward STI (eligible) needs

Items shown in RED indicate change from key factors used to develop FY2014 Plan



Questions?

