2017

JOINT APPROPRIATIONS – TRANSPORTATION

MINUTES

HOUSE COMMITTEE ON TRANSPORTATION APPROPRIATIONS
2017 SESSION

Clerks: Pam Pate, Viddia Torbett, John Wall



Representative Frank Iler, Chair



Representative Michele Presnell, Chair



Representative Phil Shepard, Chair



Representative John Torbett, Chair



Representative Dana Bumgardner



Representative Terry Garrison



Representative Duane Hall



Representative Grier Martin



Representative Larry Strickland



Representative Evelyn Terry



Representative Sam Watford

HOUSE COMMITTEE ON APPROPRIATIONS SUBCOMMITTEE ON TRANSPORTATION

MEMBER	ASSISTANT	PHONE	OFFICE	SEAT
Rep. Frank Iler, Chair	Carla Langdon	301-1450	639	14
Rep. Michele Presnell, Chair	John Wall	733-5732	418A	51
Rep. Phil Shepard, Chair	Pam Pate	715-9644	530	53
Rep. John Torbett, Chair	Viddia Torbett	733-5868	538	41
Rep. Dana Bumgardner	Margie Penven	733-5809	2119	40
Rep. Terry Garrison	Anita Bennett	733-5824	1017	95
Rep. Duane Hall	Brad Kennedy	733-5755	1004	58
Rep. Grier Martin	Sylvia Hammons	733-5773	1023	94
Rep. Larry Strickland	KJ Stancil	733-5849	602	112
Rep. Evelyn Terry	Franklin Terry	733-5777	1015	80
Rep. Sam Watford	Regina Irwin	715-2526	2121	76

SENATE Appropriations of Department of Transportation
COMMITTEE 2017-2018 MEMBERSHIP LIST

MEMBERS

Jim Davis Co - Chair
Room 621 LOB
733-5875
Jim.Davis@ncleg.net

Sen. Tom McInnis Co-Chair
620 LOB
733-5953
Tom.McInnis@ncleg.net

Sen. Wesley Meredith Co – Chair
Room 314 LOB
733-5776
Wesley.Meredith@ncleg.net

Sen. Don Davis
519 LOB
715-8363
Don.Davis@ncleg.net

Sen. Joel Ford
1119 LB
733-5955
Joel.Ford@ncleg.net

Sen. Cathy Dunn
Room 2113, LOB
733-5665
Cathy.Dunn@ncleg.net

STAFF

Stephen Ogden
1406 A LB
3-5149
Stephen.Ogden@ncleg.net

*Amna Cameron
619 LOB
Fiscal Research
733-4910
amna.cameron@ncleg.net

Susan Tyler
619 LOB
Fiscal Research Division
733-4910
Susan.Tyler@ncleg.net

Luke Gillenwater
401 LOB
Bill Drafting Staff Attorney
733-6660
wendy.ray@ncleg.net

Kaye Culberson - Clerk
621 LOB
3-5875
Kaye.Culberson@ncleg.net

Libby Spain - Clerk
620 LOB
3-5953
Libby.Spain@ncleg.net

Debbie Lown - Clerk
314 LOB
733-5776
meredithla@ncleg.net

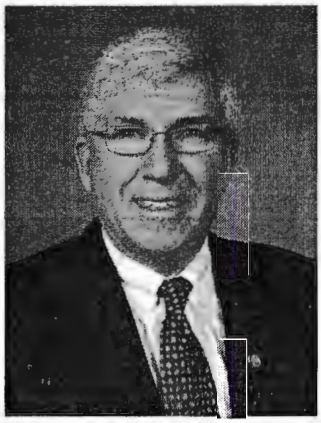
APPROPRIATIONS ON DEPARTMENT OF TRANSPORTATION
SENATE COMMITTEE

2017 - 2018

Jim Davis
Co-Chair

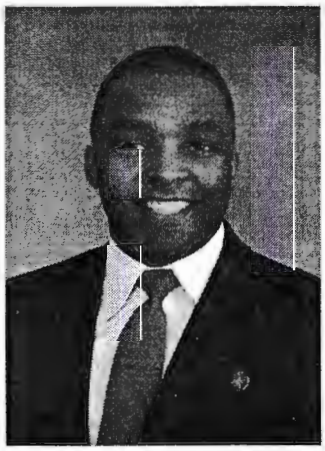


Tom McInnis
Co-Chair



Wesley Meredith
Co-Chair





Don Davis



Cathy Dunn



Joel Ford

ATTENDANCE
TRANSPORTATION APPROPRIATIONS

DATES	2-22-17	3-01-17	3-08-17	3-14-17	3-21-17	3-23-17	5-25-17								
Representative Frank Iler	*	*	*	*	*	*	*								
Representative Michele Presnell	*	*	*	*	*	*	*								
Representative Phil Shepard	*	*	*		*	*	*								
Representative John Torbett	*	*	*	*	*	*	*								
Representative Dana Bumgardner	*	*	*		*	*	*								
Representative Terry Garrison	*	*		*	*	*	*								
Representative Duane Hall							*								
Representative Grier Martin	*	*	*	*	*	*	*								
Representative Larry Strickland	*	*	*	*		*	*								
Representative Evelyn Terry	*						*								
Representative Sam Watford	*	*	*	*	*	*	*								
Senator Jim Davis	*	*	*	*	*	*	*								
Senator Tom McInnis	*	*	*	*	*	*	*								
Senator Wesley Meredith			*												
Senator Don Davis	*	*	*	*	*	*									
Senator Cathy Dunn	*	*	*	*	*	*									
Senator Joel Ford	*	*		*	*	*									

Senate Committee on Appropriations on Department of Transportation
Tuesday, February 21, 2017 at 8:30 AM
Room 1027/1128

MINUTES

The Senate Committee on Appropriations on Department of Transportation met at 8:30 AM on February 21, 2017 in Room 1027/1128. Four Senate members and eleven House members were present.

Senator Jim Davis presided.

Senator Davis introduced committee members, welcomed visitors, and thanked the Sergeant-at-Arms (David Leighton, Russell Salisbury, Steve McKaig, Billy Fritscher) and Pages (Blake Stout, Chapel Hill, sponsored by Senator Foushee; Sarah Bowles, Sponsored by Speaker Moore; Bryce Yarborough, sponsored by Representative Yarborough).

Senator Davis introduced key Department of Transportation staff (see Attachment #1).

Rebecca Tippett, PH.D., Director, Carolina Demography UNC Carolina Population Center presented North Carolina's Changing Demographics (see Attachment #2) and responded to questions from committee members.

Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division North Carolina General Assembly presented Subcommittee Protocol (see Attachment #3) and responded to questions from committee members.

Amna Cameron presented the Budget Process, Roles of Fiscal Staff, Transportation Budget, and Committee Schedule (see Attachment #4) and responded to questions from committee members.

There being no further committee business, Senator Davis adjourned the meeting at 9:47 AM.

Senator Jim Davis
Presiding

Kaye Davis Culberson, Committee Clerk

Joint Appropriations Committee on Transportation

February 21, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis, Chairing
Senator Tom McInnis
Senator Wesley Meredith
Representative Frank Iler
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. Committee Member Introductions

3. DOT Key Staff Introductions

    - Sen. Jim Davis, Chair
      North Carolina General Assembly

4. North Carolina's Changing Demographics

    - Rebecca Tippett, Ph.D., Director, Carolina Demography
      UNC Carolina Population Center

5. Subcommittee Protocol

    - Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division
      North Carolina General Assembly

6. Budget Process, Roles of Staff, Transportation Budget, and Committee Schedule

    - Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division
      North Carolina General Assembly

Next meeting: DOT Primer - Wednesday, February 22, 8:30 a.m.

Principal Clerk
Reading Clerk

SENATE
NOTICE OF JOINT COMMITTEE MEETING
AND
BILL SPONSOR NOTICE

The **Senate Committee on Appropriations on Department of Transportation** will meet at the following time:

DAY	DATE	TIME	ROOM
Tuesday	February 21, 2017	8:30 AM	1027/1128 LB

Joint Appropriations on Department of Transporation agenda TBD

Senator Jim Davis, Co-Chair
Senator Tom McInnis, Co-Chair
Senator Wesley Meredith, Co-Chair

ATTACHMENT 1

Jim Trogdon Secretary-designate

General Trogdon is a registered professional engineer with more than 30 years of experience in both transportation and military service.

David Howard Chief Deputy Secretary

David Howard oversees the Division of Motor Vehicles, the non-highway divisions, civil rights and partnerships with Historically Black Colleges and Universities, as well as transportation planning.

Greer Beaty Deputy Secretary Communications

Greer Beaty oversees the N.C. Department of Transportation's internal and external communications.

Mike Holder Chief Engineer

Mike Holder oversees construction projects, maintenance, operations and customer service for North Carolina's 14 transportation divisions.

David Tyeryar Chief Financial Officer

David Tyeryar is responsible for planning and oversight of finances.

Beau Memory Executive Director NC Turnpike Authority

Beau Memory is responsible for developing and implementing the N.C. Turnpike Authority's strategic vision to address the combined effects of rapid growth, increasing congestion and funding challenges.

Eric Boyette Chief Information Officer and Acting DMV Commissioner

Eric Boyette serves dual roles at the N.C. Department of Transportation as chief information officer and acting commissioner of the Division of Motor Vehicles.

James H. Trogdon III was appointed secretary of the N.C. Department of Transportation in January 2017.

A registered professional engineer with more than 30 years of experience in transportation, Trogdon began his career with the Department in 1985 as a highway engineer. In 2000, he was named NCDOT's Division 4 Engineer, overseeing highway maintenance, construction and operations within Edgecombe, Halifax, Johnston, Nash, Wayne and Wilson counties.

Trogdon later worked with the N.C. General Assembly as director of Strategic Transportation Planning. In this role, he made recommendations and provided analysis on transportation issues, as well as drafting transportation legislation for General Assembly members and reviewing transportation programs and projects for effectiveness.

In 2009, Trogdon was named NCDOT's chief operating officer, a position he held until his retirement in 2013. As COO, he was a key leader in the department's effort to professionalize its decision-making process and become a performance-based organization with an emphasis on accountability and transparency.

Trogdon also held several private sector positions after retiring from NCDOT, including national transportation director for SAS Institute.

In addition, Trogdon has more than three decades of military service.

His duties included serving as the plans officer for road and school construction in Honduras and Ecuador, as well as infrastructure improvements in Italy. After being selected to command the 105th Engineer Group, his unit was mobilized during the Global War on Terror to provide command and control for security forces at U.S. Army installations throughout North Carolina and Virginia. His unit was again mobilized in 2006 during Operation Iraqi Freedom as the Multi-National Division North Engineer Brigade to command and control two engineer battalions, and provide assured mobility and general engineering support within northern Iraq. Major General Trogdon retired in 2016 as the Deputy Adjutant General for the North Carolina National Guard.

Trogdon earned a master's of strategic studies at the U.S. Army War College as well as a master's in civil engineering with a minor in statistics and computer science and a bachelor's degree in civil engineering from North Carolina State University.

ATTACHMENT 2

NC Demographic Trends Through 2035

Joint Appropriation Committee on Transportation

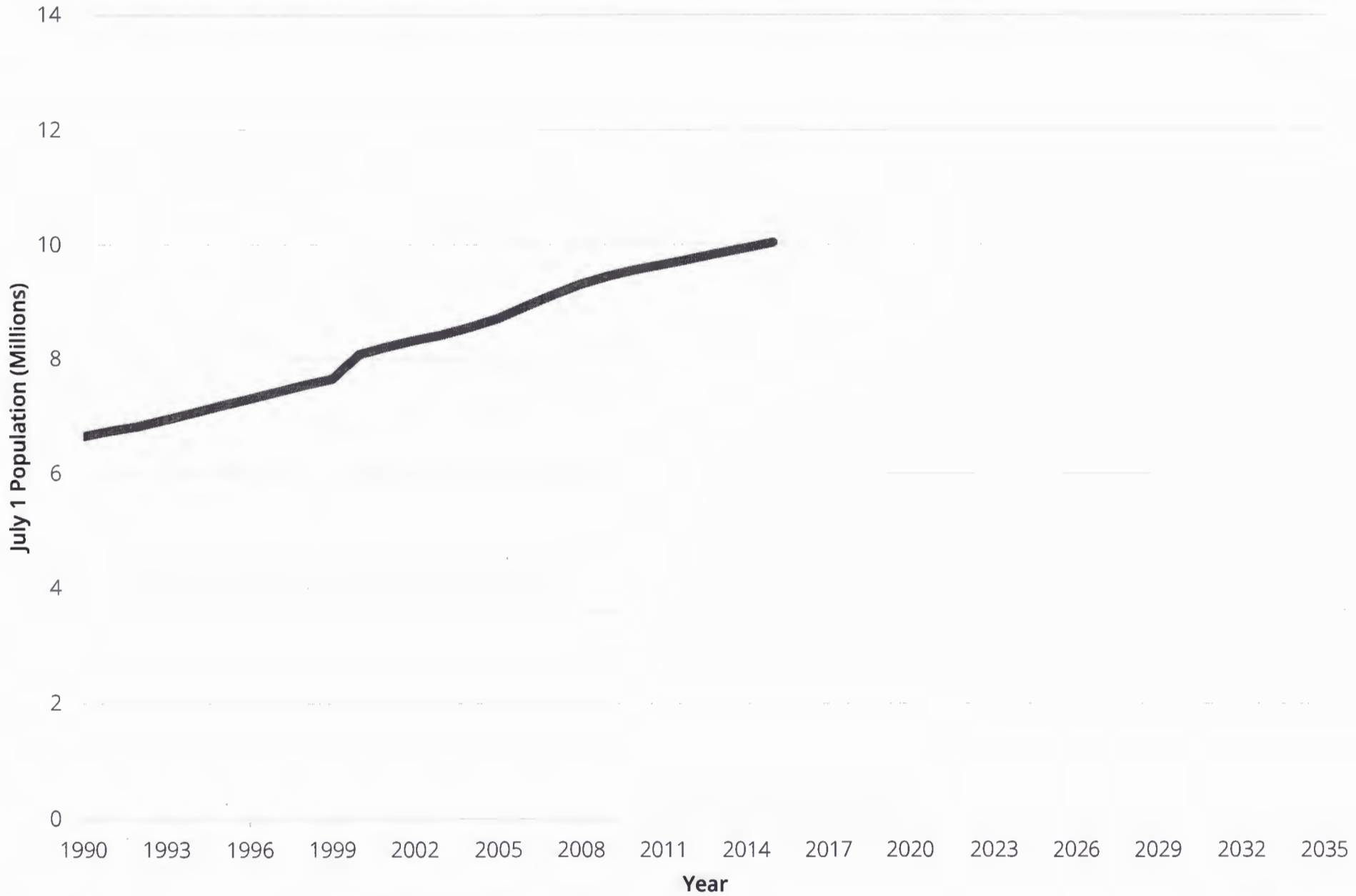
February 21, 2017

Rebecca Tippett, PhD
Director, Carolina Demography



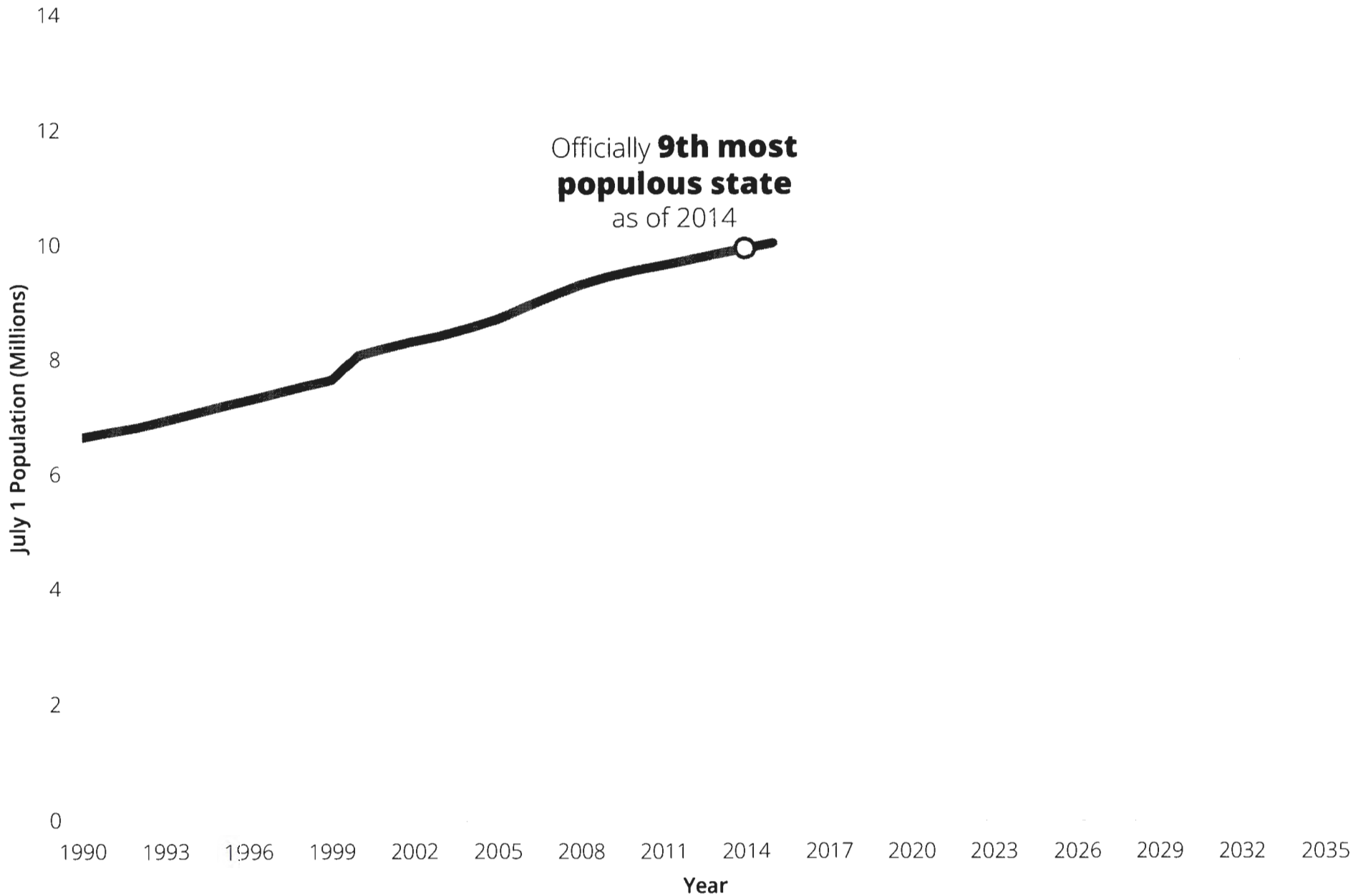
UNC CAROLINA POPULATION CENTER | CAROLINA DEMOGRAPHY

North Carolina's Total Population (July 1), 1990-2035



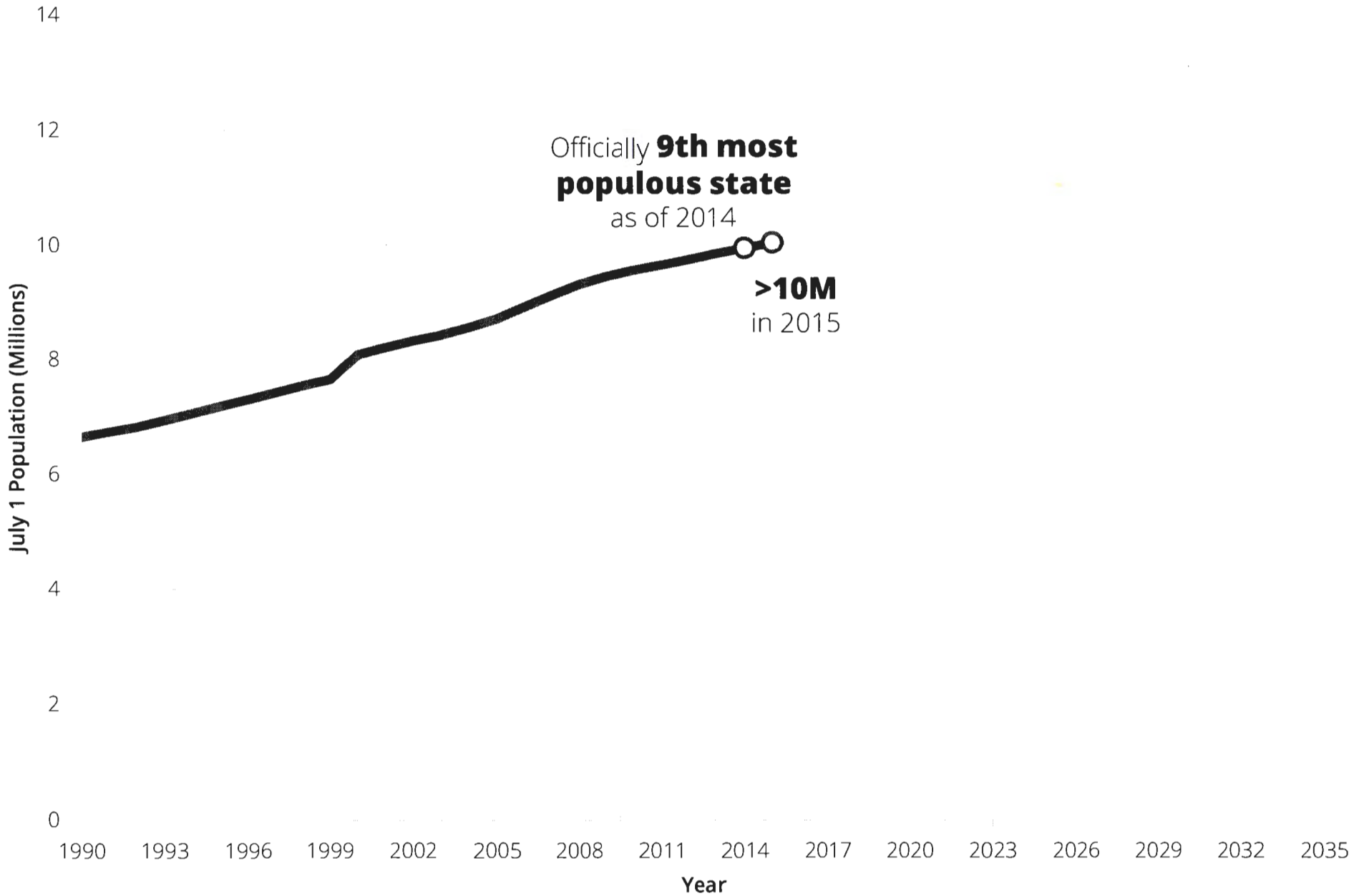
Data Source: U.S. Census Bureau Population Estimates, NCOSBM Projections

North Carolina's Total Population (July 1), 1990-2035



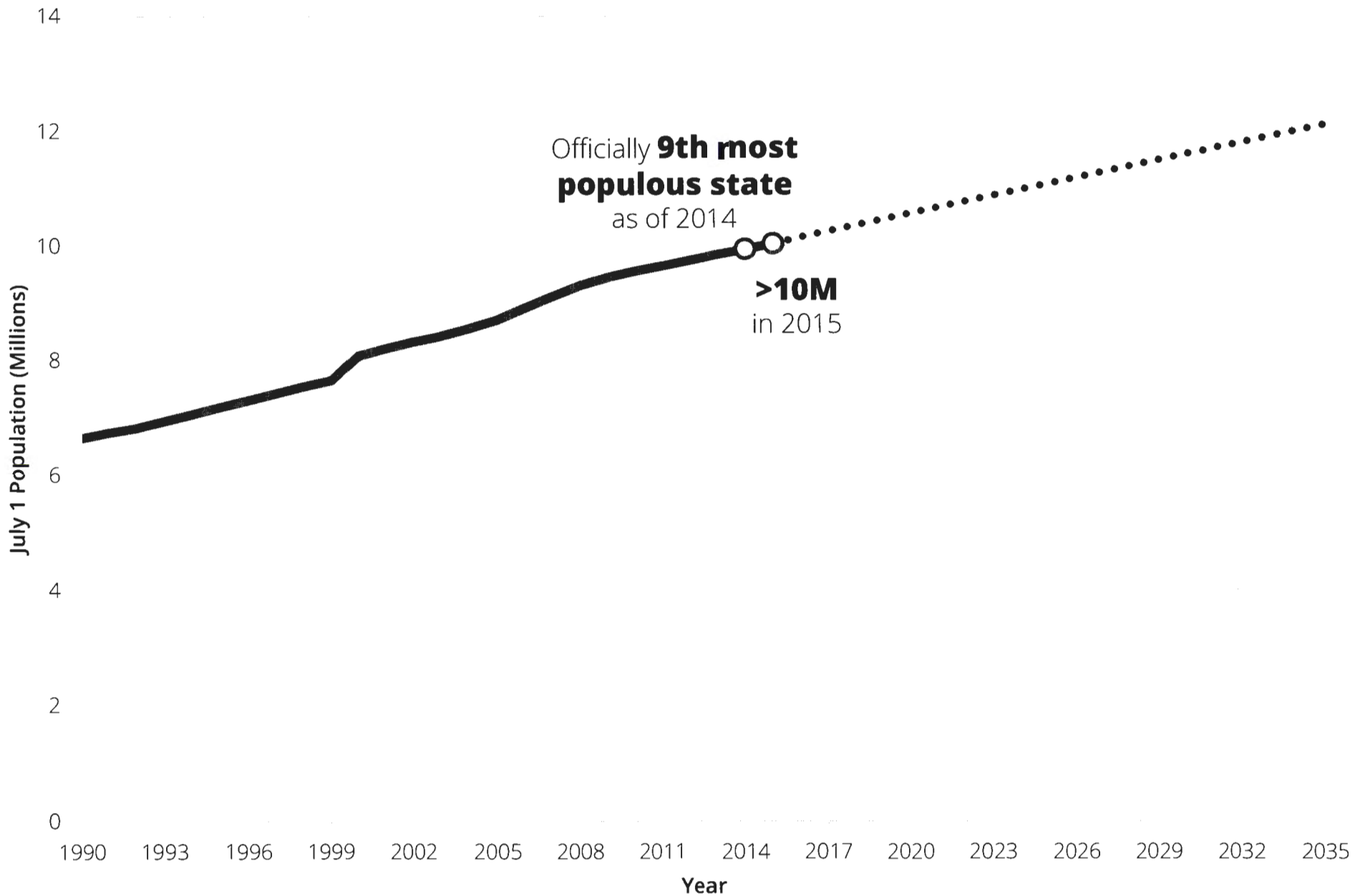
Data Source: U.S. Census Bureau

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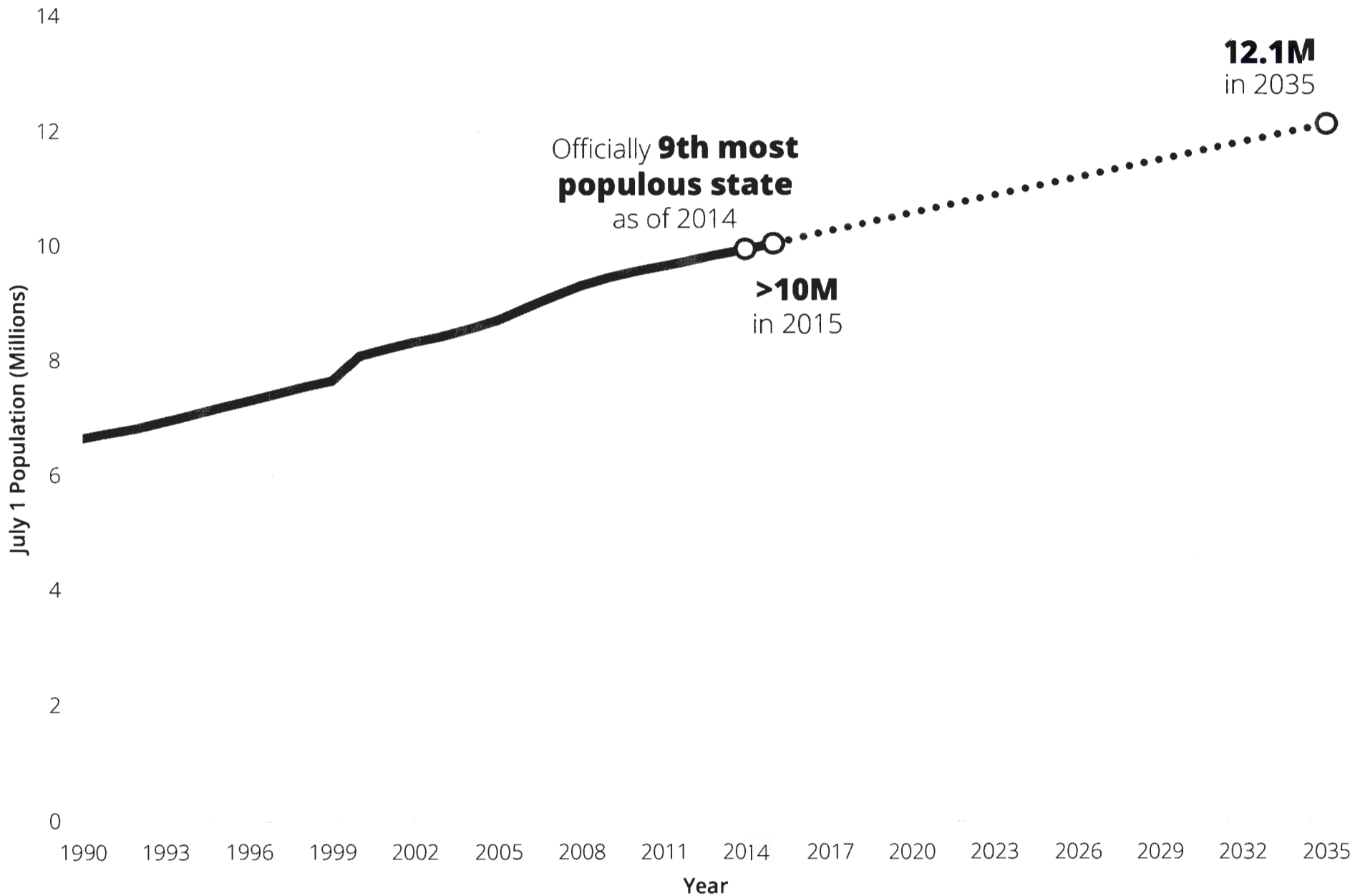
Data Source: U.S. Census Bureau

North Carolina's Total Population (July 1), 1990-2035

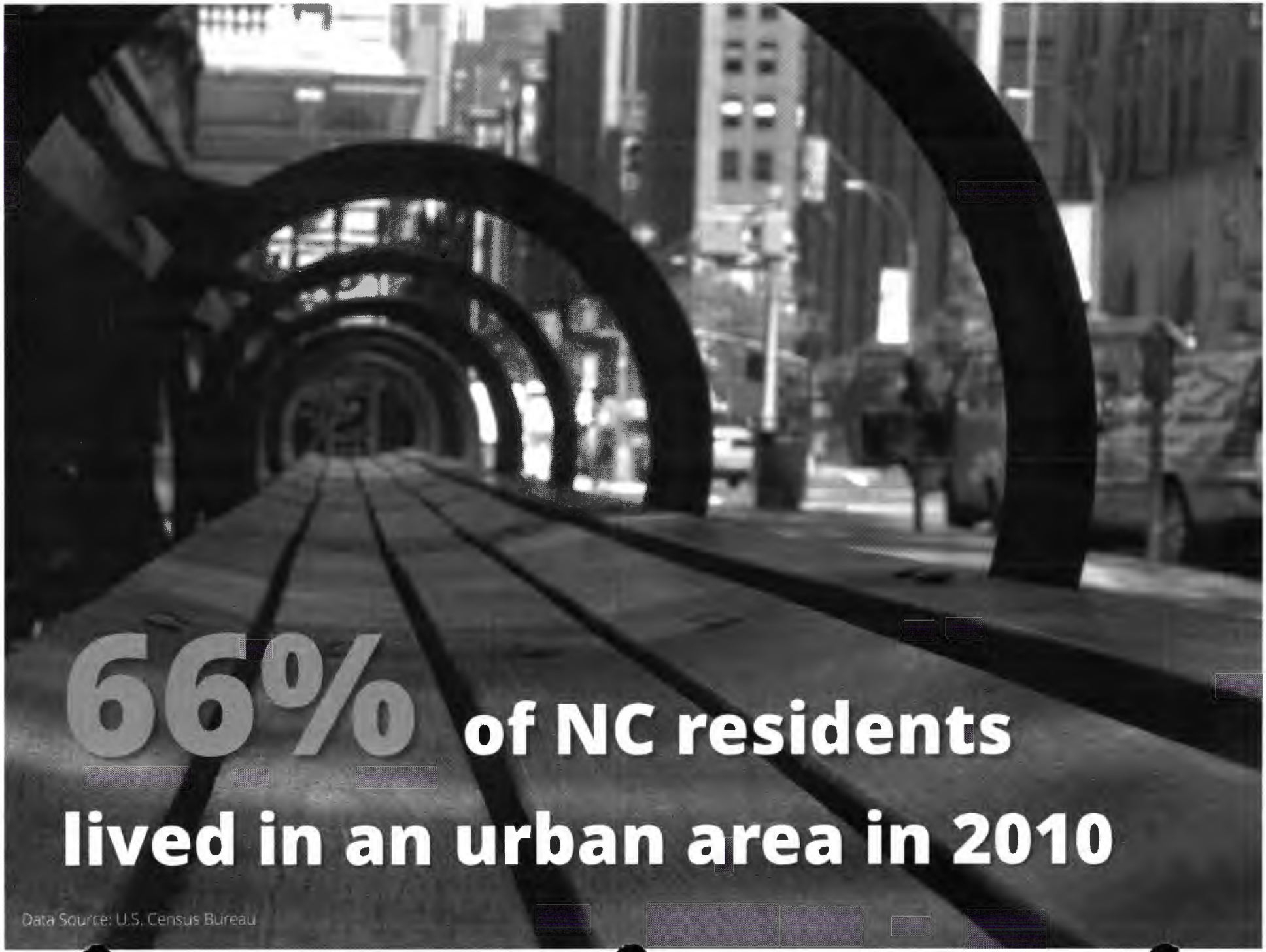


Data Sources: U.S. Census Bureau, NC OSBM

North Carolina's Total Population (July 1), 1990-2035

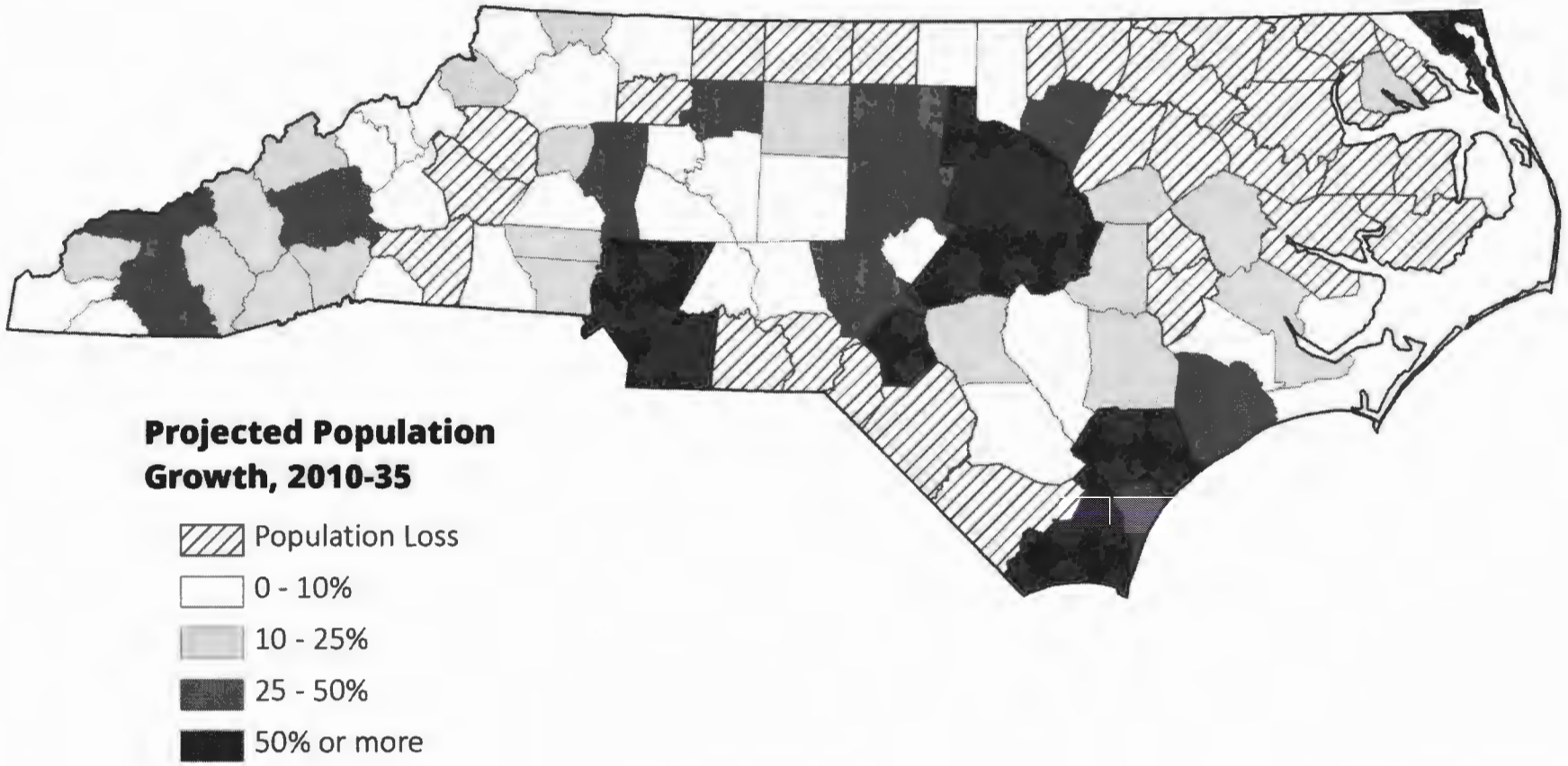


Data Sources: U.S. Census Bureau, NC OSBM


66% of NC residents
lived in an urban area in 2010
Data Source: U.S. Census Bureau

Population growth will be uneven across North Carolina

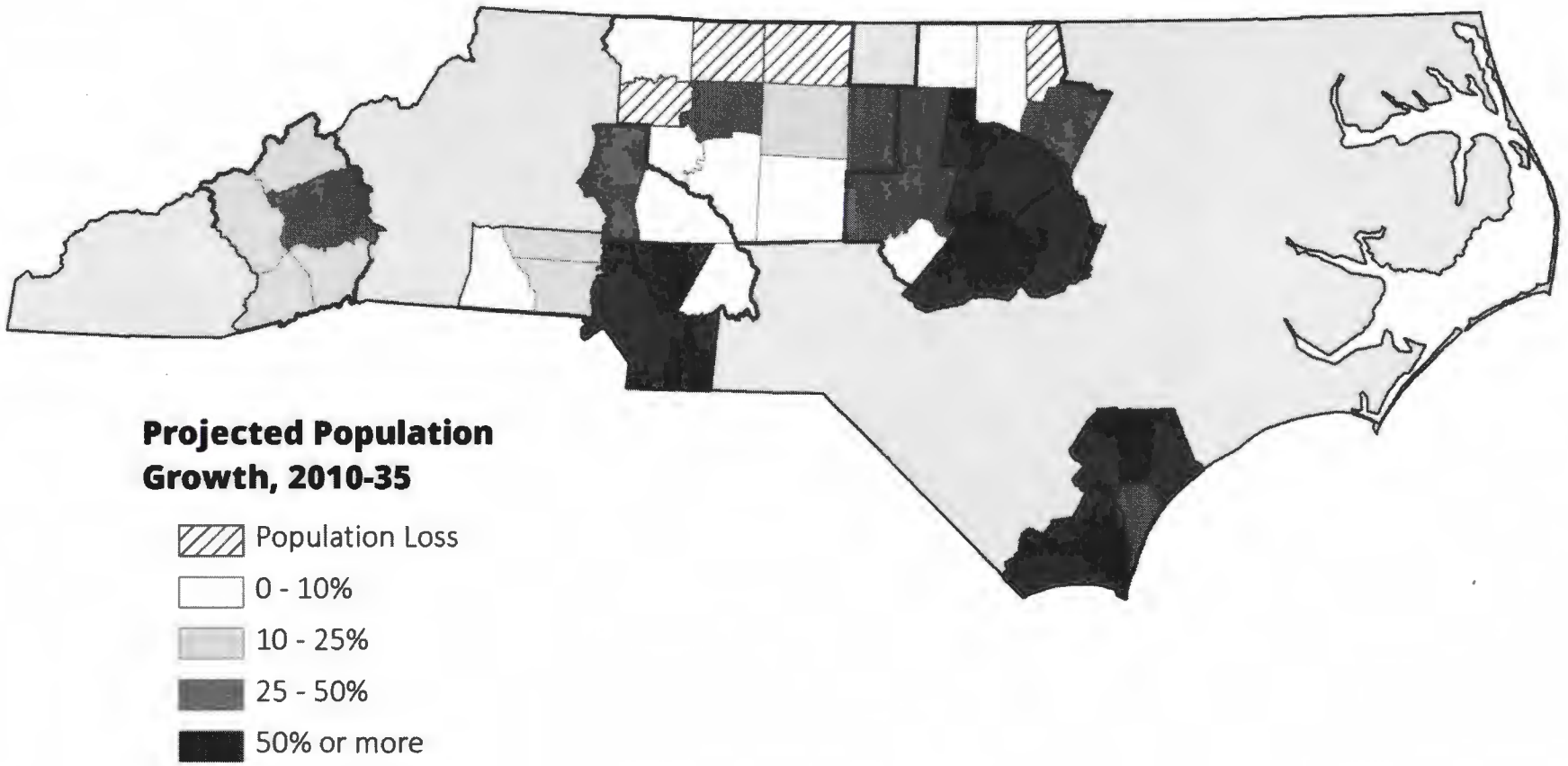
Projected population growth, 2010-2035



Data Source: NC OSBM

Nearly all of the fastest growing counties are in major metro areas

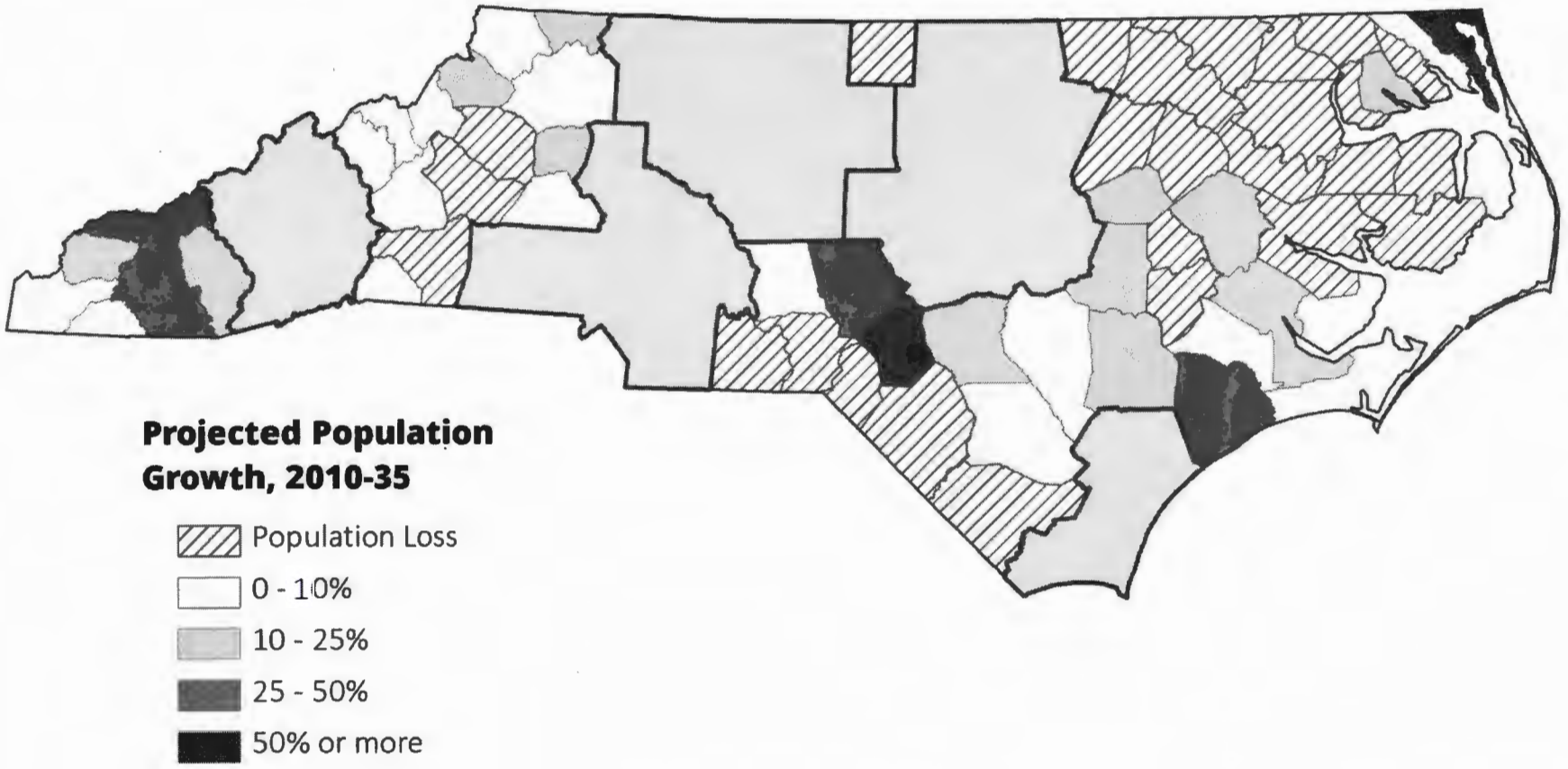
Projected population growth, 2010-2035



Data Source: NC OSBM

Many counties outside of major metros projected to lose population

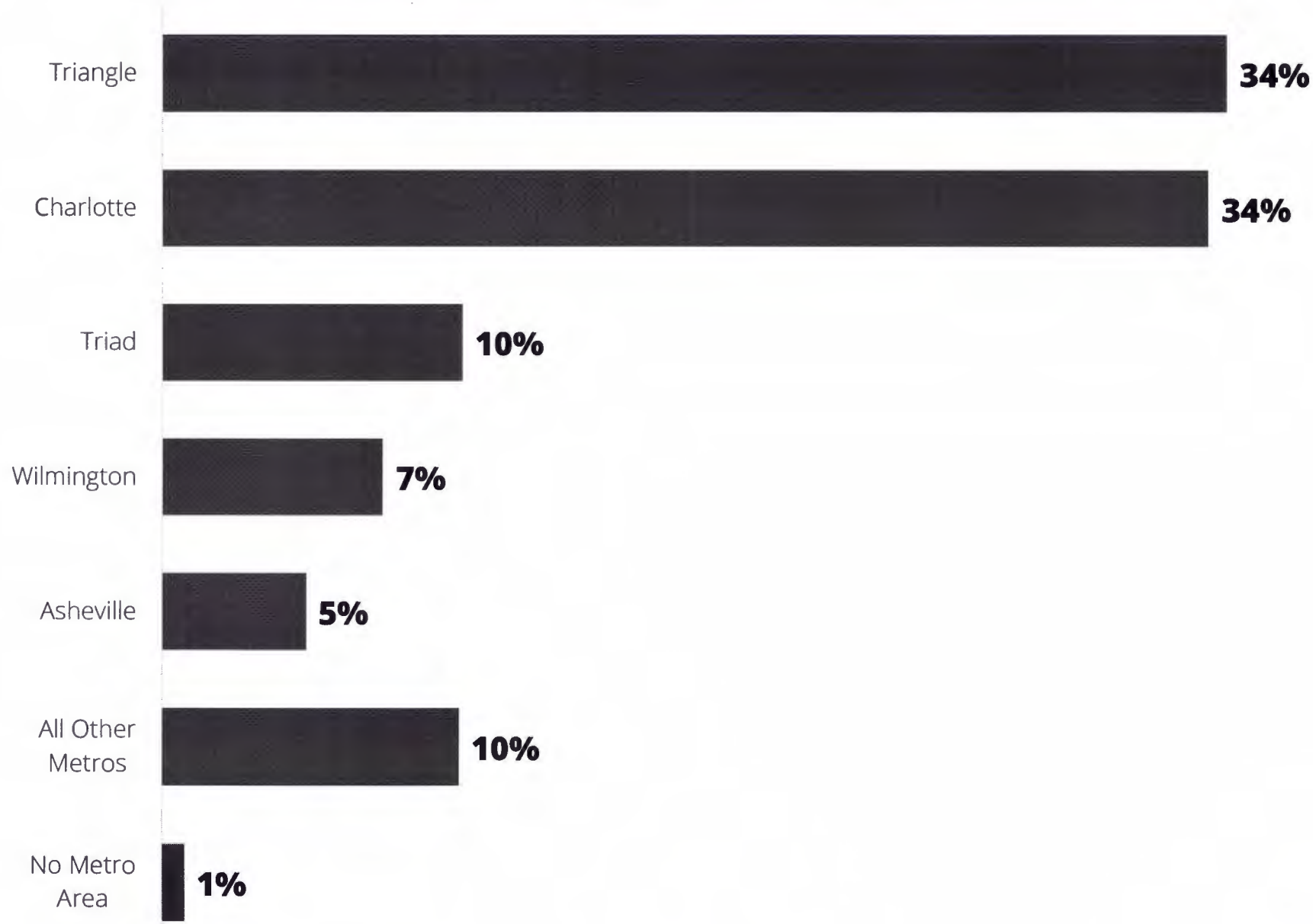
Projected population growth, 2010-2035



Data Source: NC OSBM

Almost all future NC growth projected to occur in urban areas

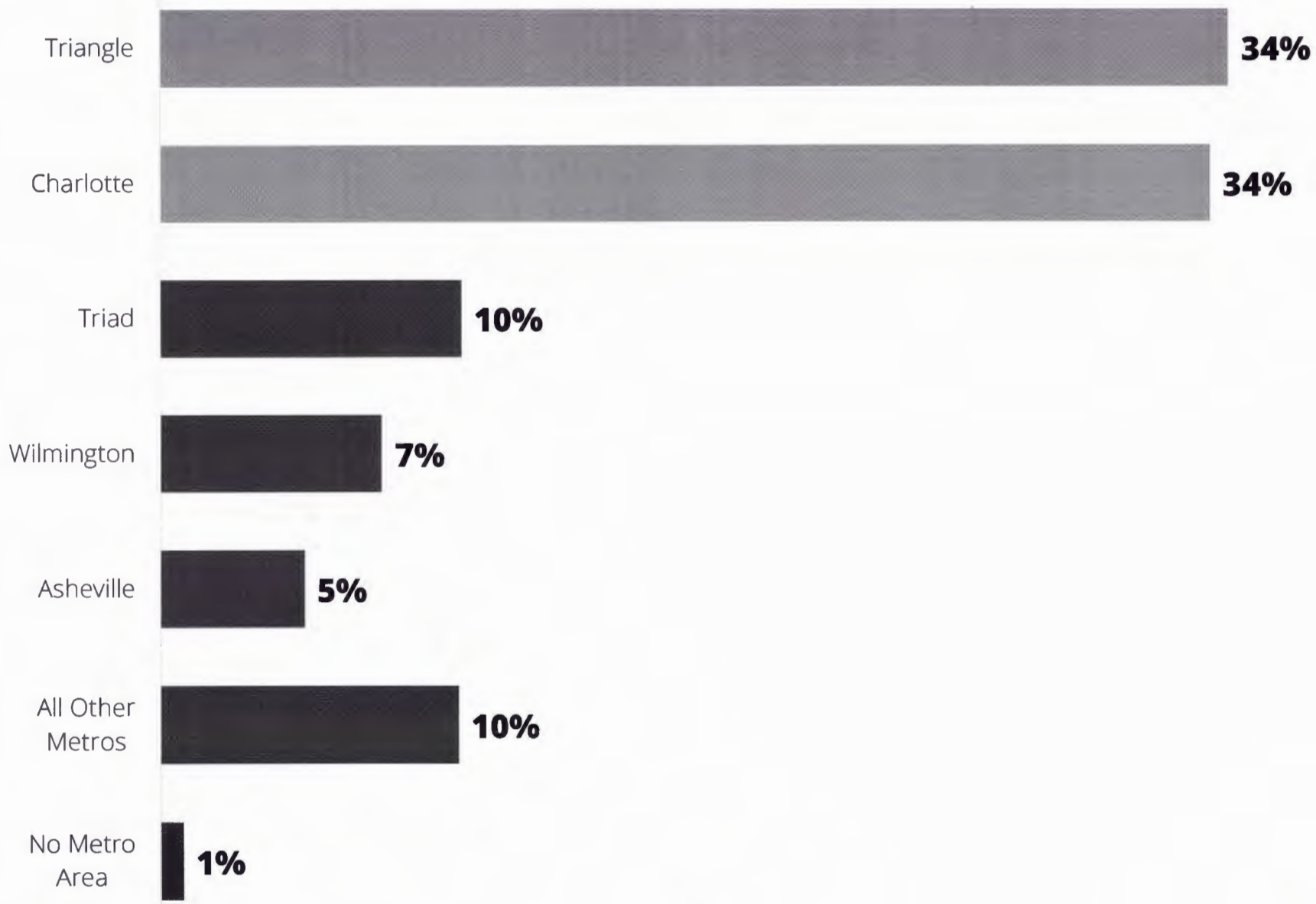
Projected share of 2010-2035 state population growth for select metropolitan areas



Data Source: NC OSBM

Two-thirds of NC growth projected to occur in Triangle or Charlotte

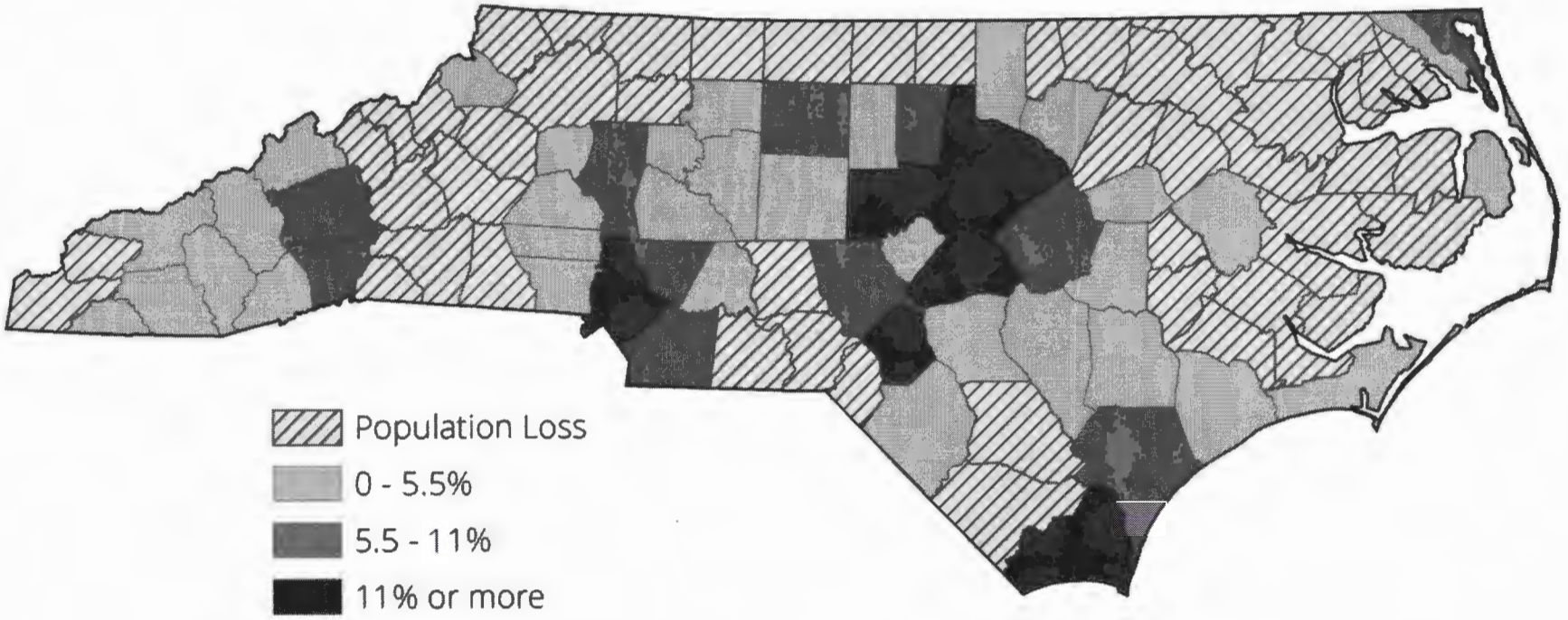
Projected share of 2010-2035 state population growth for select metropolitan areas



Data Source: NC OSBM

Observed growth more uneven than projected

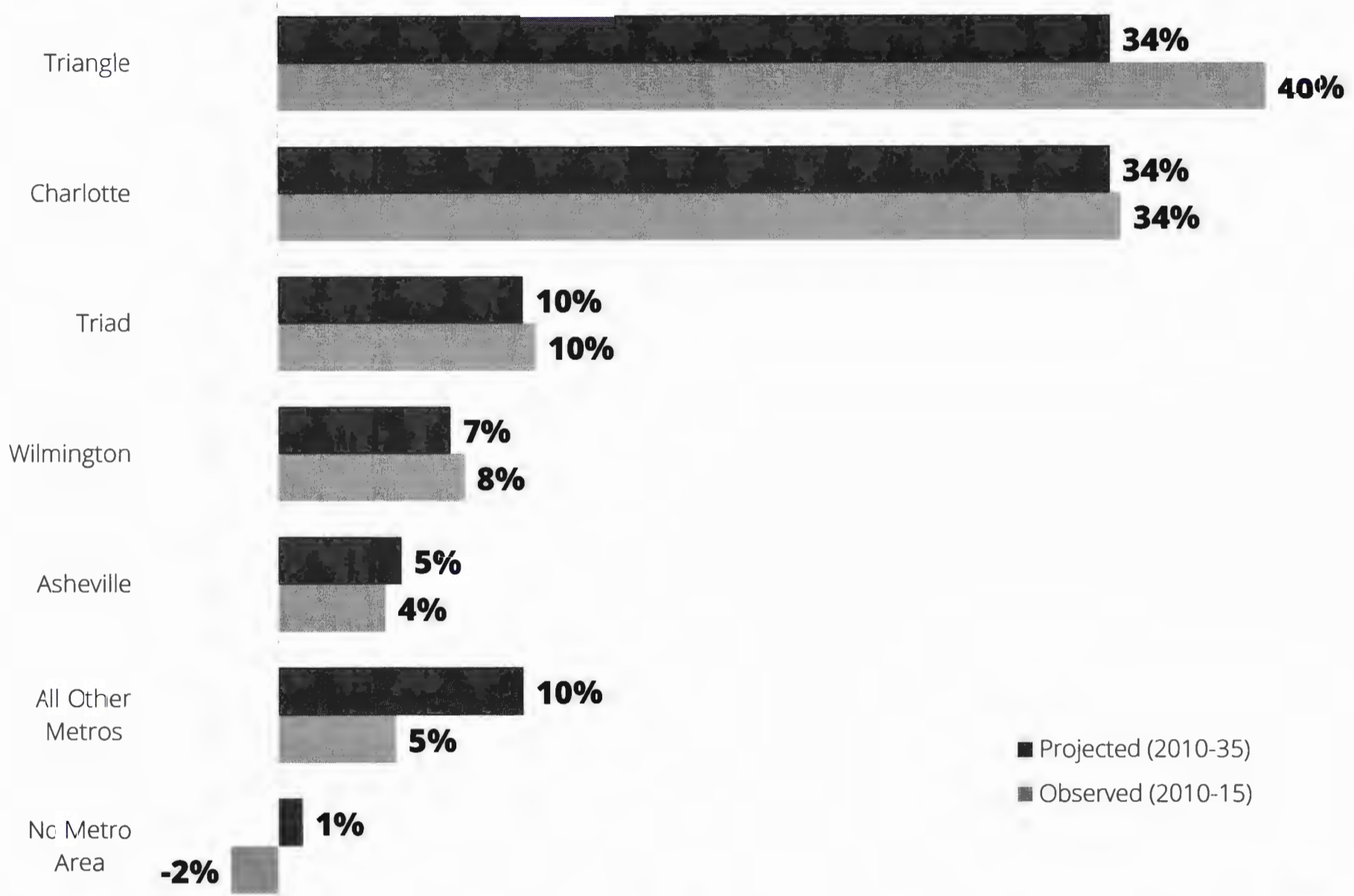
Population growth, 2010-2015



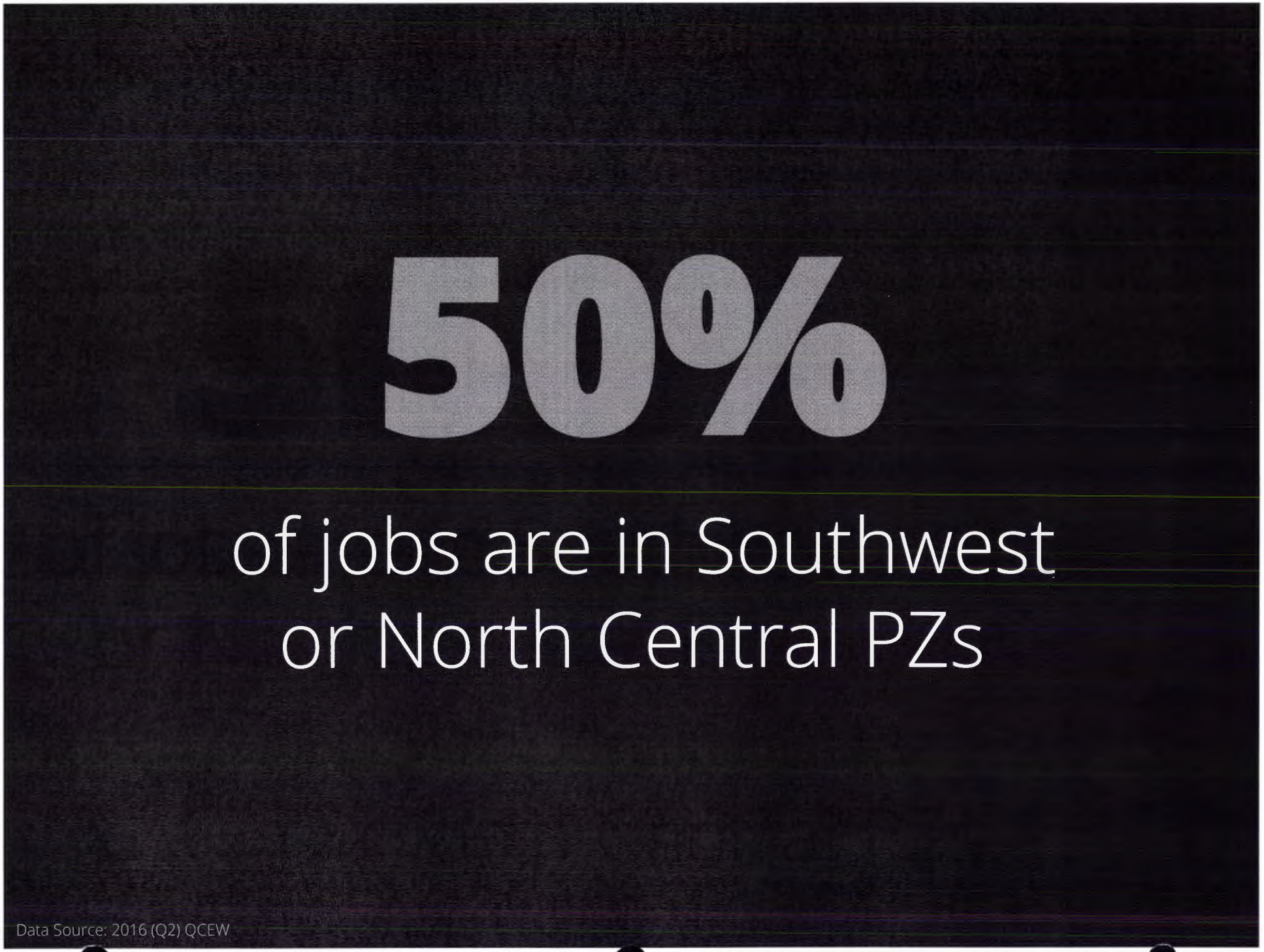
Data Source: U.S. Census Bureau

Observed growth suggests Triangle may outpace projections

Share of state projected vs. observed growth for select metro areas



Data Sources: NC OSBM, U.S. Census Bureau


50%
of jobs are in Southwest
or North Central PZs
Data Source: 2016 (Q2) QCEW

Concentration of jobs in urban centers drives population shifts

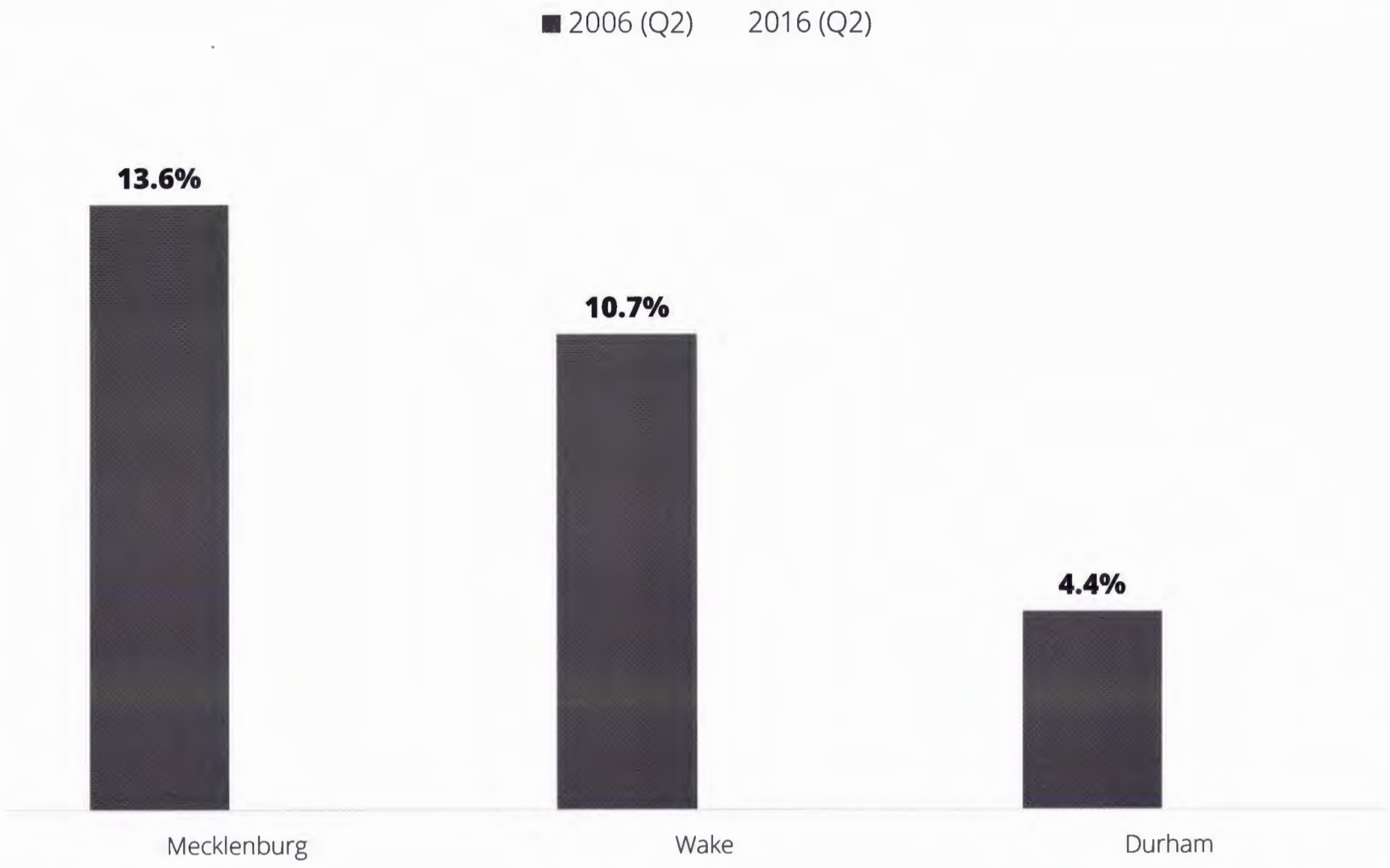
Share of NC employment in Mecklenburg, Wake, and Durham, Q2 2006 vs. Q2 2016



Data Source: QCEW

Concentration of jobs in urban centers drives population shifts

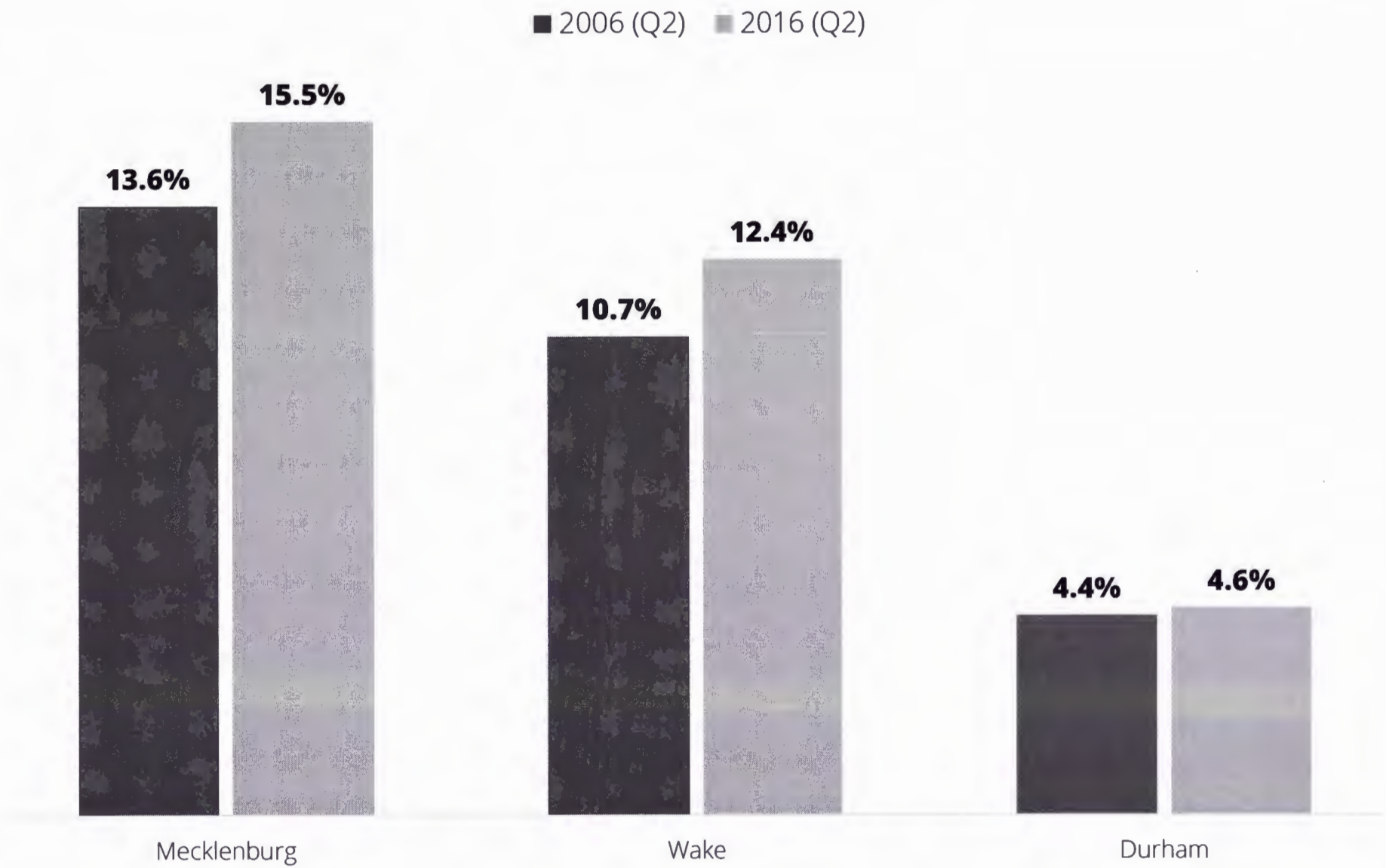
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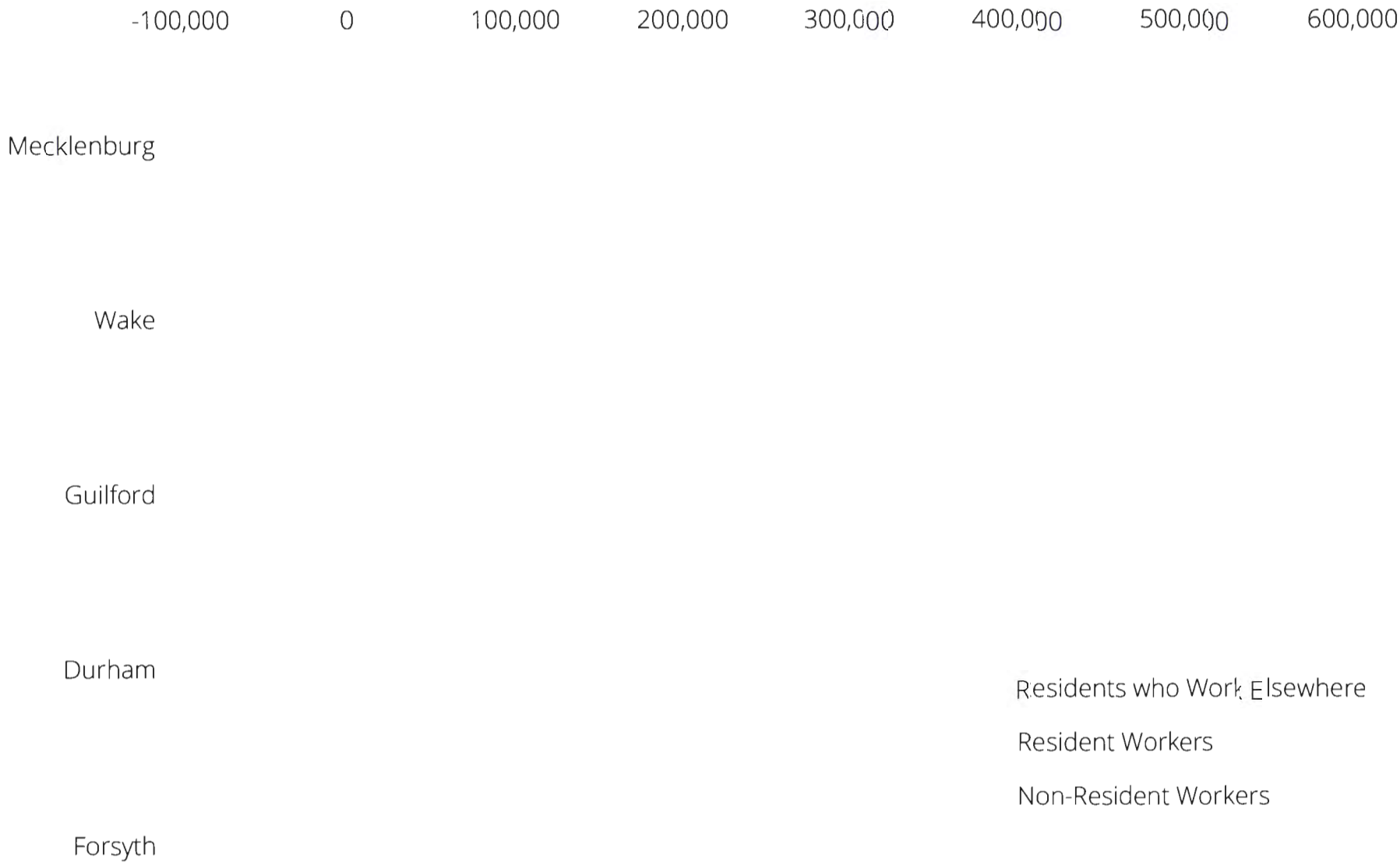
Share of NC employment in Mecklenburg, Wake, and Durham, Q2 2006 vs. Q2 2016



Data Source: QCEW

More than 40% of NC workers work in these 5 counties

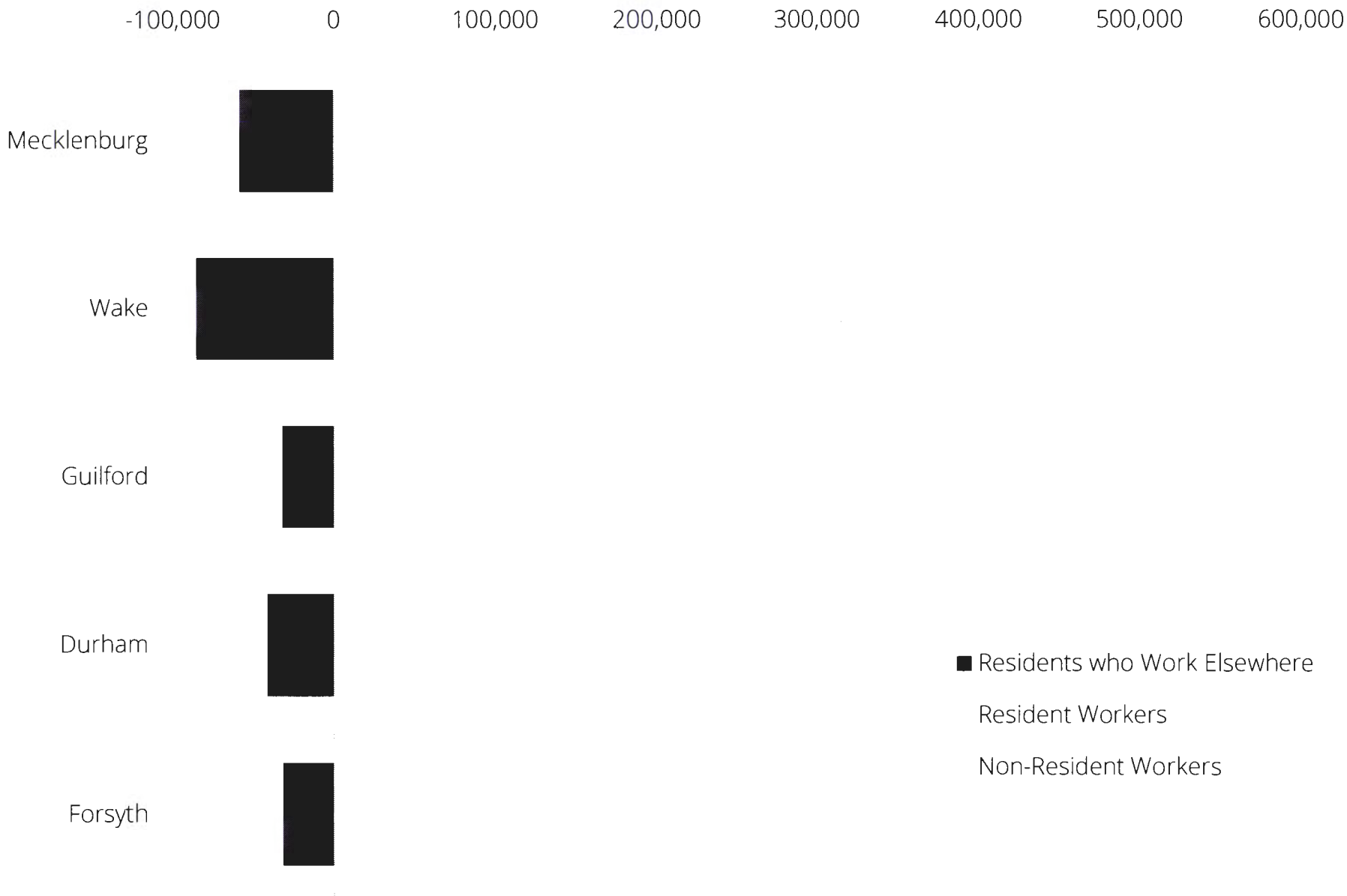
Net commuting patterns, 2009-2013



Data Source: 2009-2013 5-Year American Community Survey

More than 40% of NC workers work in these 5 counties

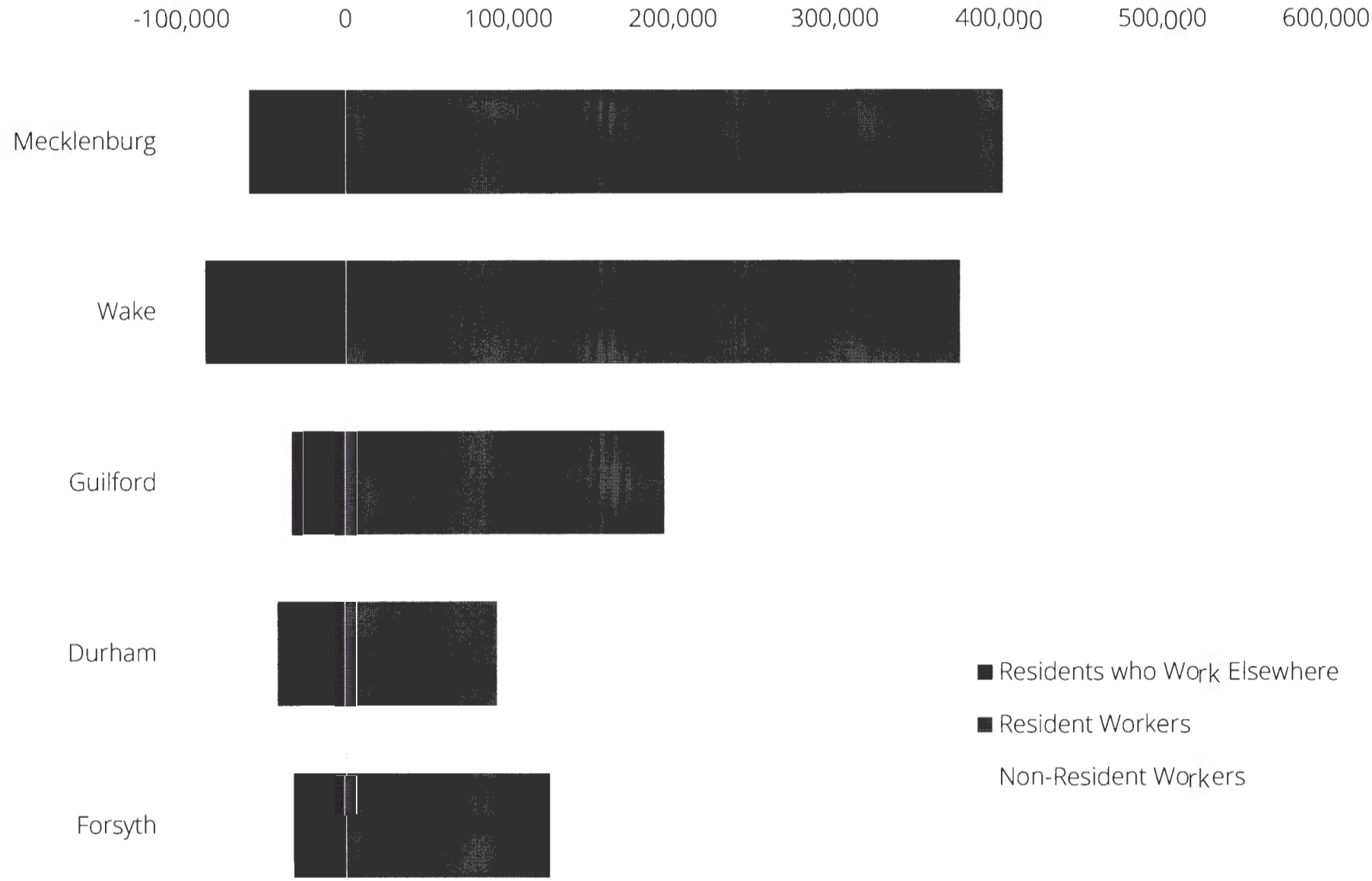
Net commuting patterns, 2009-2013



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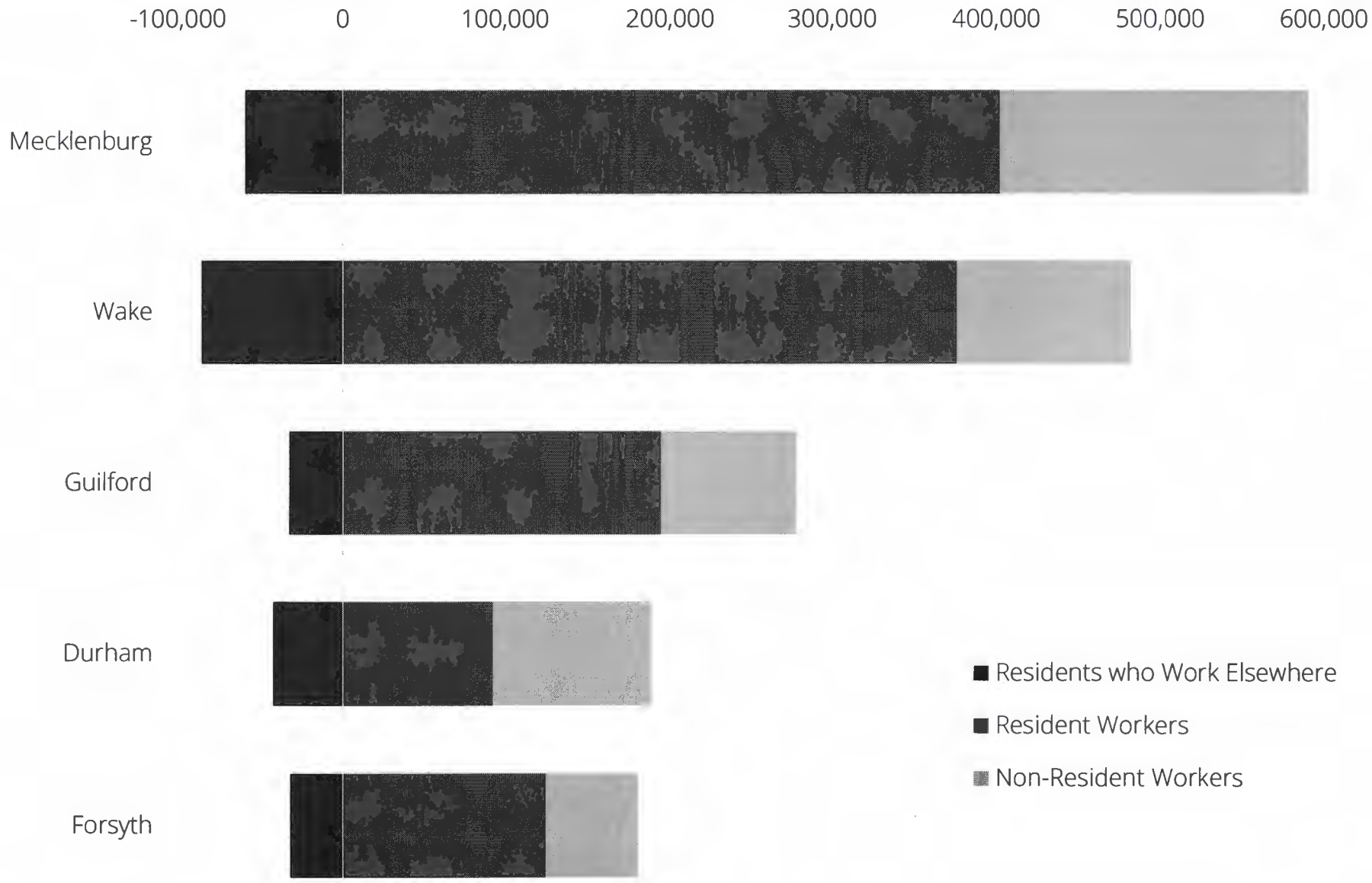
Net commuting patterns, 2009-2013



Data Source: 2009-2013 5-Year American Community Survey

More than 40% of NC workers work in these 5 counties

Net commuting patterns, 2009-2013



Data Source: 2009-2013 5-Year American Community Survey

Average commute to work:

24 minutes

Data Source: 2015 American Community Survey

Non-car commuting
(among 4.5 million workers)

228,000 work at home

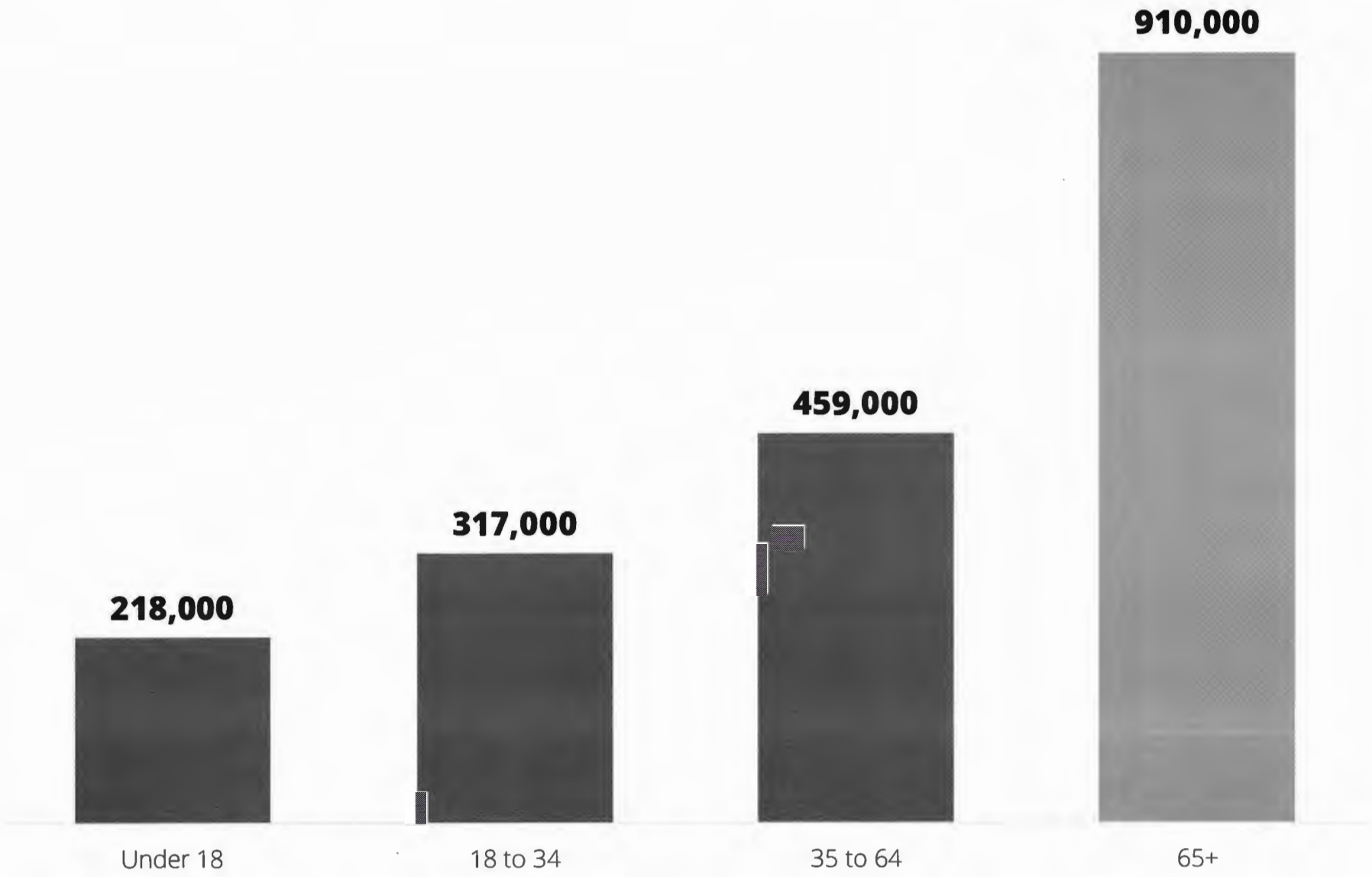
50,000 public transit

89,000 bike or walk

Data Source: 2015 American Community Survey

Nearly half of state's 1.9M new residents by 2035 will be 65+

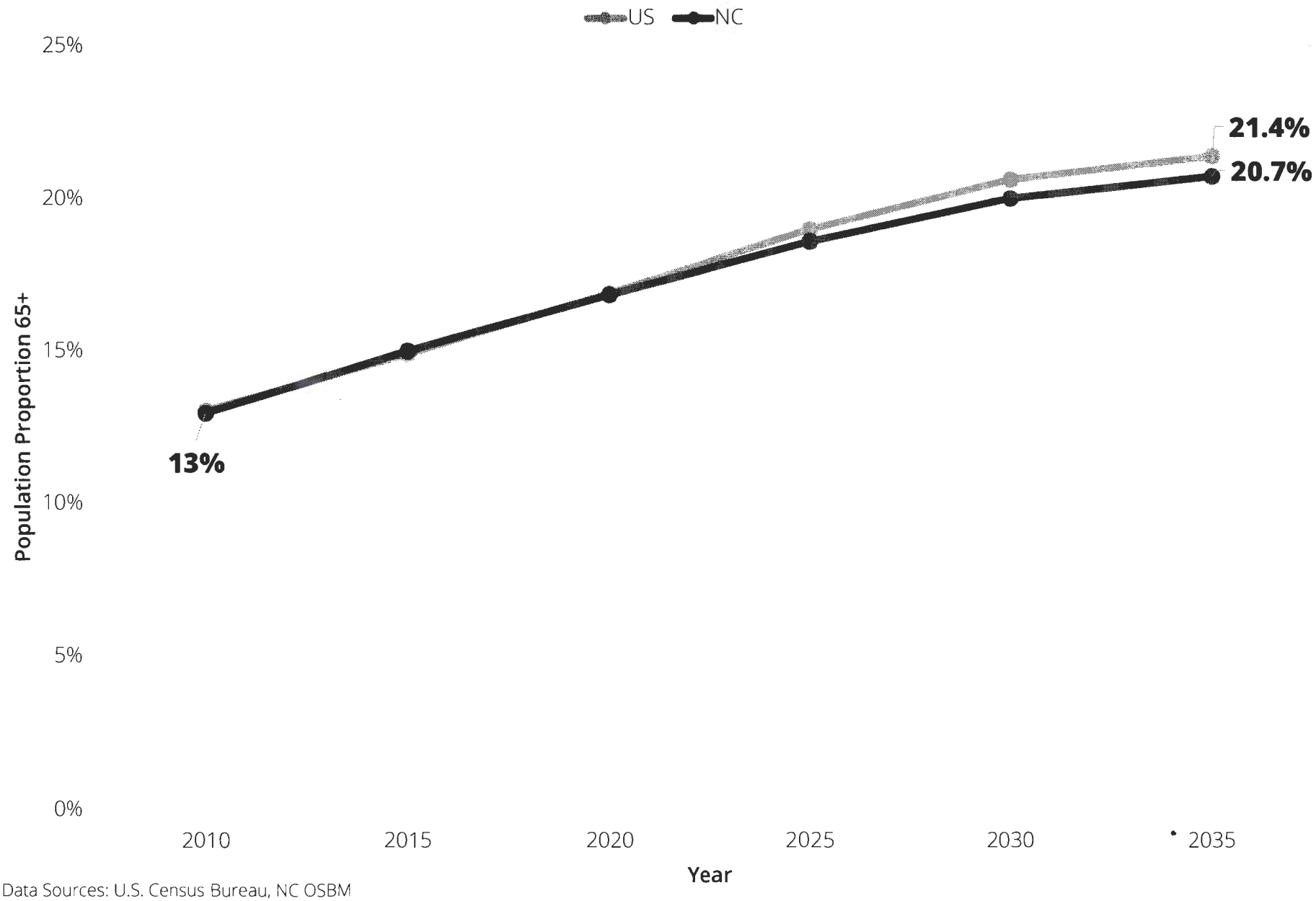
Projected NC population growth by age, 2017-2035



Data Source: NC OSBM

By 2035, more than 1 in 5 NC residents will be 65 or older

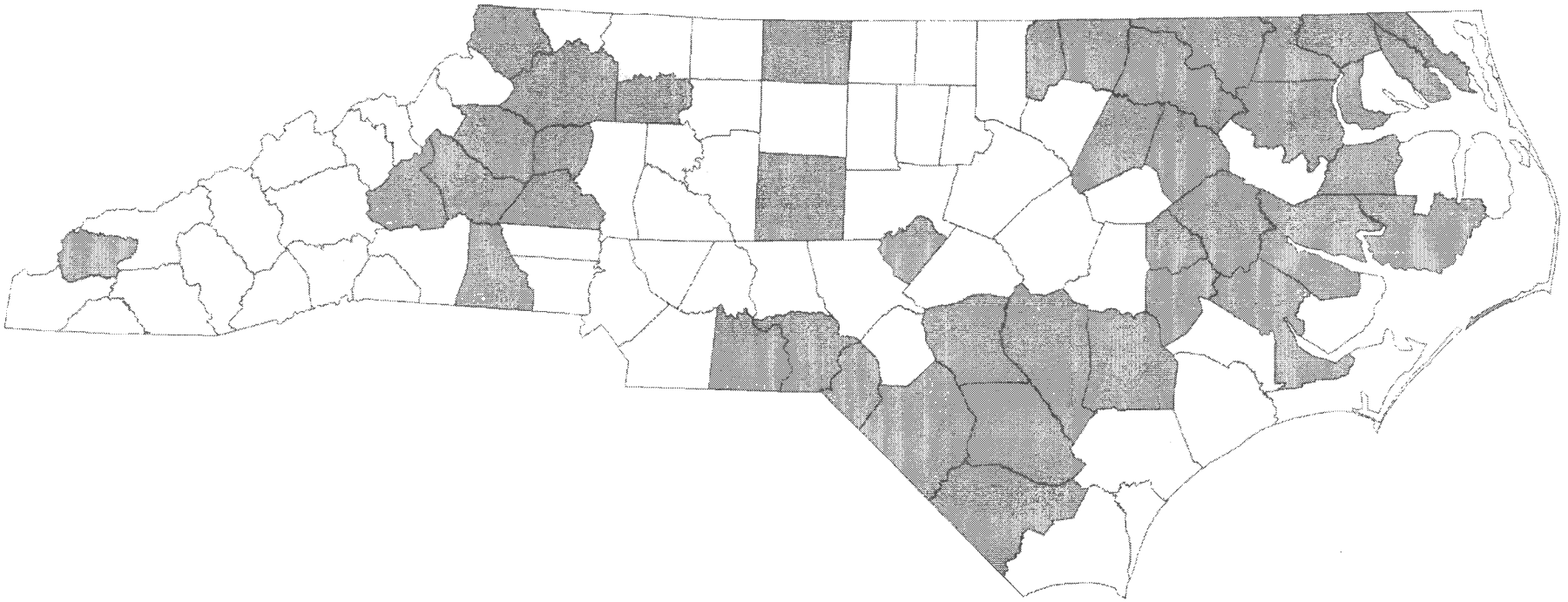
Projected population share 65+, NC vs. US, 2010-2035



Data Sources: U.S. Census Bureau, NC OSBM

41 counties projected to have fewer children by 2035

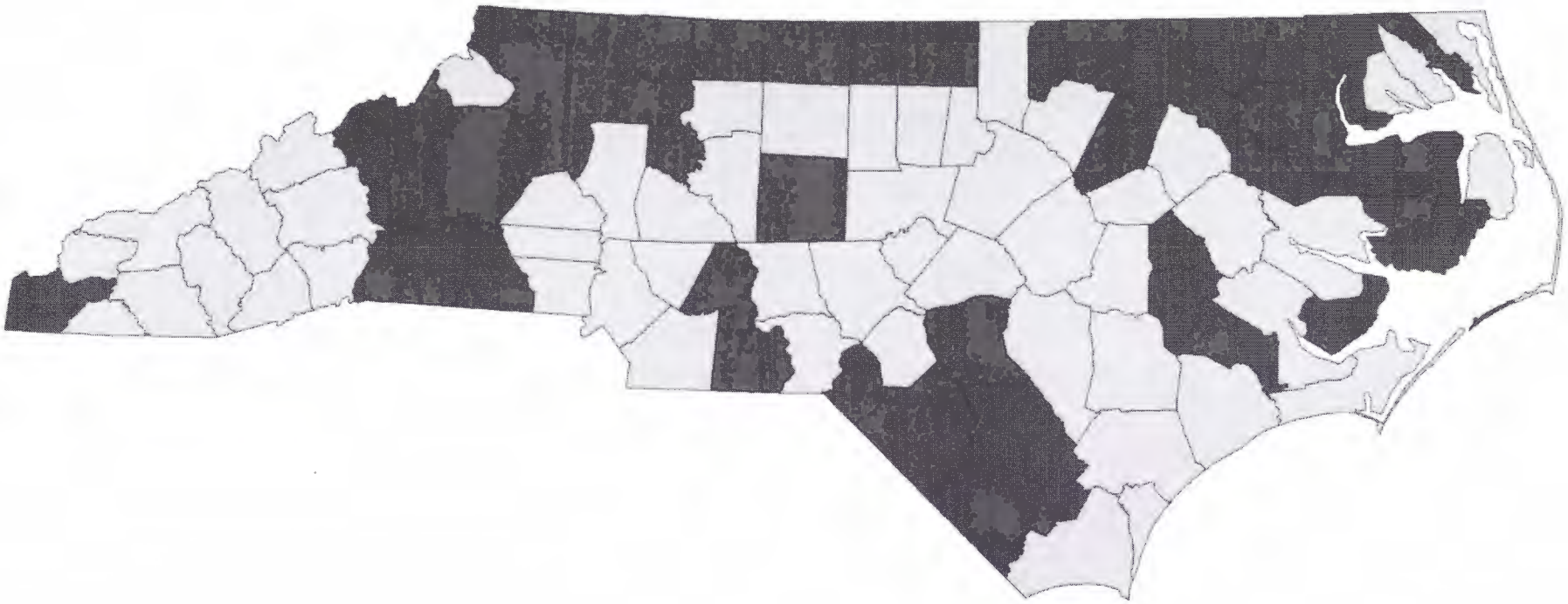
Counties with projected declines in child population (0-17), 2017-2035



Data Source: NC OSBM

47 counties projected to have fewer young adults by 2035

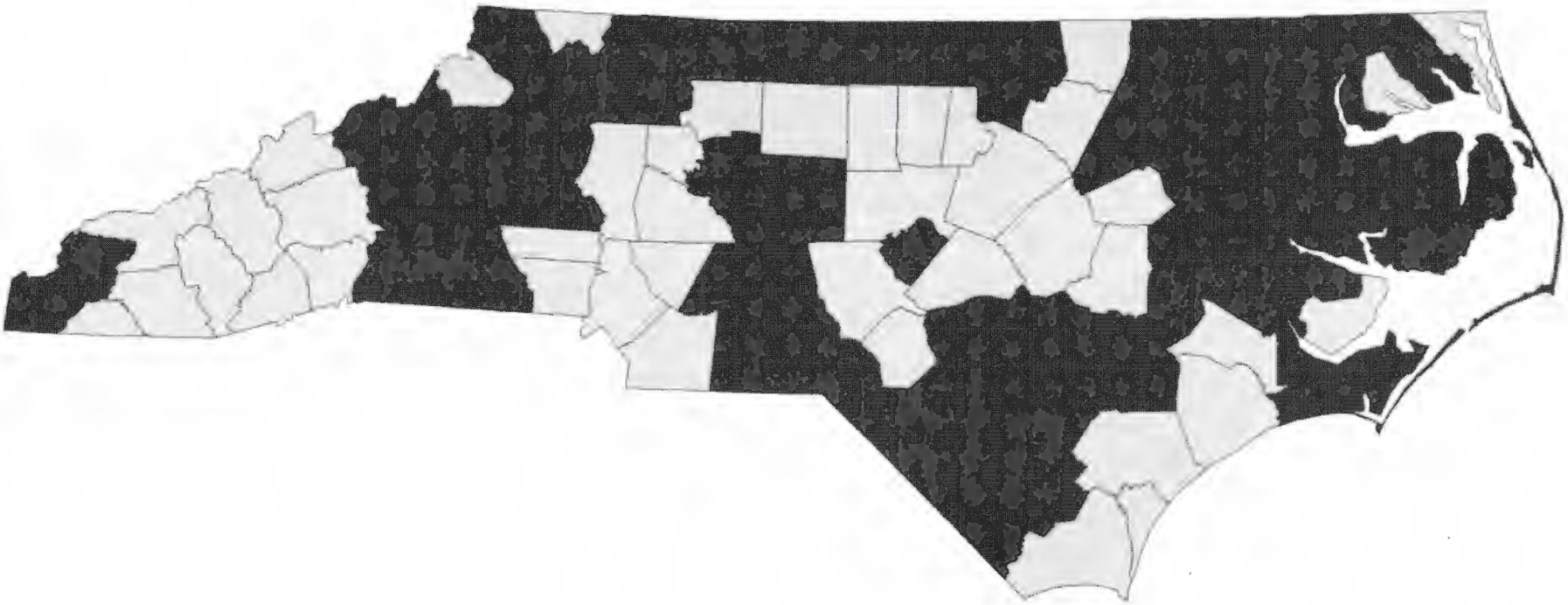
Counties with projected declines in young adult population (18-34), 2017-2035



Data Source: NC OSBM

58 counties projected to have fewer working age adults by 2035

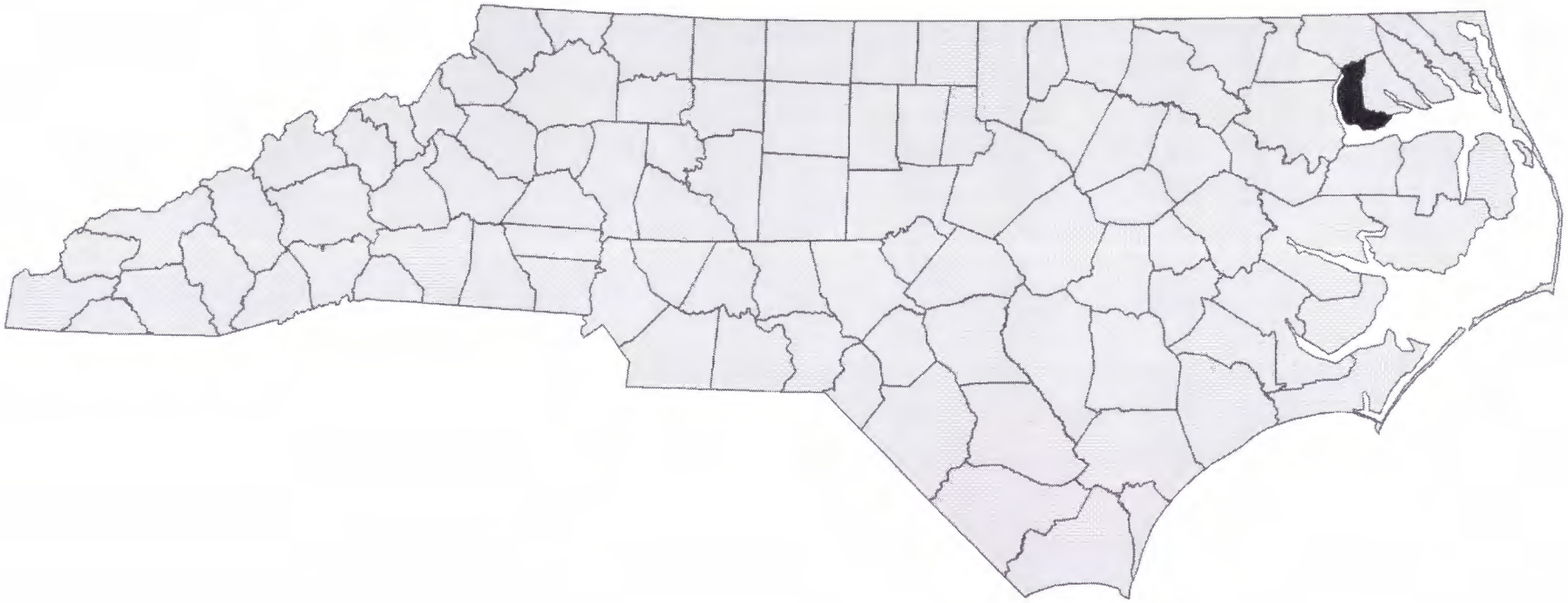
Counties with projected declines in prime working age adult population (35-64), 2017-2035



Data Source: NC OSBM

Only one county projected to have fewer older adults by 2035

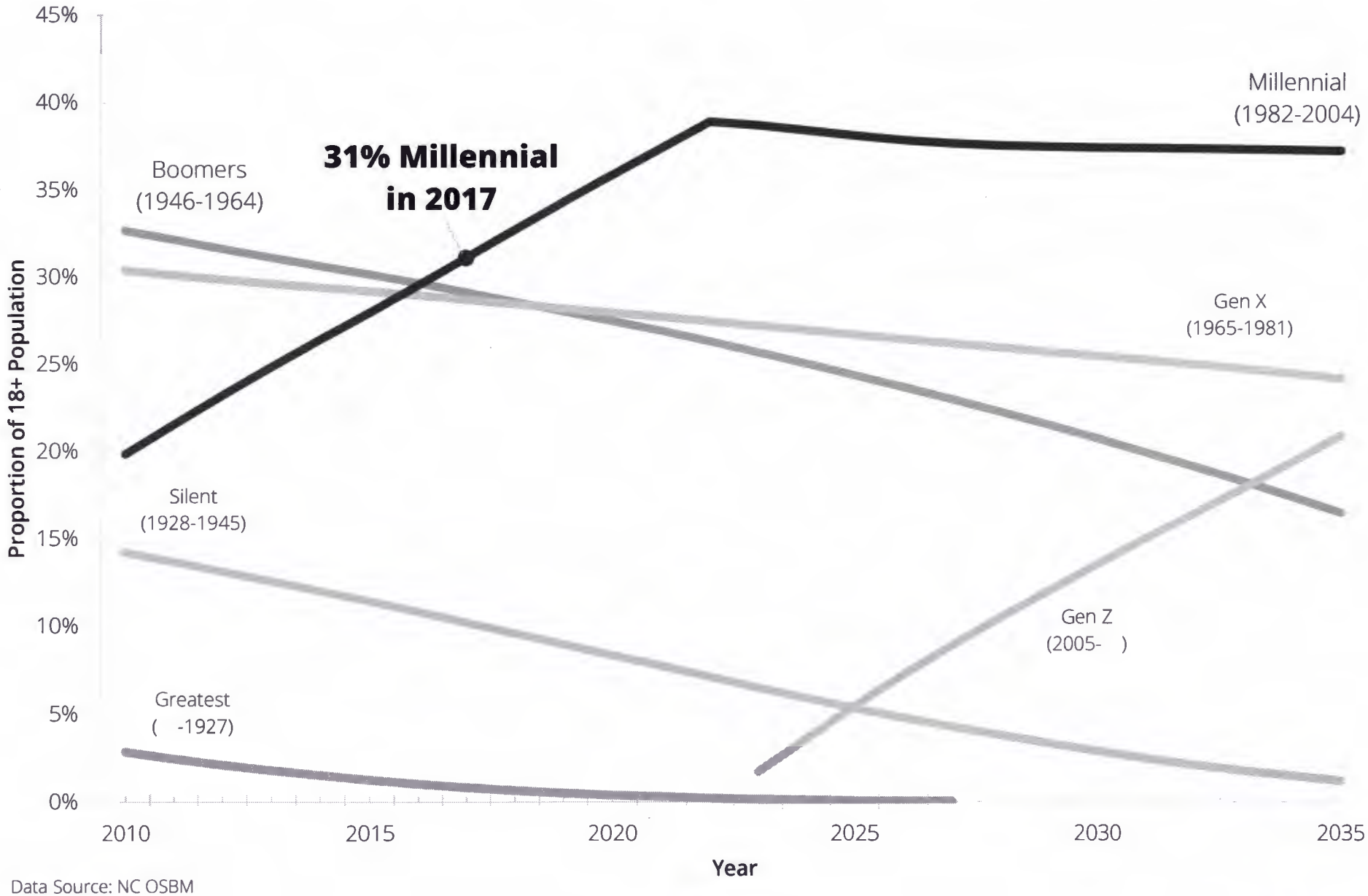
Counties with projected declines in older adult population (65+), 2017-2035



Data Source: NC OSBM

2017 marks first year Millennial adults will outnumber Boomers

Generational composition of North Carolina's 18+ population, 2010-2035



Data Source: NC OSBM

Housing Unit Demand

2017-2035

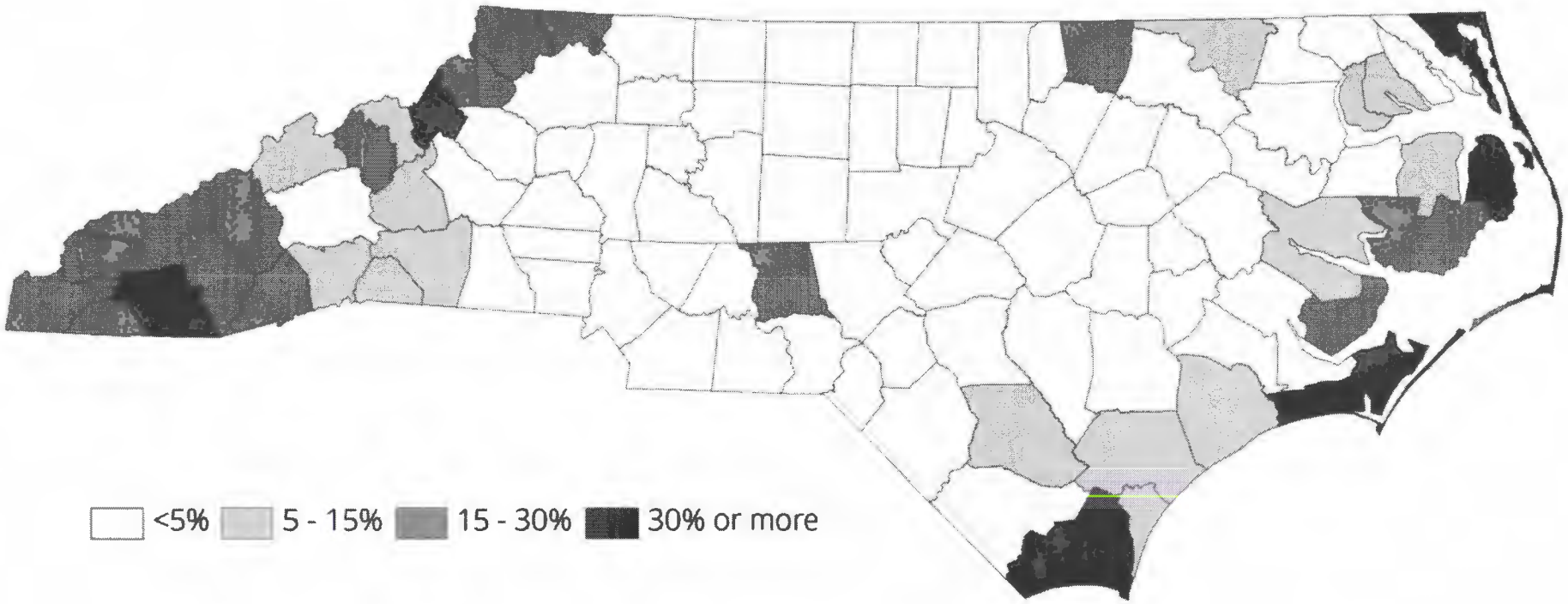
+982K households

+708K homeowners

Source: Carolina Demography projections using ACS, CPS, and NC OSBM data

Presence of vacation homes also impacts infrastructure demands

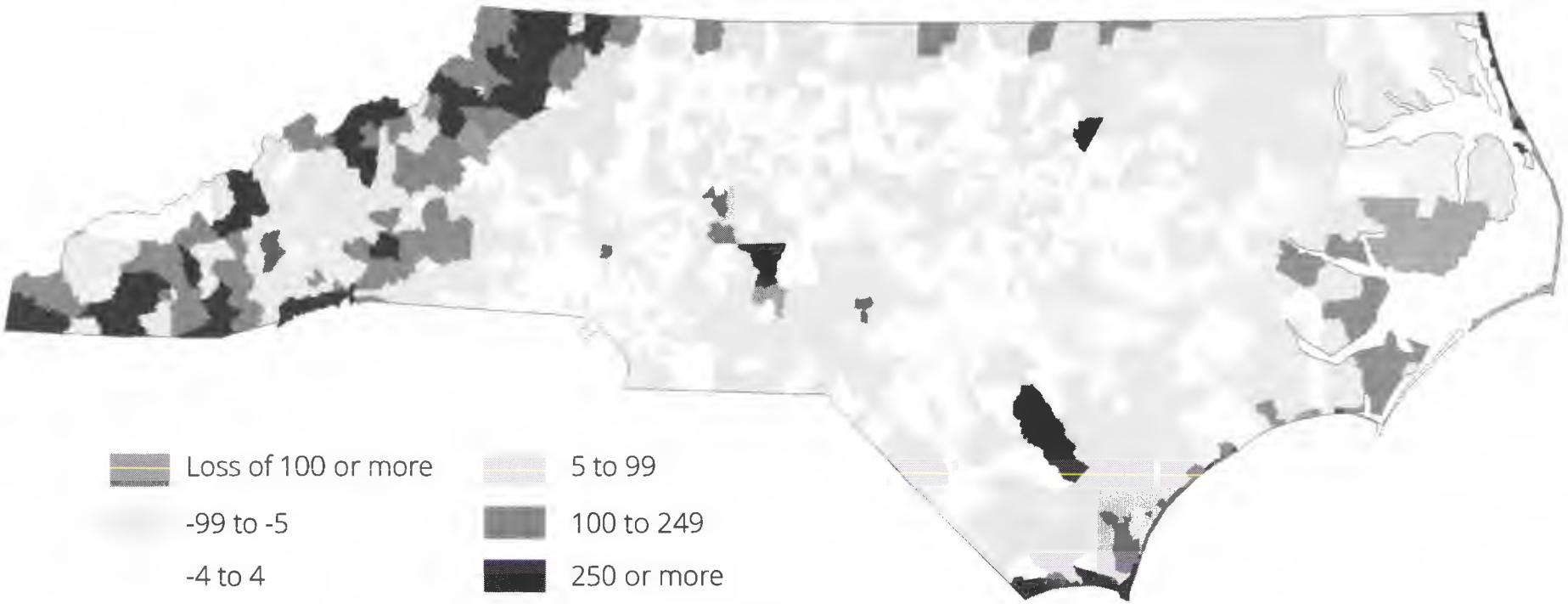
Proportion of county housing units for seasonal use, 2010



Data Source: 2010 Census

Increases in vacation homes concentrated in west, southeast

Vacation home change by NC census tract, 2000 to 2010



Data Source: Carolina Demography

We help organizations make data-driven decisions.

DEMOGRAPHIC RESEARCH AND CONSULTING

Contact us:

demography@unc.edu | (919) 962-6151

Learn more:

http://demography.cpc.unc.edu | @ncdemography



UNC CAROLINA POPULATION CENTER | CAROLINA DEMOGRAPHY

Joint Transportation Appropriations Committee

Committee Protocol for Presenters and Audience

1. Do not speak unless recognized by the chair.

2. Once recognized by the chair, state your name and who you represent.

3. Stand up when speaking.

4. Presenters may not recognize members from the audience to answer questions; only the chair has the authority to call on someone to speak in committee.

5. All final presentations must be e-mailed to Fiscal Research staff and to the seven committee chairs by 10 a.m. on the day preceding the presentation.

6. No materials may be distributed to the committee without prior approval. Materials must be sent to Fiscal Research staff and to all committee chairs by noon on the day prior to the committee meeting. Fiscal Research staff will respond to you if the handout is permitted.

7. If handouts are permitted, they need to be delivered to the committee clerk by 3:00 pm on the day prior to the committee meeting.

8. Please respect your fellow presenters and strictly adhere to the time limits.

ATTACHMENT 4

Budget Process

Joint Appropriations Committee on Transportation

February 21, 2017



FISCAL RESEARCH DIVISION
A Staff Agency of the North Carolina General Assembly

Outline

- Fiscal Research
- Bill Drafting/LA/PED
- Fiscal Notes/Fiscal Memos
- Confidentiality
- Budget Process
- The Transportation Budget
- Next Steps



Fiscal Research Division

- Nonpartisan, professional staff serving all 170 members
- 32 analysts divided into 9 teams
- Primary responsibilities during Session:

  - Staff Appropriations Subcommittees
  - Respond to member requests
  - Write fiscal notes, fiscal memos, and incarceration notes



Fiscal Research Division

Fiscal Notes

- Five-year analysis of all estimated fiscal effects of a bill on expenditures or revenue of the State.
- Prepared upon request of bill sponsor or other member
- Request and information about note remain confidential until note becomes public



Fiscal Memo

- Same analysis as a Fiscal Note
- Usually prepared for draft bills or PCS
- Remains confidential after completion

Incarceration Note

- Required for proposed changes that may impact incarceration rates in State facilities
- Two-week completion time

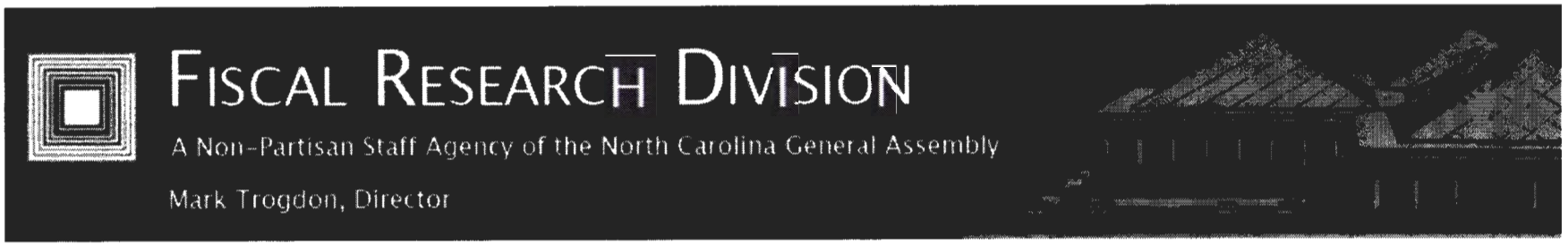
Fiscal note requests should be e-mailed to:

@Fiscal Note Requests

Include:

- **Requestor's name**
- **Bill number (or draft number for a memo or PCS)**
- **Short title**

Fiscal Research Division



FRD website:

http://www.ncleg.net/FiscalResearch/

- Annotated Committee Reports
- Fiscal Briefs
- Revenue Forecasts
- Staff Listing

Transportation Team

Amna Cameron:

- Motor Fuel and Highway Use Tax Revenues
- State Transportation Improvement Program (STIP)
- Highway Construction & Maintenance
- Turnpike Authority
- Department of Transportation (DOT) Central Administration
- Governor's Highway Safety Program
- Powell Bill/State Aid to Municipalities

Transportation Team

Susan Tyler:

- Division of Motor Vehicles (DMV)
- DMV Fees
- Modal Divisions:

  Public Transportation, Ferry, Rail, Aviation, Bicycle/Pedestrian
- Logistics:

  State Ports Authority, Global TransPark, North Carolina Railroad Company
- Visitor Centers
- IT
- Office of Civil Rights

Bill Drafting & Legislative Analysis

Bill Drafting & Legislative Analysis Divisions:

- Draft legislation and budgetary provisions
- Conduct legal research and analysis:
  - ❖ Constitutionality, statutory conformance, administrative process/regulations
- Staff Standing, Interim, and Oversight Committees

Program Evaluation Division (PED)

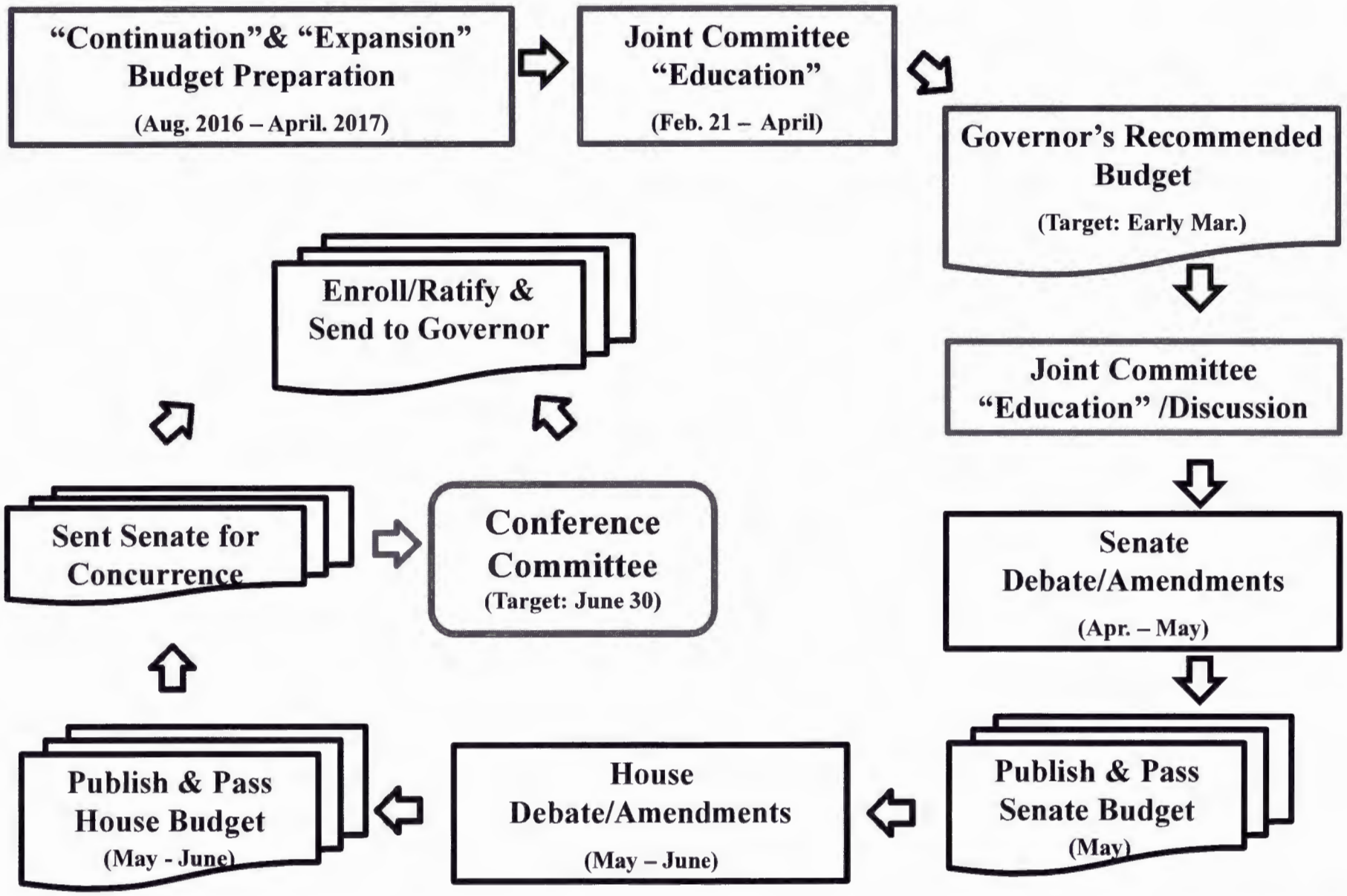
Program Evaluation Division:

- Conducts formal, longer-term studies of programs
- Evaluation components:
  - ✓ Performance audits
  - ✓ Activity-based costing
  - ✓ Strategic planning

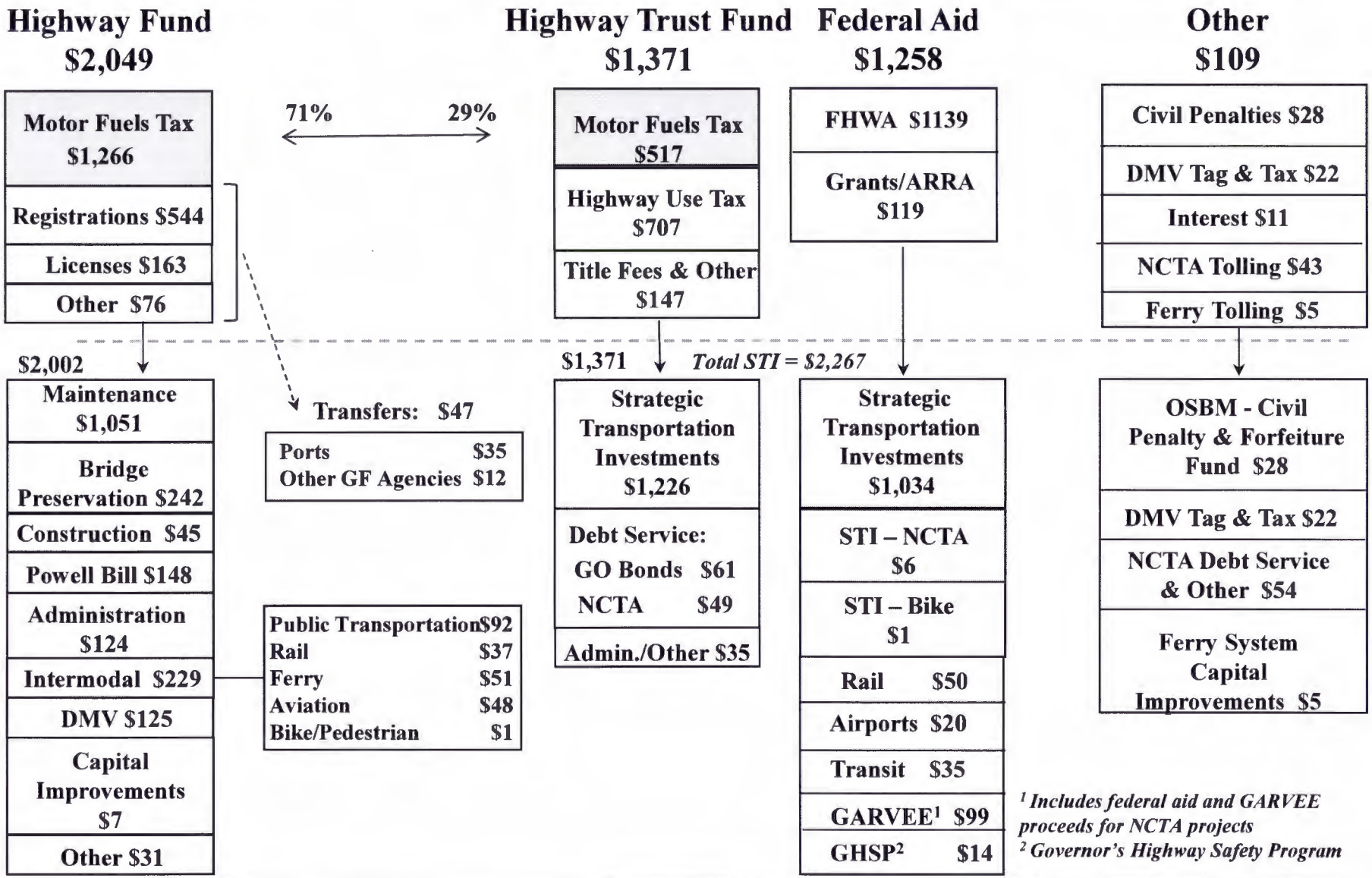
Confidentiality

- **ALL requests made to Fiscal Research, Bill Drafting, Legislative Analysis, and Program Evaluation staff are confidential**
- **Requests to agencies by staff are NOT confidential unless directly related to a fiscal note**




"Continuation"& "Expansion" Budget Preparation
(Aug. 2016 – April. 2017)
Joint Committee "Education"
(Feb. 21 – April)
Governor's Recommended Budget
(Target: Early Mar.)
Joint Committee "Education" /Discussion
Senate Debate/Amendments
(Apr. – May)
Publish & Pass Senate Budget
(May)
House Debate/Amendments
(May – June)
Publish & Pass House Budget
(May - June)
Sent Senate for Concurrence
Conference Committee
(Target: June 30)
Enroll/Ratify & Send to Governor

FY2017 Flow of Funds (millions)



[1] Includes federal aid and GARVEE proceeds for NCTA projects

[2] Governor's Highway Safety Program

FY 2015-17 Legislative Recap

- Revenue Changes
- Maintenance Funding Increased, Consolidated
- Empowered Highway Division Engineers
- New Ports Funding
- Privatization and outsourcing increased
- DOT REPORT Program
- Additional Tolling Authority
- Ferry Capital Budget
- Additional Dredging Funds

Next Steps

Tentative Schedule:

(Governor's Budget TBD)

- 2/22/17: Transportation Primer
- 2/28/17: Secretary Jim Trogdon/ Base Budget (BB)
- 3/1/17: Maintenance & Construction
- 3/2/17: BB; Division of Motor Vehicles (DMV)
- 3/7/17: DMV continued; STI/STIP; MPO/RPOs
- 3/8/17: Debt Affordability; Debt Instruments; Tolling
- 3/9/17: Revenue Sources
- 3/14/17: BB; Rail Division

QUESTIONS?

Fiscal Research Division
919-733-4910

Bill Drafting
919-733-6660

Amna Cameron – Amna.Cameron@ncleg.net
Susan Tyler – Susan.Tyler@ncleg.net
Luke Gillenwater – Luke.Gillenwater@ncleg.net

VISITOR REGISTRATION SHEET

Senate Appropriations on DOT Committee — February 21, 2017

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO DEBBIE LOWN

NAME	FIRM OR AGENCY AND ADDRESS
Pedraig Gibbons	ConnectC
H. TASAICO	NCDOT
Hayden Bauguess	FSP
Jay Stem	NCAA
ALDEA Douglas	NCDOT
Julie White	NCMMC
Phoebe Landon	MWC
Tonya Horton	TSS
David Collins	SEANC
Susan Nicholas	Duke Energy
John Cachin	NC Chamber
Ellis Powell	CAPA
ERIC BOYETTE	NCDOT
Ben Manning	NCDOT

Edward Robinson NCRMA

David Hustings RANC

VISITOR REGISTRATION SHEET

Senate Appropriations on DOT Committee — February 21, 2017

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO DEBBIE LOWN

NAME	FIRM OR AGENCY AND ADDRESS
Jimi Trogdon	NCDOT
Greer Beaty	NCDOT
[illegible]	NCDA&CS
Justin Delancey	NCDOT
DAVID TYNER	DOT
David Howard	DOT
MIKE HOLDER	DOT
JASON GROOM	RURAL CENTER
BERRY JENKINS	CAROLINAS AGC
[illegible]	RAMC
[illegible]	RAMC

VISITOR REGISTRATION SHEET

Senate Appropriations on DOT Committee — February 21, 2017

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO DEBBIE LOWN

NAME	FIRM OR AGENCY AND ADDRESS
Paul Barnes	Railway Assoc. of NC
Christy Sammon	CSX Rail
Joe Arbona	G+W
Adam Bayles	RJ Corman Railroad
Riley Birmingham	HDR
Michelle Hollowell	Railway Assoc of NC
Carl Hollowell	Aberdeen Carolina & Western Rwy.
Garland Horton	Aberdeen & Rockfish RR
Annie F. Richardson	Antea Group Charlotte, NC
Jacqueline Gonzalez	intern
Kathy Kingsbury	BP

Committee Sergeant-at-Arms

Name of Committee: Joint Appropriations on Transportation

Date: 02/21/17 Rm: 1027/1128 LB

House Sgt-At-Arms

1. David Leighton
2. Russell Salisbury
3. _____

SENATE Sgt-At-Arms

1. Steve McKaig
2. Billy Fritscher
3. _____

Senate Pages Attending

COMMITTEE: Joint Approps: D.O.T. ROOM: 1027

DATE: 2-21 TIME: 8:30

PLEASE PRINT LEGIBLY!!!!!!!!!!!!!....*or else!!!!!*

Page Name	Hometown	Sponsoring Senator
1. Blake Stout	Chapel Hill	Foushee
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

House Pages
Assignments
Tuesday, February 21, 2017
Session: 12:00 PM

Committee	Room	Time	Staff	Member
Approp. On Transportation	1027/1128	8:30 AM	Sarah Bowles	Speaker Tim Moore
			Bryce Yarborough	Representative Larry Yarborough

Joint Committee on Appropriations, Transportation
Wednesday, February 22, 2017 at 8:30 AM
Room 1027/1128 of the Legislative Building

MINUTES

The Joint Committee on Appropriations, Transportation met at 8:30 AM on February 22, 2017 in Room 1027/1128 of the Legislative Building. Senators: Davis, McInnis, Bingham, Dunn, Ford, Representatives: Bumgardner, Garrison, Iler, G. Martin, Presnell, Shepard, Strickland, Terry, Torbett, and Watford attended.

Representative Frank Iler, Chair, presided.

Representative Iler welcomed the Pages and Sergeant at Arms.

Representative Iler introduced Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division, of the North Carolina General Assembly to present:

Transportation Primer (Attachment 1)

The meeting adjourned at 9:46

Representative Frank Iler, Chair
Presiding

Pamela Pate, Committee Clerk

NORTH CAROLINA HOUSE OF REPRESENTATIVES
JOINT COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2017-2018 SESSION

You are hereby notified that the **House Committee on Appropriations, Transportation** will meet **JOINTLY** as follows:

DAY & DATE: Wednesday, February 22, 2017
TIME: **8:30 AM**
LOCATION: **1027/1128 LB**
COMMENTS: **Representative Iler, Chair**

Respectfully,

Representative Frank Iler, Co-Chair
Representative Michele D. Presnell, Co-Chair
Representative Phil Shepard, Co-Chair
Representative John A. Torbett, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 5:00 PM on Wednesday, February 15, 2017.

___ Principal Clerk
___ Reading Clerk – House Chamber

Pamela Pate (Committee Assistant)

Joint Appropriations Committee on Transportation

February 22, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis
Senator Wesley Meredith

Representative Frank Iler, Chairing
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. Transportation Primer

    - Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division North Carolina General Assembly

Next meeting: Secretary Designate Jim Trogdon; Highway Base Budget - Tuesday, February 28, 8:30 a.m.

Transportation Primer

Joint Appropriations Committee on Transportation

February 22, 2017

Amna Cameron
Fiscal Research Division

Agenda

- Background
- Transportation Revenues
- Transportation Spending
  - Highway Fund
  - Highway Trust Fund
- Items for Consideration

Background

North Carolina's State-Owned Highway System is:

- Large – 79,000 miles, second largest in the country
  - Texas is number one, by a few hundred miles
  - North Carolina secondary roads are state-owned
- Centralized – All dollars flow to Raleigh
  - Highway Fund transportation project decisions made by Board of Transportation (G.S. 143B-350) and Secretary (S.L. 2012-84)
  - Highway Trust Fund project decisions made through STI prioritization process

Background: State Owned Roads

State	Road Miles Owned by State Agency	Total Road Miles	Percent Owned by State Agency
Florida	12,116	122,659	10%
Georgia	17,949	128,134	14%
North Carolina	**79,559**	**106,334**	**75%**
South Carolina	41,359	76,250	54%
Tennessee	13,878	95,637	15%
Texas	80,423	313,596	26%
Virginia	58,648	75,061	78%
U.S. Total	**780,122**	**4,154,727**	**19%**
Source: FHWA, Highway Statistics 2015 (December 2016)			

- Greater share than Florida, Georgia, or the nation as a whole.
- Local roads usually owned and controlled by local jurisdictions.

Background: History

1915

- First full fledged State Highway Commission established
  - Provided road building assistance to counties

1921-1929

- NCGA authorizes takeover of 5,500 miles of county roads
- Motor Fuel Tax raised to 5 cents per gallon (equivalent to 63 cents per gallon today)
- $115 million in highway bonds issued
- North Carolina is the "Good Roads State"

Background: History

1931

- During the Depression the state assumes responsibility for county roads, giving state responsibility for all roads except city streets.

1951

- Powell Bill
  - State takes over city streets which are part of the state highway system
  - Provided ½ cent per gallon from the motor fuel tax to cities for other city streets; allocated based on statutory formula.

Background: History

1980's

- Transportation infrastructure and funding mechanisms prove inadequate for the state's growth.
- Highway Study Commission recommends a multibillion dollar highway construction program.

1989

Creation of Highway Trust Fund (HTF)

- Goals are:
  - Completion of the Intrastate Highway System, a 3600 mile network of four-lane highways.
  - Construction of seven urban loops.
  - Pave 10,000 miles of state-maintained dirt roads.
  - Increase Powell Bill funding.

Background: History

2002

- North Carolina Turnpike Authority created as an independent agency to examine the feasibility of tolling roads. The original projects were defined in Statute in 2005. Turnpike moved under DOT in 2009.

2007

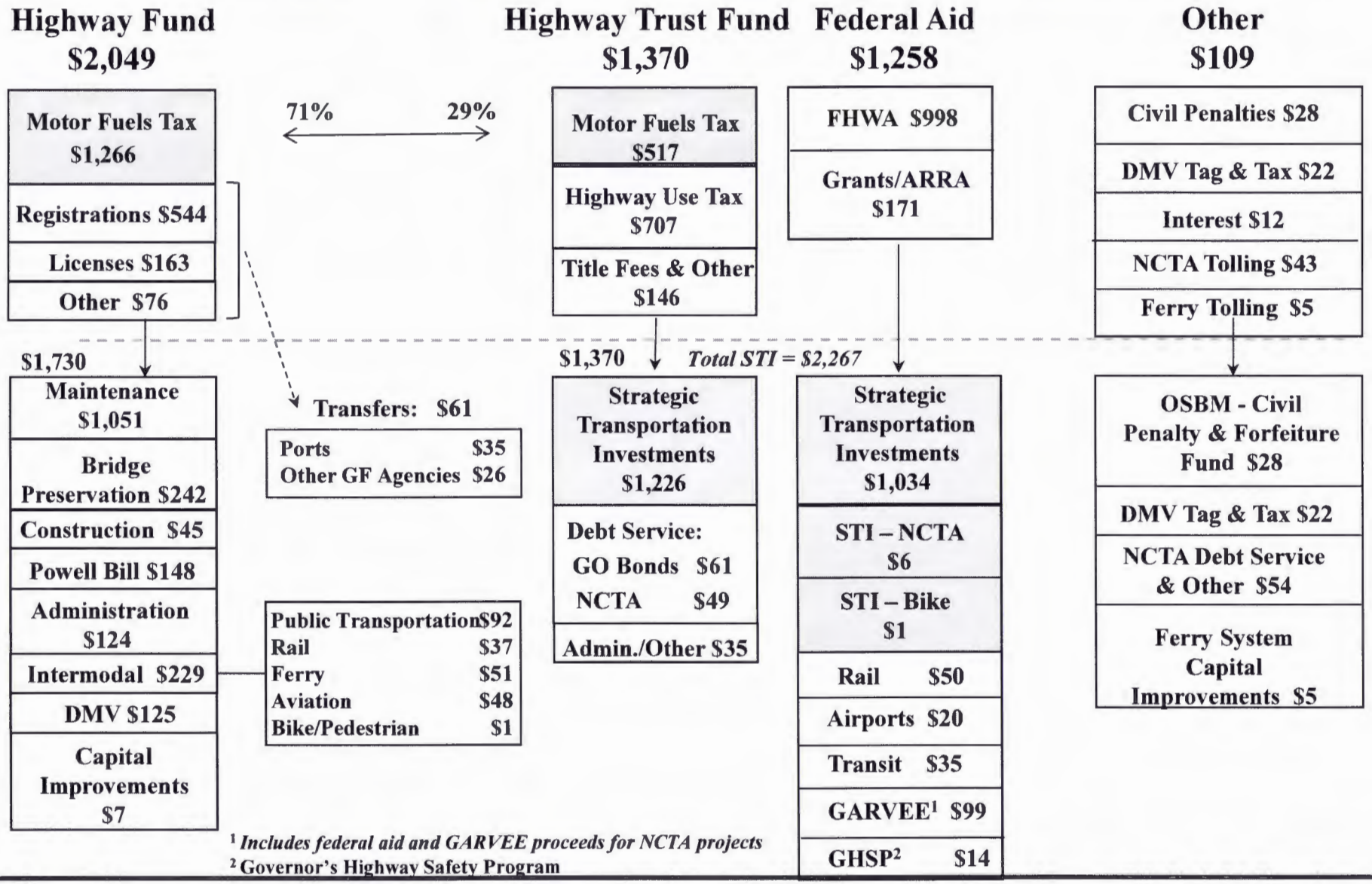
- S.L. 2007-428 (SB 1513) Counties authorized to participate in the cost of rights-of-way, construction, reconstruction, improvement, or maintenance of roads on the State Highway System under agreement with the Department of Transportation.

Background: History

2013
Strategic Transportation Investments Act

- S.L. 2013-183 (HB 817) eliminated the Equity Formula put in place in original 1989 Highway Trust Fund law.
- Funds are distributed:
  - 40% Statewide (100% data driven)
  - 30% Regional – Distributed by population (70% data driven/30% local input)
  - 30% Division – Distributed equally across 14 Highway Divisions (50% data driven/50% local input)

FY2017 Flow of Funds (millions)



[1] *Includes federal aid and GARVEE proceeds for NCTA projects*
[2] Governor's Highway Safety Program

FY 2015-17 Legislative Recap

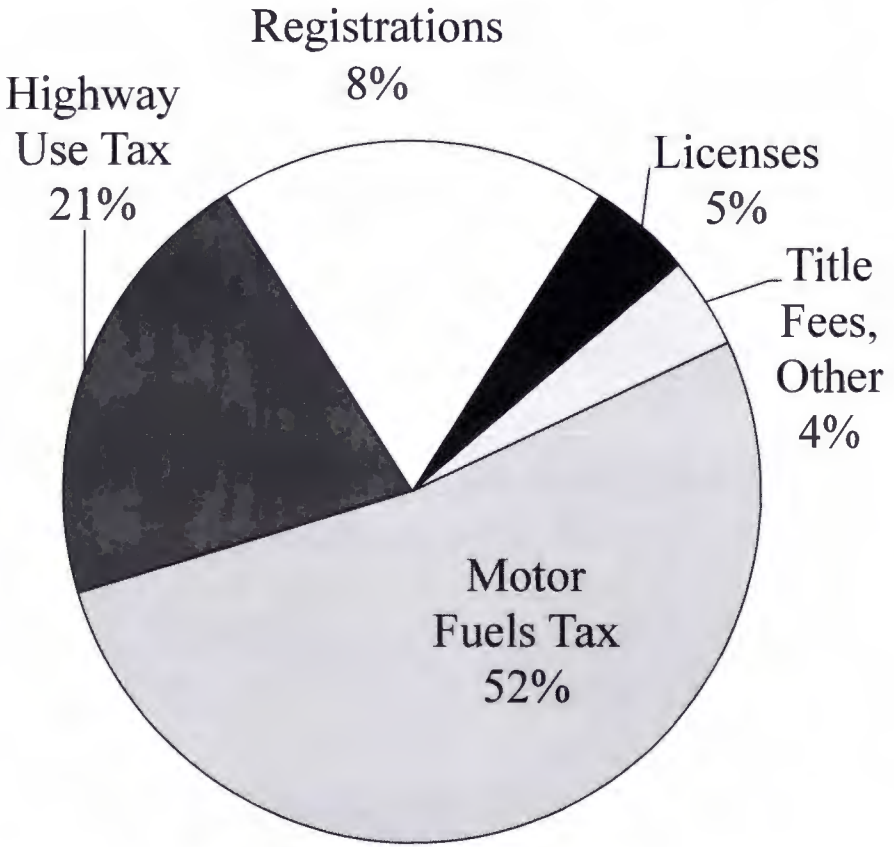
- Maintenance Funding Increased, Consolidated
- Empowered Highway Division Engineer
- New Ports Funding
- Privatization and outsourcing increased
- DOT REPORT Program
- Additional Tolling Authority
- Ferry Capital Budget
- Additional Dredging Funds

Revenue Changes

- S.L. 2015-2
  - Stabilized Motor Fuels Tax Formula
  - Changed Distribution Formula
- Budget Changes
  - DMV Fee Increase
  - DMV Inflationary Factor
  - HUT changes

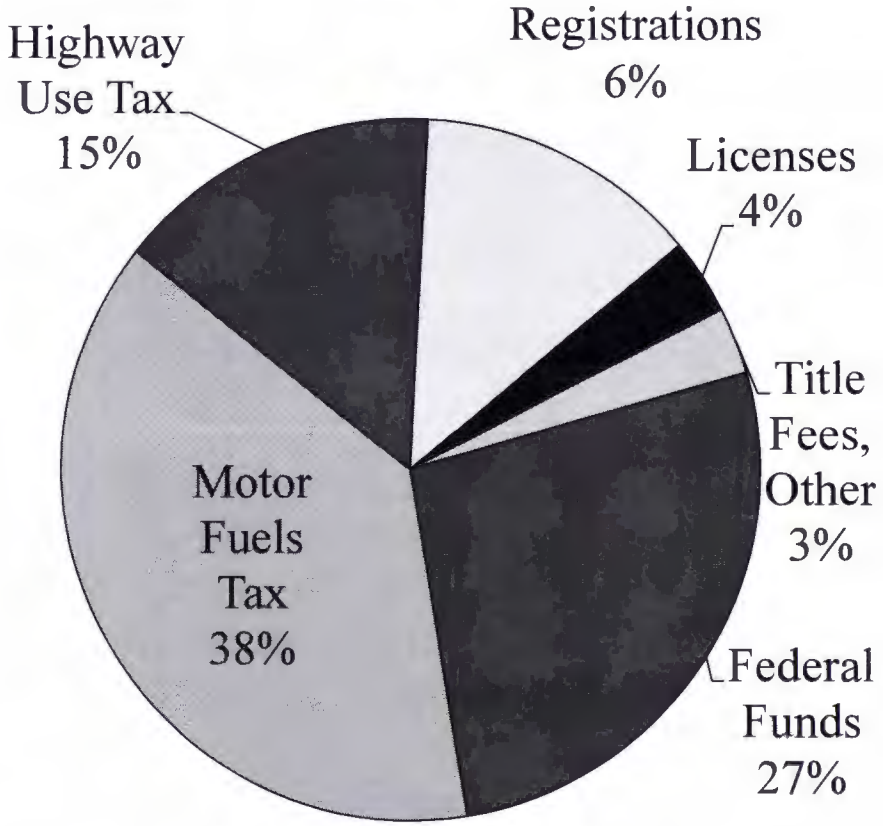
Transportation Revenues
FY 2017

State Revenues



$3.41 billion

Total Revenues



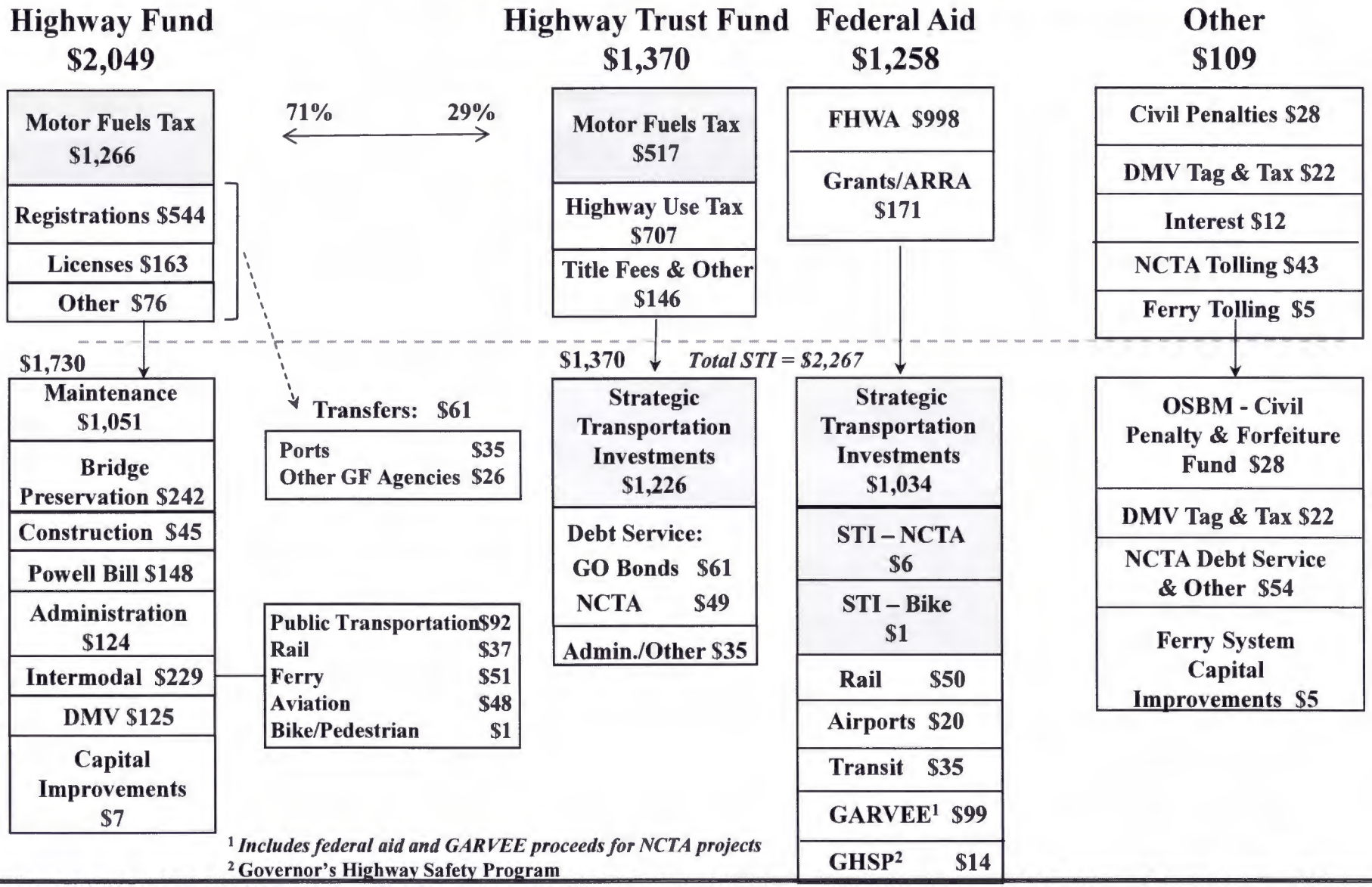
$4.67 billion

Transportation Revenues: Current vs. Forecasted

- Preliminary Consensus Forecast
- Forecast will be finalized in April 2017 and any necessary changes will be incorporated in the Final Budget.

	Certified FY 2017	Forecasted FY 2018	Forecasted FY 2019
Highway Fund	$2,048,690,000	$2,153,600,000	$2,182,800,000
Highway Trust Fund	$1,371,280,000	$1,517,400,000	$1,542,800,000
Average Motor Fuels Tax Rate	34.0 cents per gallon	34.7 cents per gallon	35.6 cents per gallon

FY2017 Flow of Funds (millions)



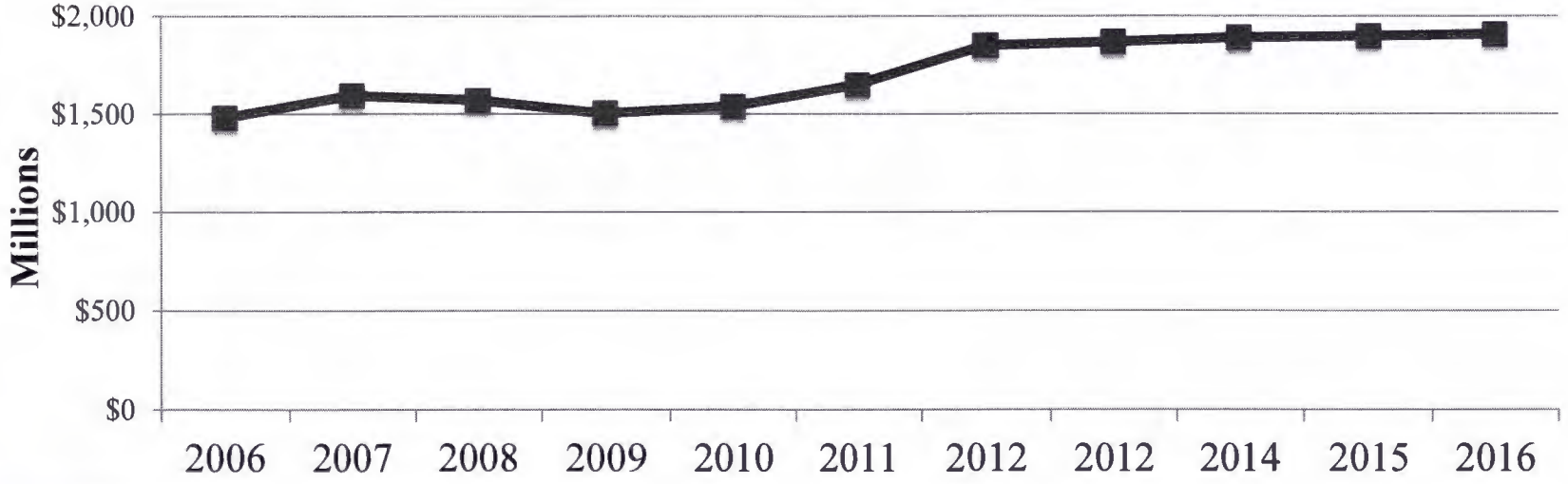
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[2] Governor's Highway Safety Program

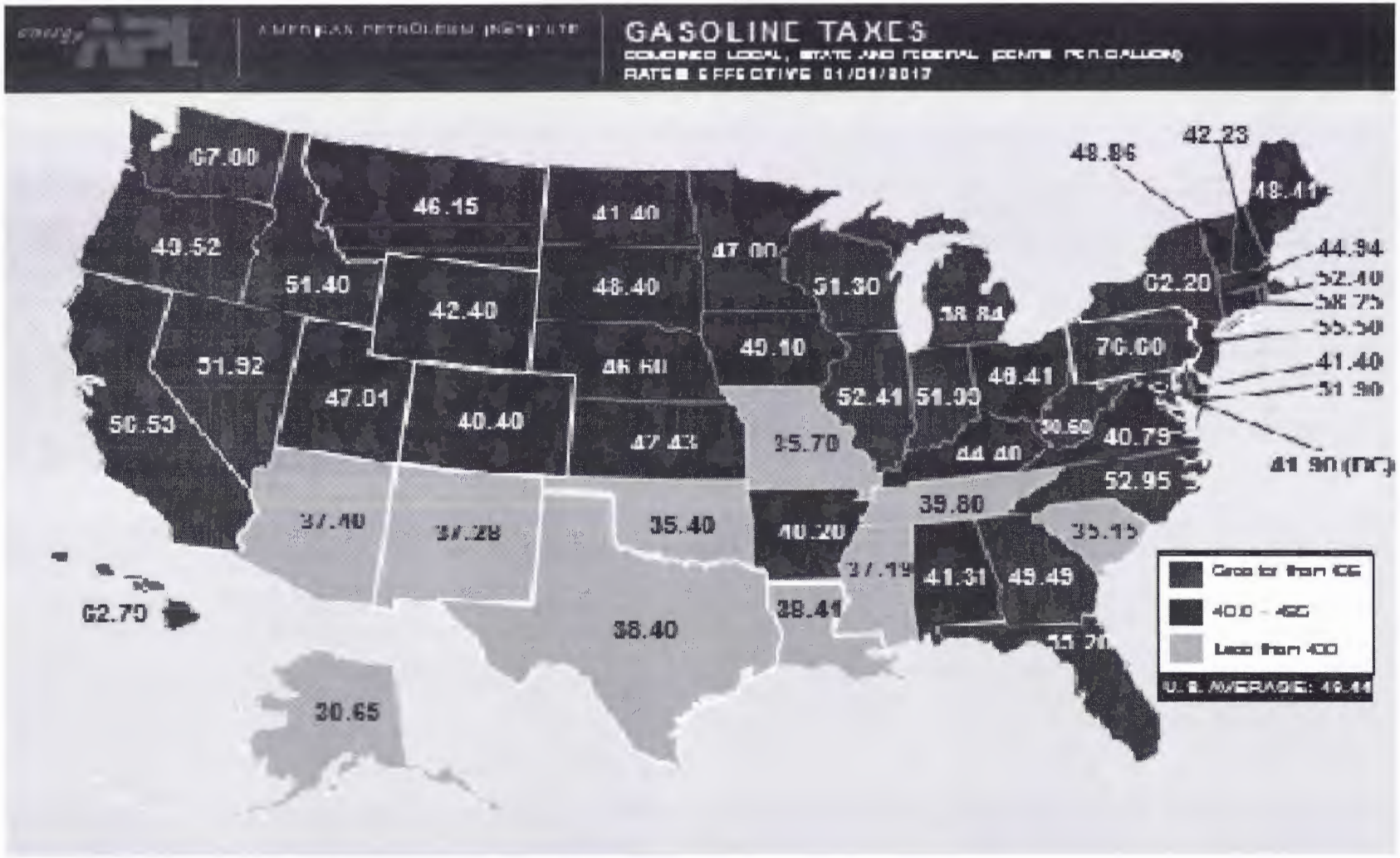
Transportation Revenues: Motor Fuel Taxes

- Rate is 34.3 cents per gallon (cpg) through January 1, 2018.
- 75%: % Population Change: 25%: CPI-U: Energy
- One cent equals ≈ $50 million in tax revenues.
- Consumption will decrease! CAFE standards, greater fuel efficient vehicles, electric vehicles

Motor Fuel Tax Collections, FY2006-2016

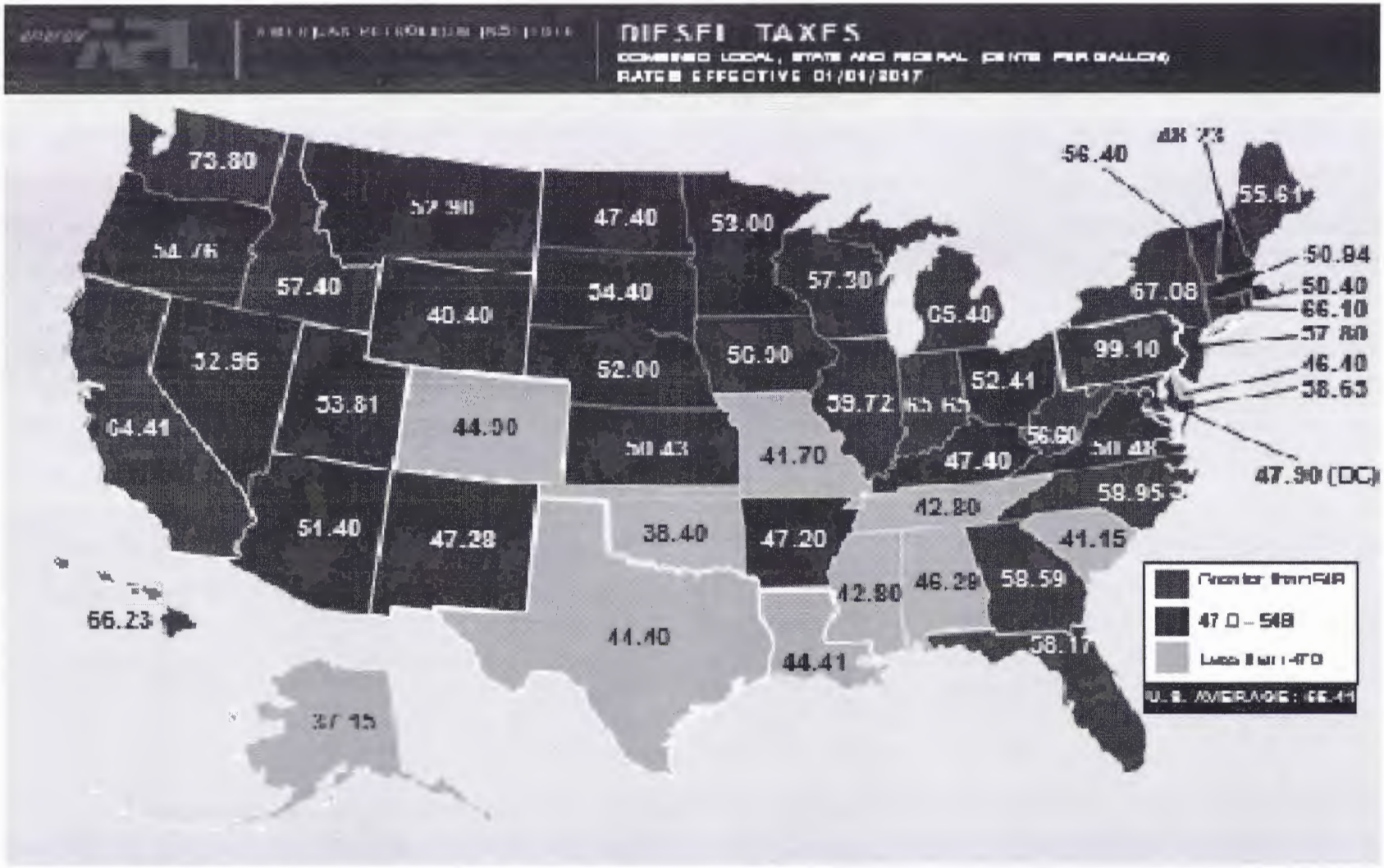


Gasoline Taxes



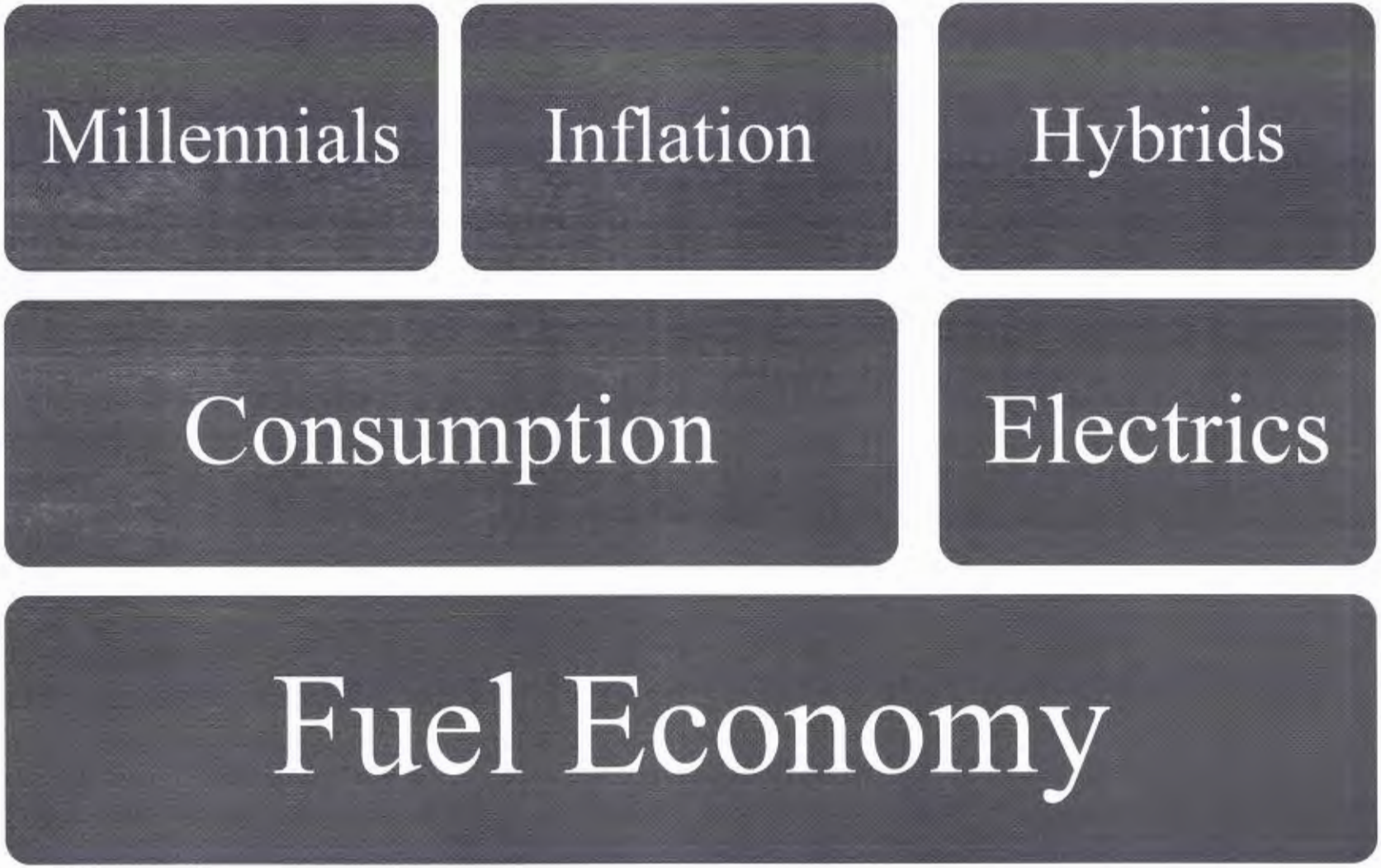
Disclaimer: This report is posted for educational purposes only and should not be relied upon as investment advice or used for compliance purposes.

Diesel Taxes



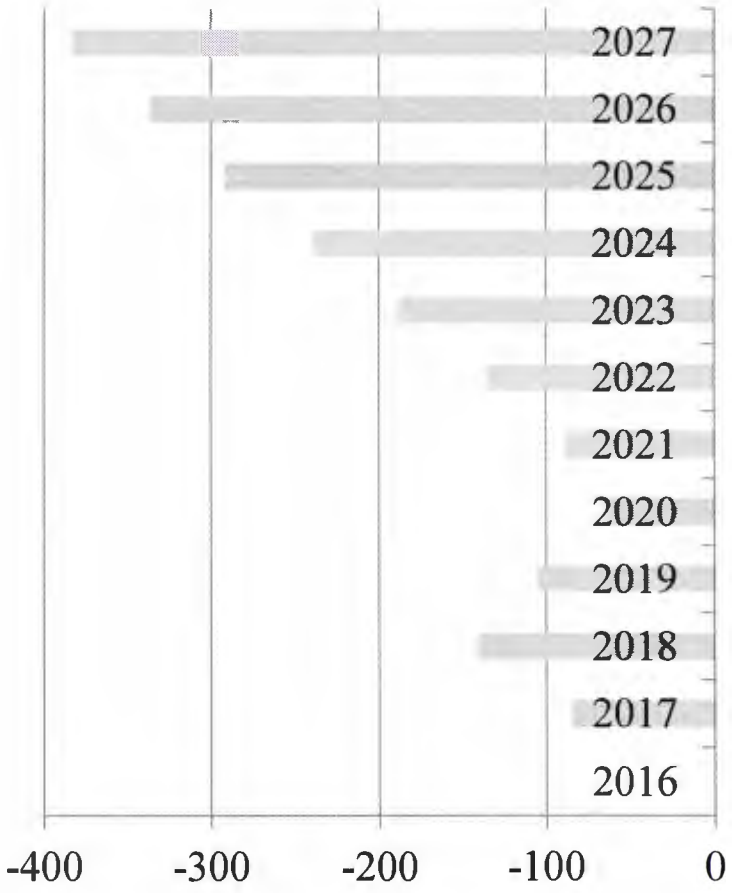
Disclaimer: This report is created for informational purposes only and should not be relied upon or used for compliance purposes.

Future of Motor Fuel Revenues



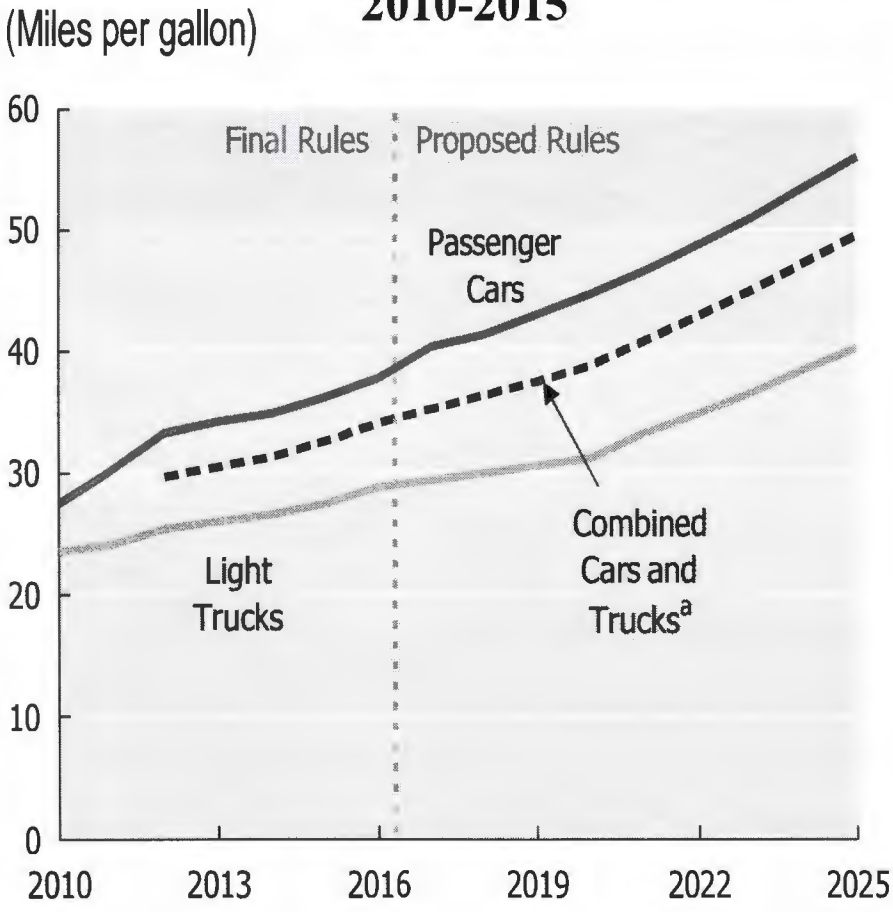
Future of Motor Fuel Revenues

Gallons of Forecast MF Consumed Compared to 2016



In Millions

Estimated Average Fuel Economy of Light-Duty Vehicles Under CAFÉ Standards, 2010-2015

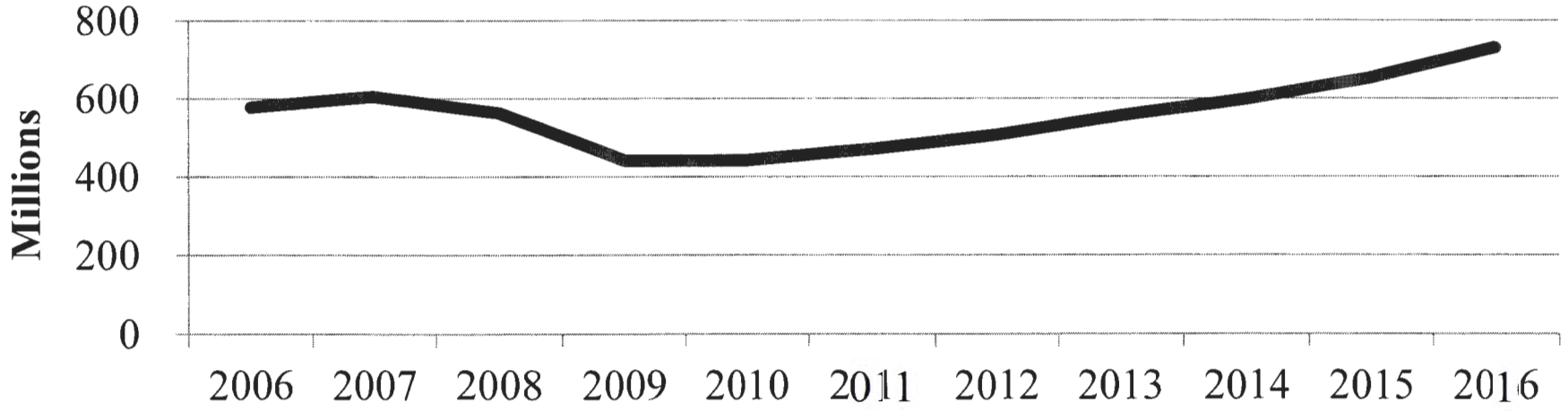


Sources: Congressional Budget Office based on data from FHWA

Transportation Revenues: Highway Use Tax

- Highway Use Tax is 3% of vehicle price, net of trade.
- North Carolina tax is lower than Georgia, Virginia, and South Carolina.
- Economic recovery showing in car sales. Further increases expected.

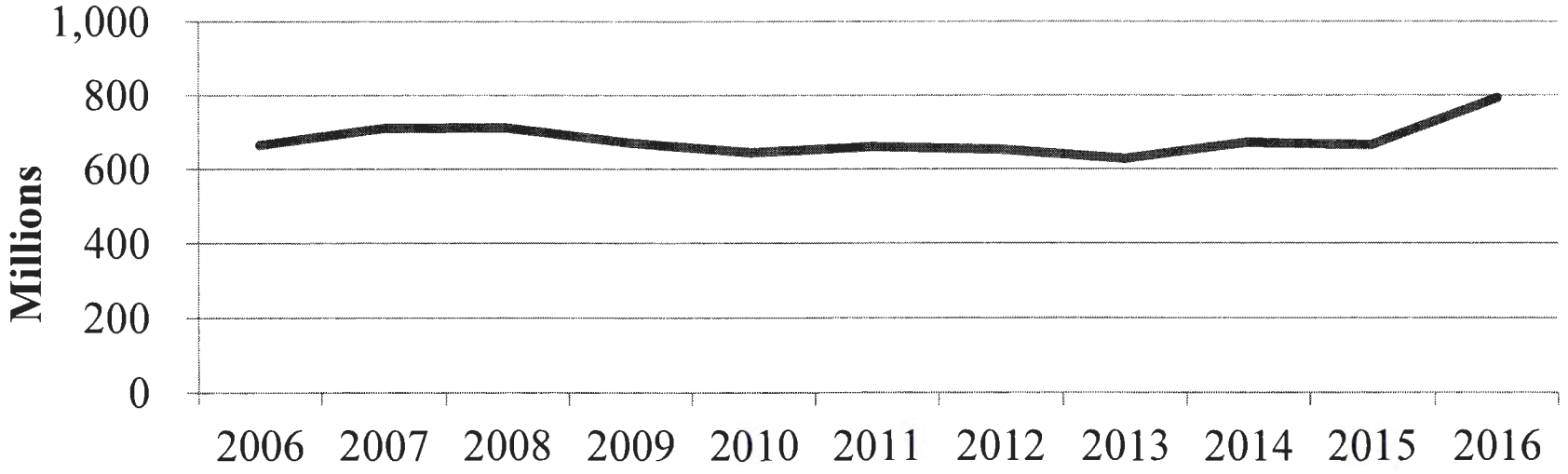
Highway Use Tax Collections, FY2006-2016



Transportation Revenues: Licenses and Fees

- Driver licenses, vehicle registration fees, truck licenses, titles…
- Generally driven by demographics.
- General Assembly increased these fees by about 20% in 2005 and by 30% in 2015.

DMV Fee Collections, FY 2006-2016



Transportation Revenues: Federal Aid

- $1.25 Billion in FY 2017
- FAST Act - $305 Billion over FY 2016-2020
- NC receives 2.66% of federal apportionment plus additional discretionary funds (TIFIA, Emergency Funds)

North Carolina Apportionments Under FAST Act				
Est. FY 2016	Est. FY 2017	Est. FY 2018	Est. FY 2019	Est. FY 2020
$1,057,922,052	$1,079,768,287	$1,103,103,510	$1,128,001,186	$1,155,016,278

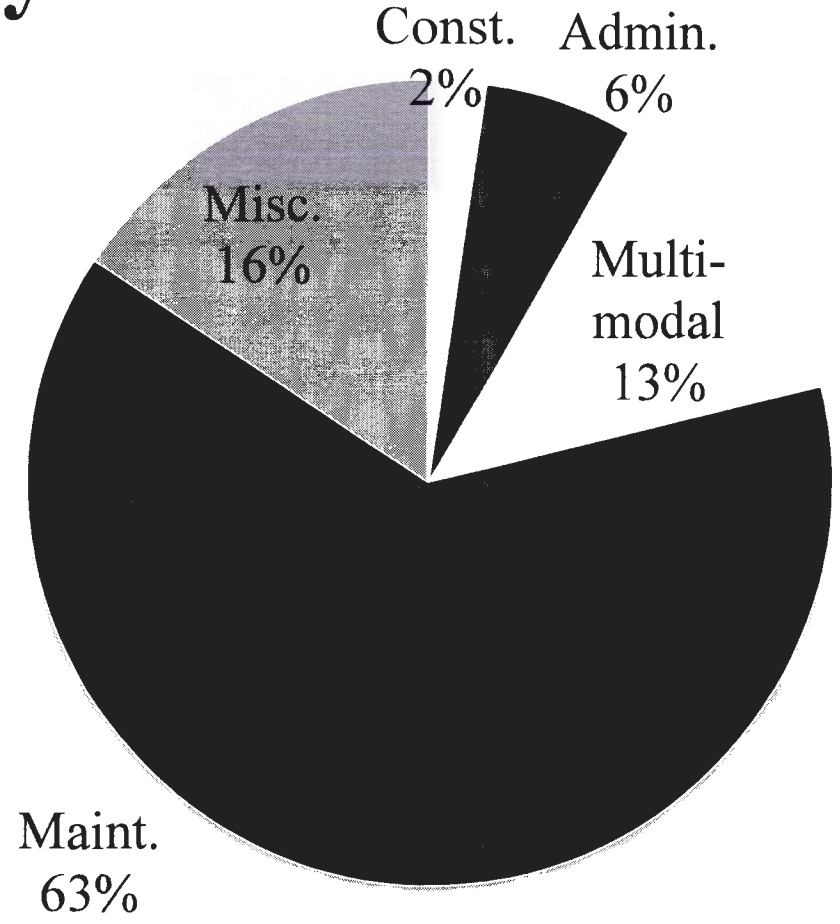
- Donor vs. Donee
- Federal Funding Stability

Transportation Revenues: Toll Projects

Name	Total Cost	Years Tolled	Annual Gap Funding	Issues
Triangle Expressway	$1 billion	29	$25 million (FY 2009)	Opened in Dec 2011= $36.3 million in revenues in FY2016
Monroe Expressway	$731 million $577 million: Revenue bonds $166 million: TIFIA $22 million: STIP	30	$24 million (FY 2011)	Open to traffic: November 2018
I-77	$655 million ($88 million State contribution + DRAM)	50		1st Segment Open to traffic: Feb. 2018 Public Private Partnership: (DBFOM) Dynamic Pricing

FY 2017 Transportation Spending: Highway Fund

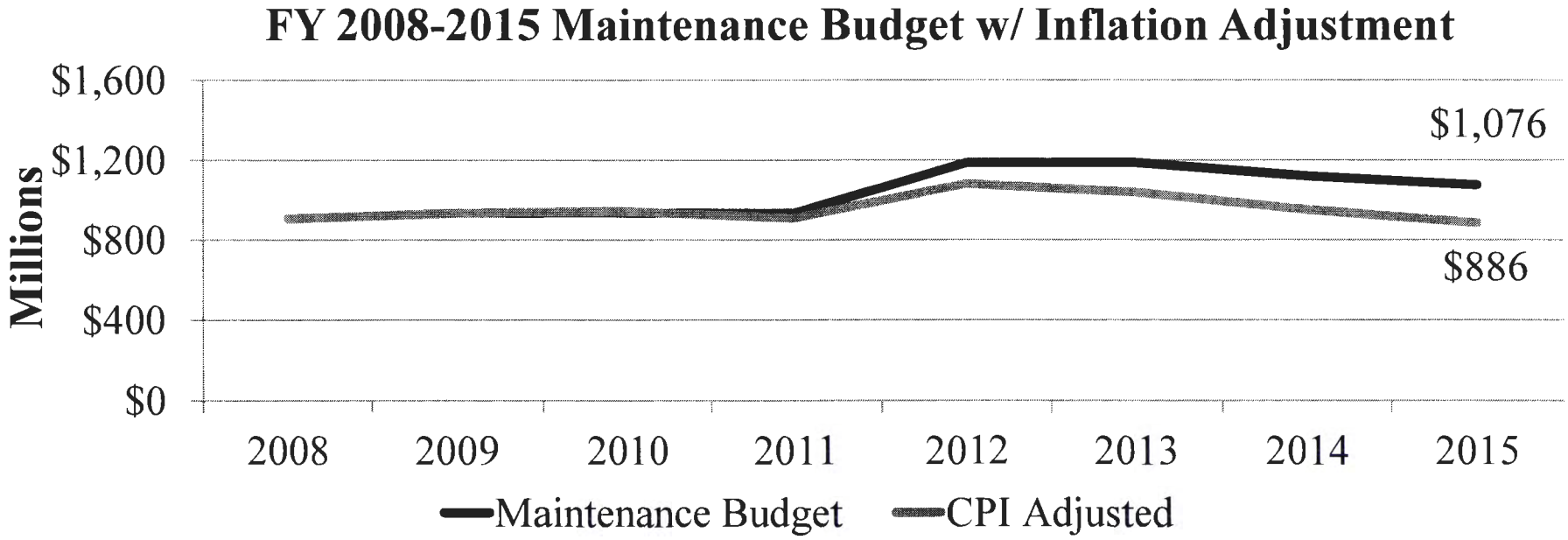
- Maintenance and Operations
- Multi-Modal: 5 Non-highway divisions, Ports, GTP
- Misc.: DMV, Aid to Municipalities, Transfers



$2.05 billion

Transportation Spending: (Highway Fund) Maintenance

- General Maintenance ($468m)
- Contract Resurfacing ($498m)
- Pavement Preservation ($85m)
- Bridge Program ($242m)



Transportation Spending: Secondary Roads

Paved

- Primary: 14,062 miles
  - STI - All Tiers
- Secondary: 64,522 miles
  - STI - Division Tier
- $467 M
- 95% of secondary system is paved

Unpaved

- 3,331 miles unpaved:
  - 1,359 eligible
  - 1,971 on hold
- $12 M
- 2 year change:
  - 81 fewer miles are unpaved

Transportation Spending
Unpaved Roads: Eligible

Remaining Mileage



Transportation Spending
Unpaved Roads: Hold List

Remaining Mileage



Private Roads

Comprehensive Survey Results

- 76,745 Roads with 17,717 Miles
  - 35,248 Paved ($831 M = Good Condition)
  - 41,497 Unpaved
- 70% of private roads in poor condition
- 46% of private roads in subdivisions

	East	Central	West
% of Total	27%	30%	43%
% in Poor Condition	66%	57%	81%

Bridges



- 13,487 bridges
- 4,539 culverts
- 1,784 unfunded structurally deficient (SD)
  - 67 counties: unfunded SD bridges exceed 10%
  - 250 SD added each year
- 3,146 unfunded functionally obsolete (FO)
  - 91 counties: unfunded FO bridges exceed 10%
- $242 M in HF; $90 M in HTF

SD Bridge Funding



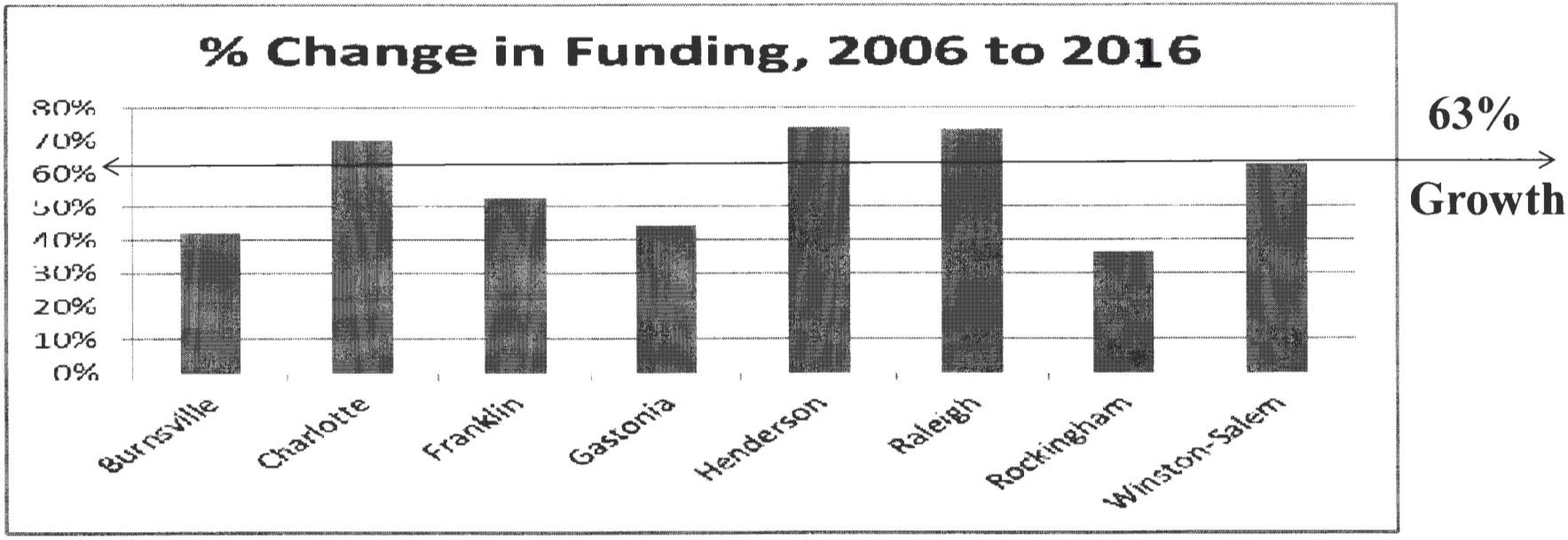
Deficient Bridges (2017)



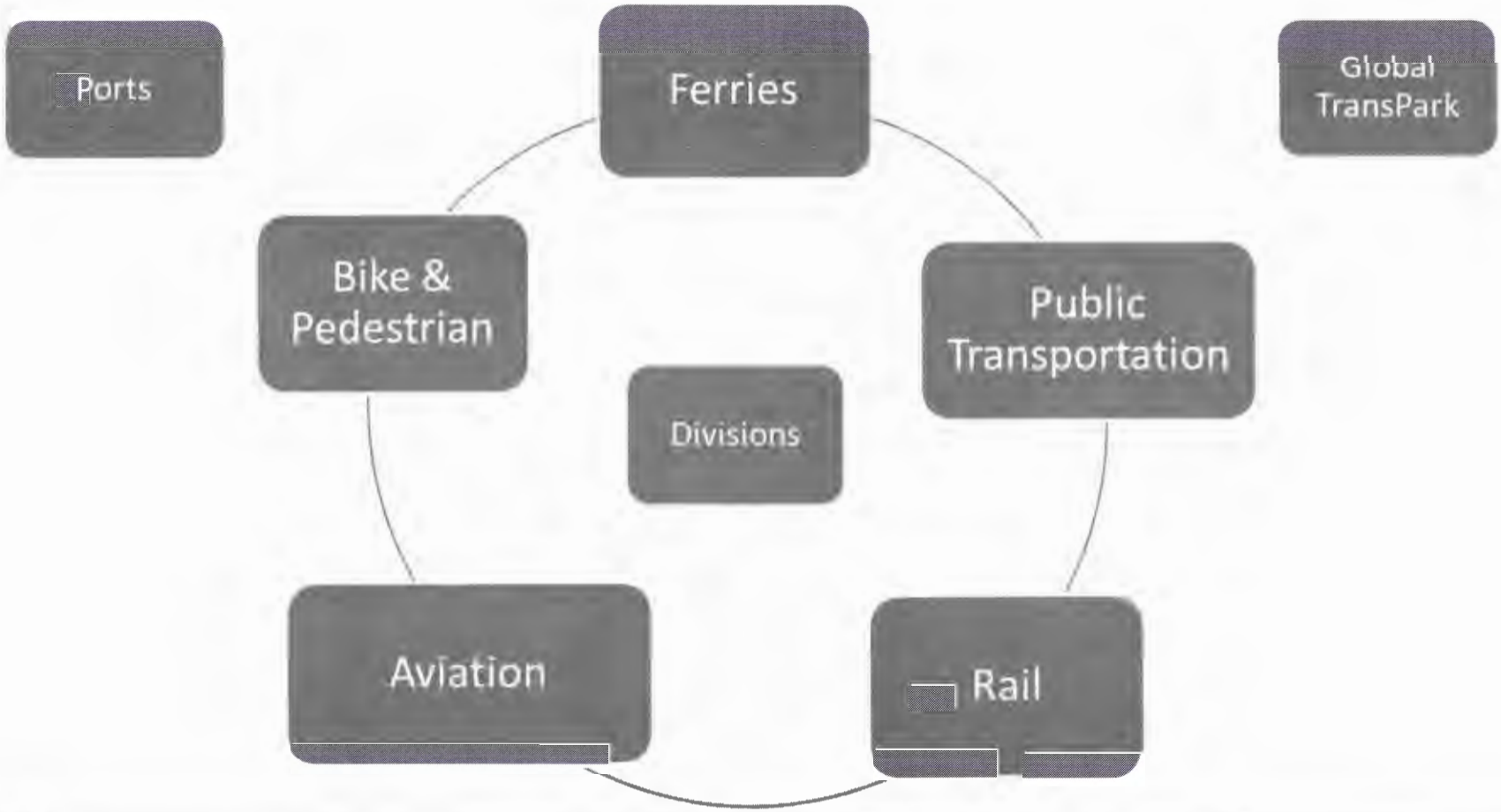
Transportation Spending: Aid to Municipalities (Powell Bill)

- 75% Population/25% Mileage
- Appropriation: $147.5 million
- New: Expenditure Report

	2006	2016
Per capita	$ 22.63	$ 20.03
Per mile	$ 1,685	$ 1,622

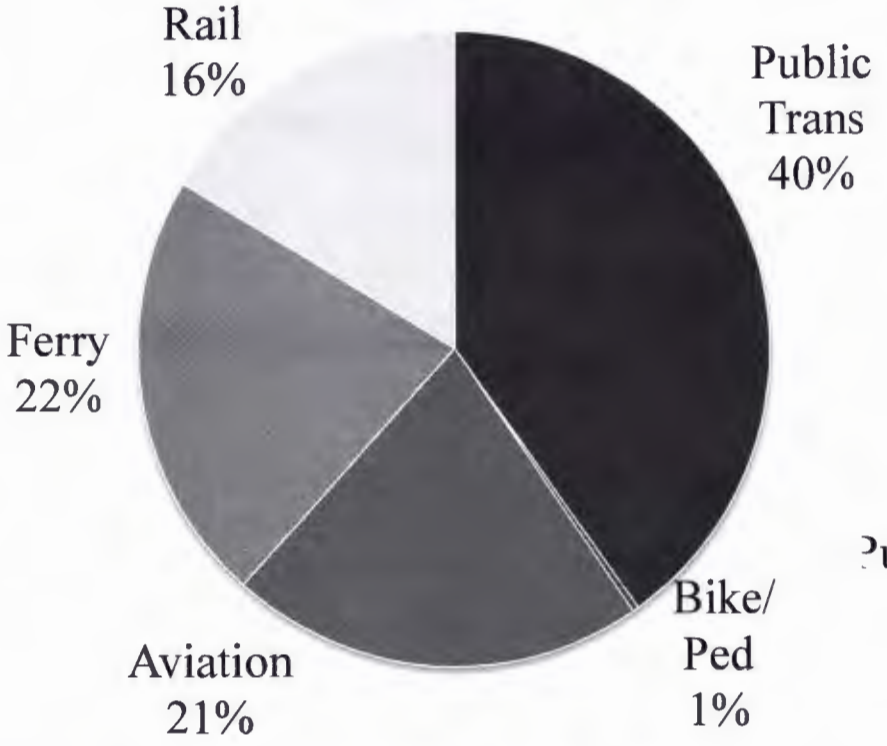


Transportation Spending: (Highway Fund) Intermodal



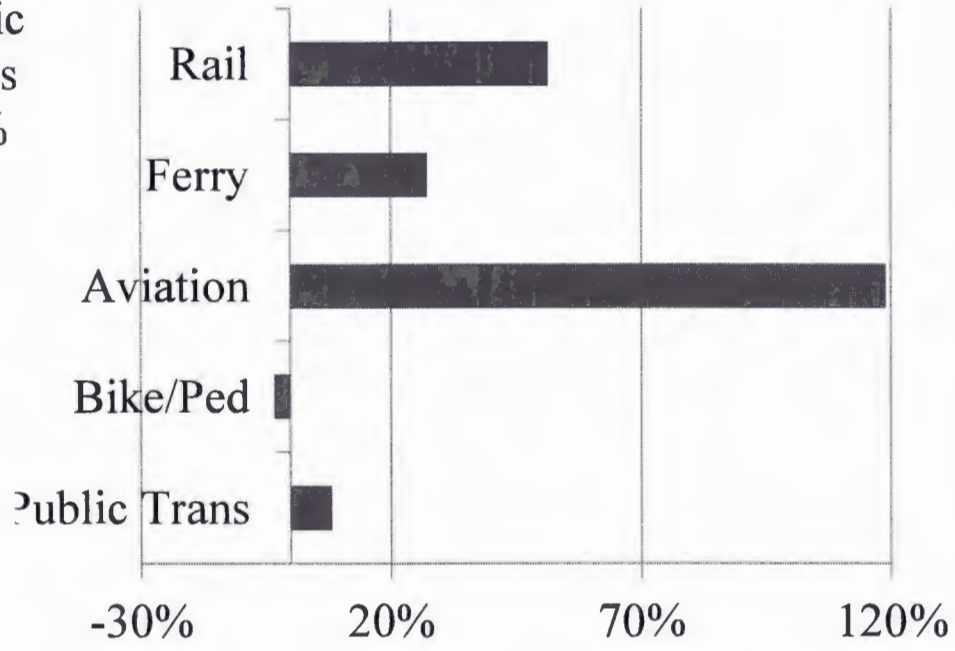
Transportation Spending: (Highway Fund) Intermodal

FY 2016-17 Budget



$229.5 million

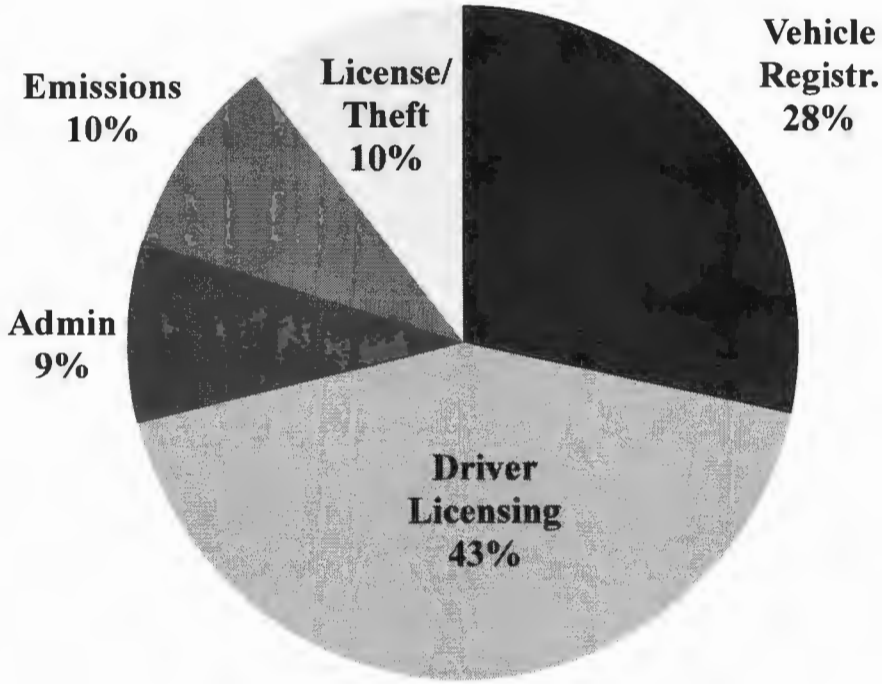
% Budget Growth in 2015-17 Biennium



$57 million added

Transportation Spending: (Highway Fund) DMV

FY 2016-17 Budget



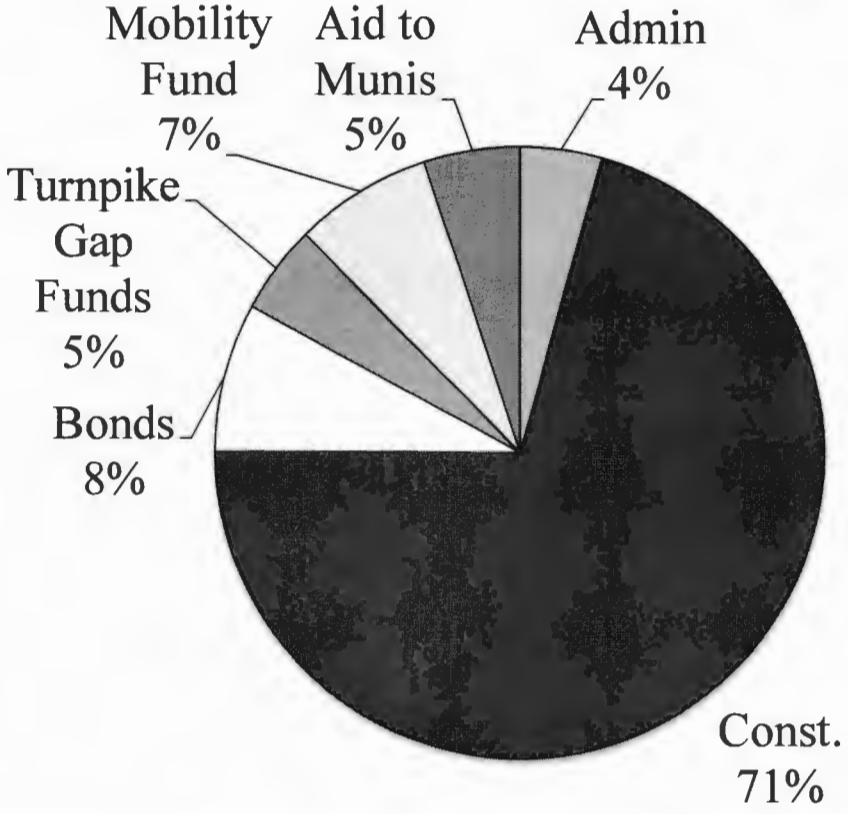
$125.3 million

Customer Service

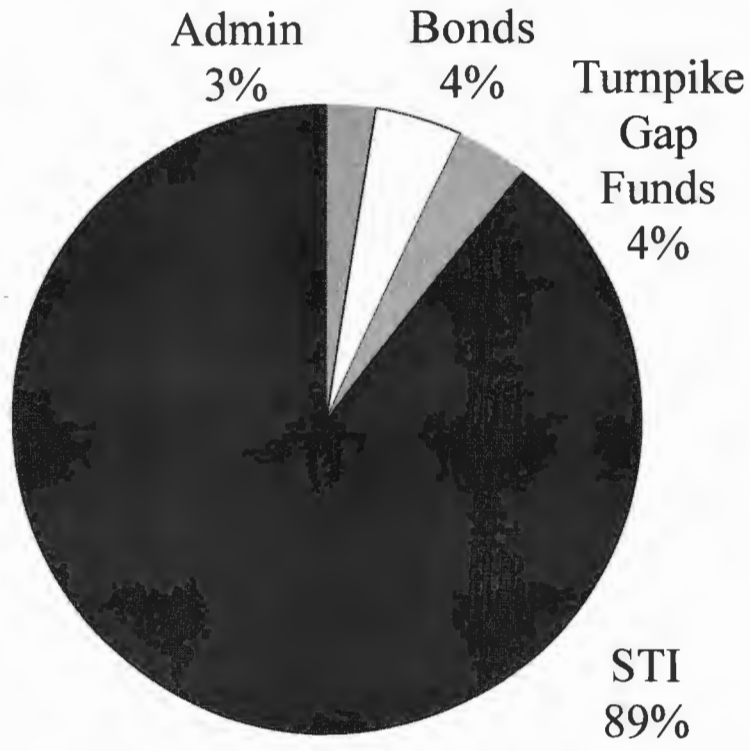
- Wait times

- Online services
- Convenience
  - Kiosks
  - Mobile Units

Transportation Spending: Highway Trust Fund

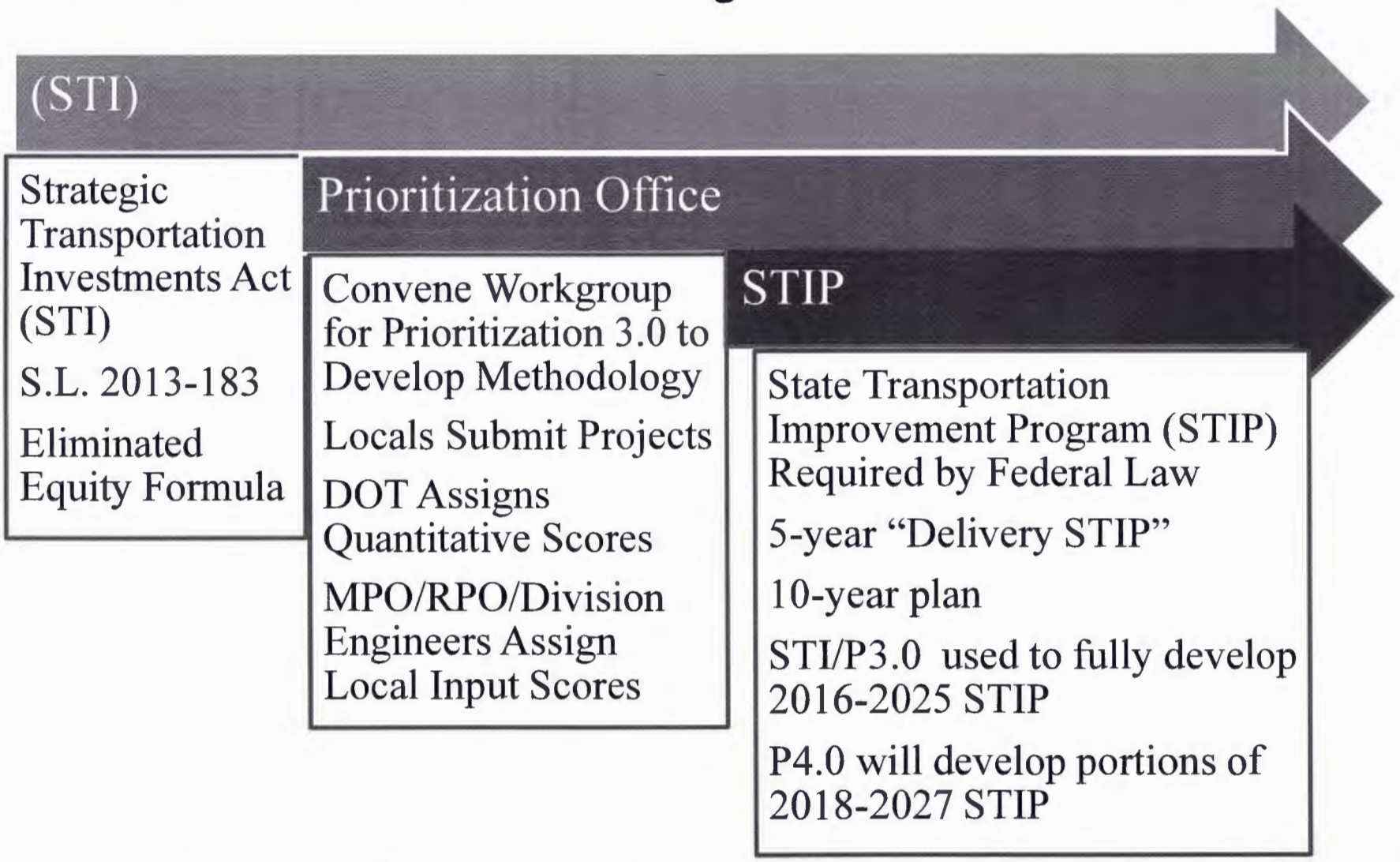


FY 2013: $1.07 billion

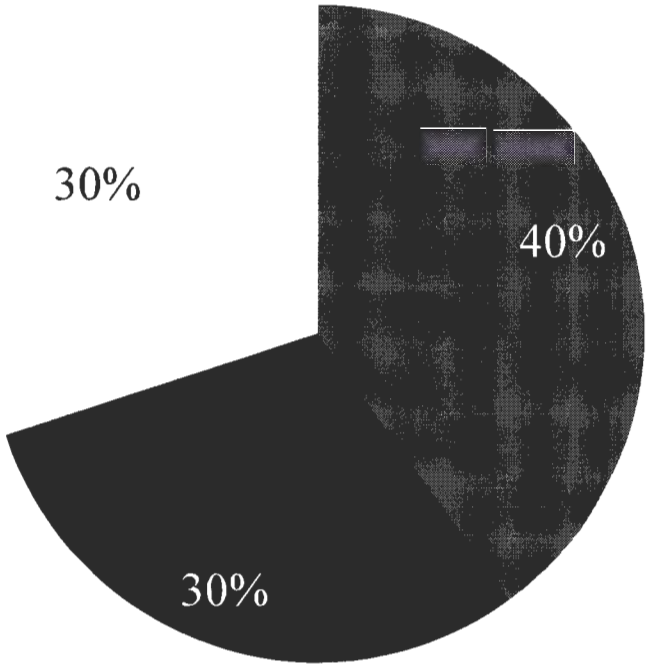


FY 2017: $1.37 billion

Data Driven Project Selection



STI



- Statewide Strategic Mobility Projects - 40%
- Regional Impact Projects - 30%
- Division Needs Projects - 30%

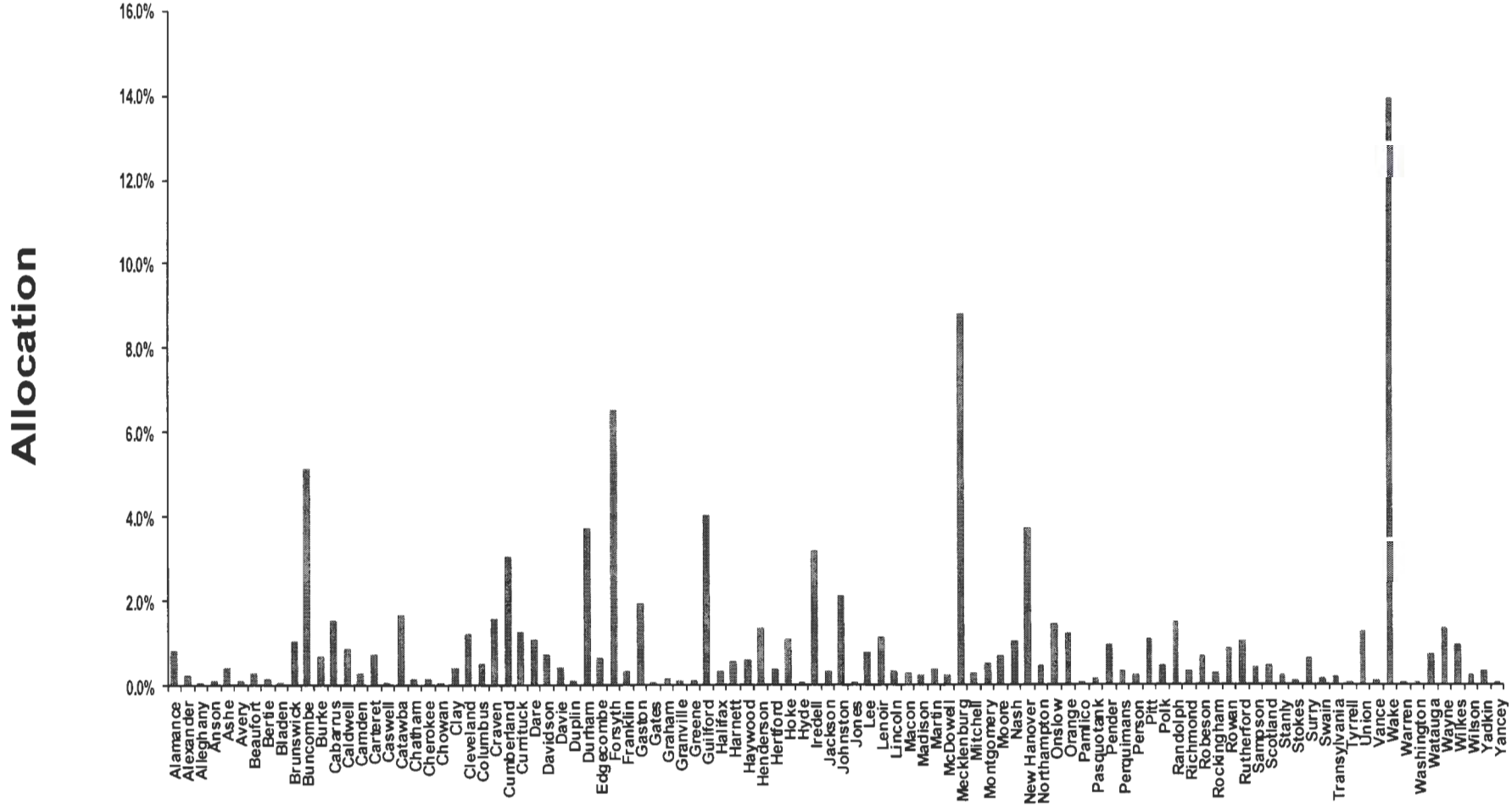
Where Does $32 Million Go?

Statewide	Regional	Division
$12,800,000	$9,600,000	$9,600,000

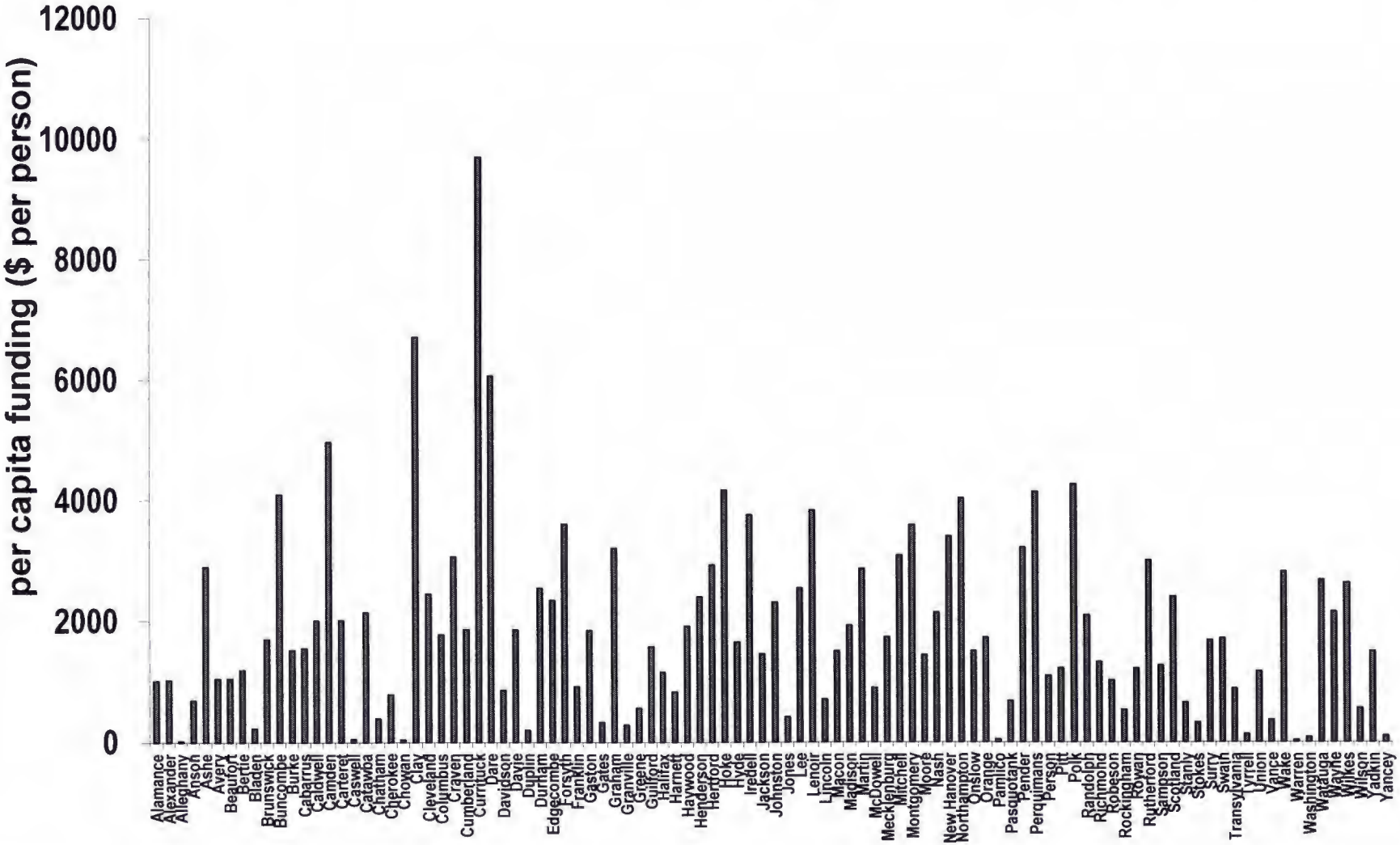
Draft 2018-2027 STIP (P4.0)

- Prioritization 4.0 Database includes 1,929 projects costing $56.6 B
- Programming removes projects from prior STIP to be rescored through Prioritization process
- STIP: 1,421 projects (532 Projects from P4.0)
  - 79% highway/21% non-highway
  - 31% programmed through Alternate Criteria
- 75% of the funds are distributed within MPO boundaries; 25% in RPO
  - Applies to Highways and to All Projects Combined

Draft STIP Per Capita Distribution

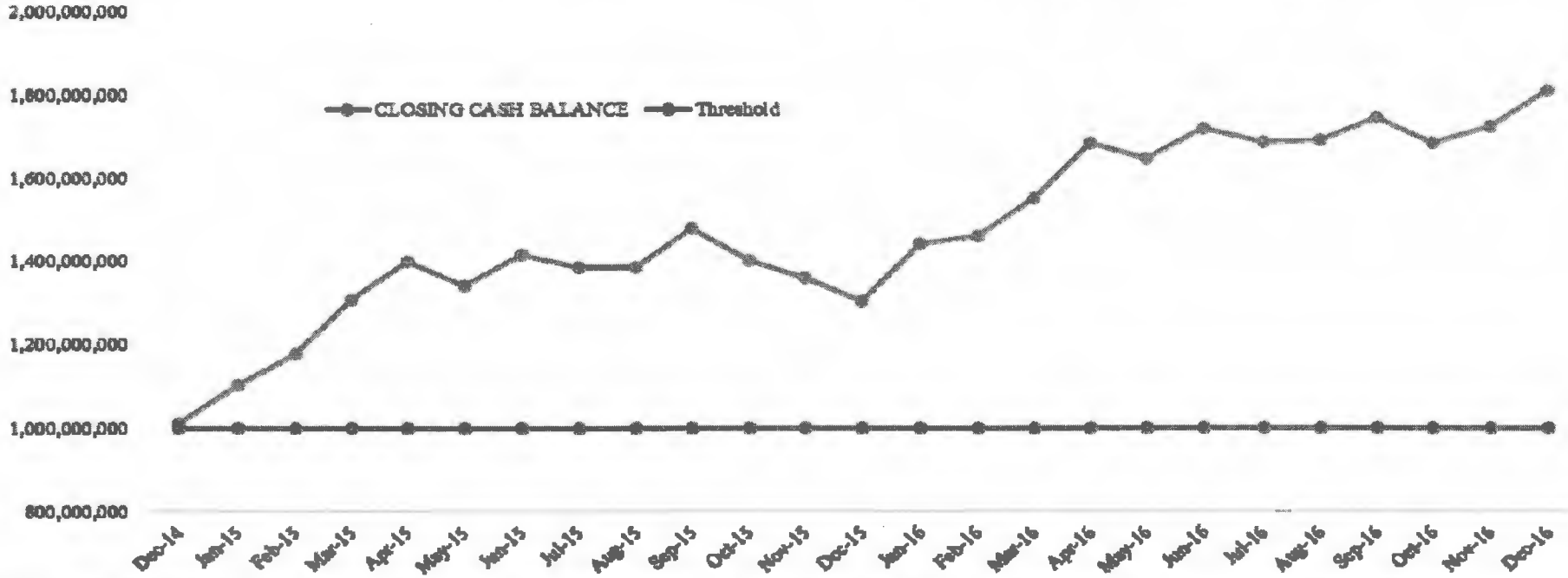


Draft STIP Funding Distributions

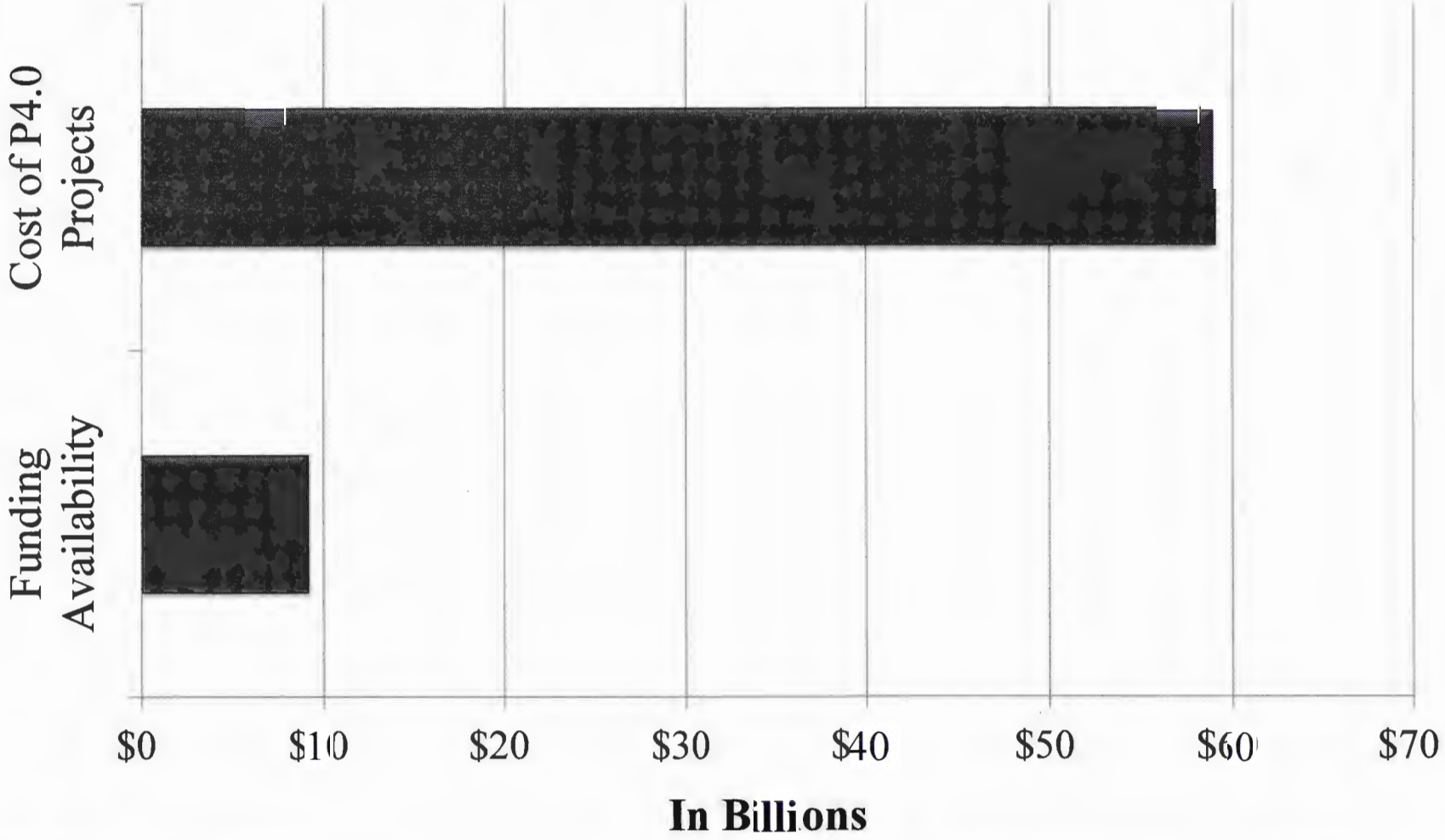


Issues for Consideration

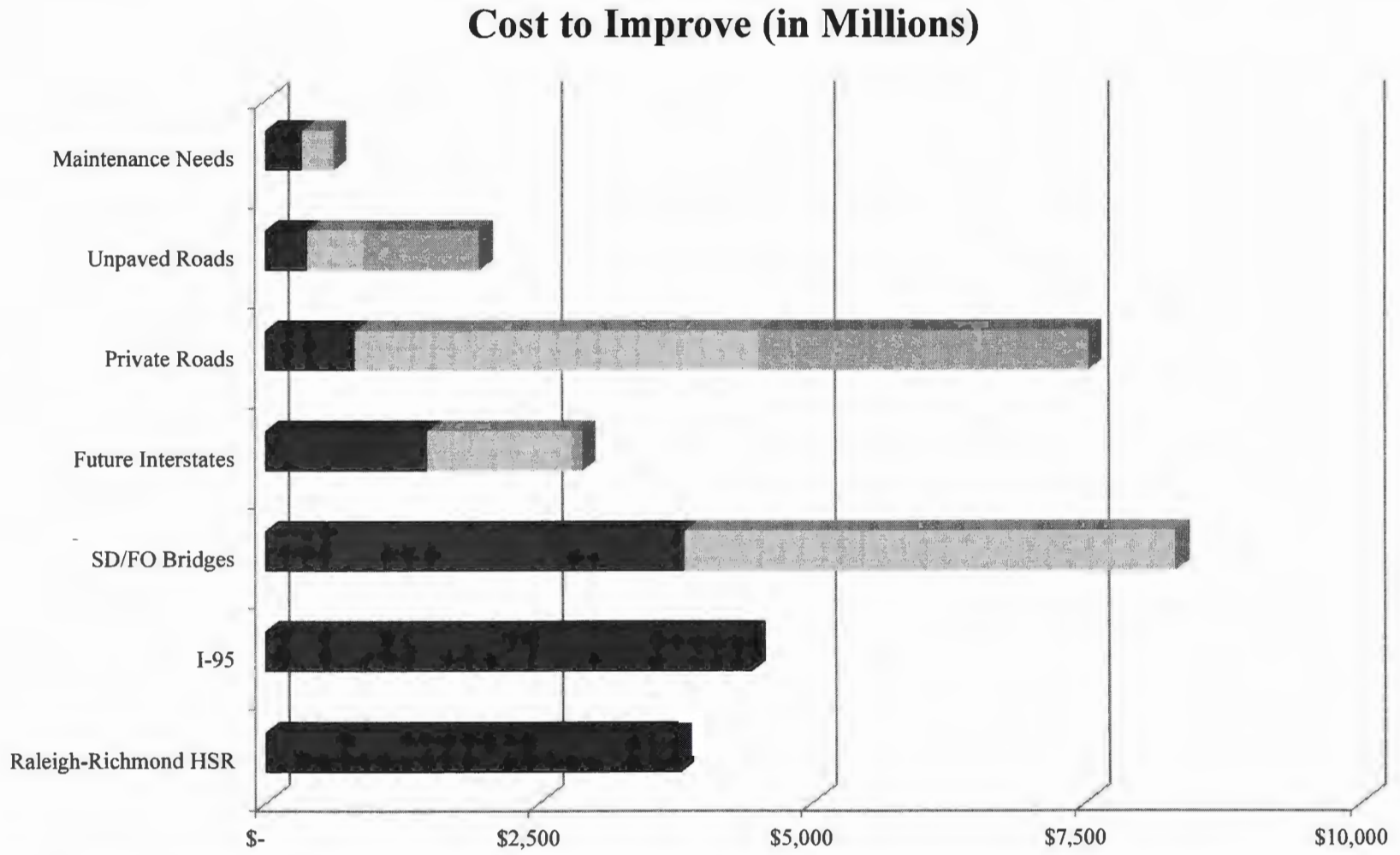
- Project Delivery
- Cash Balance
- New Bond?
- Storm Preparation
- New Federal Funds?
- Additional Tolling? P3s?
- Improved Connectivity
- Corridor Protection



Is STIP Funding Sufficient?



Is DOT Funding Sufficient?



Transportation Spending: Considerations

- What are your transportation funding priorities?
- How much revenue do you need to fund them?
- What options exist to raise revenues?
- Is spending flowing to the areas with the greatest needs?

Summary

- North Carolina has a large, centralized highway system with state, not county, responsibility for secondary roads.

- The condition of the state's roads will deteriorate without additional funding for maintenance and preservation.

- Expected population growth will put additional demands on new construction.

Committee Sergeants at Arms

NAME OF COMMITTEE JT Comm. on App.Transportation

DATE: 02/22/17 Room: 1027/1128

House Sgt-At Arms:

1. Name: David Leighton
2. Name: Russell Salisbury
3. Name: Thomas Terry
4. Name: _____
5. Name: _____

Senate Sgt-At Arms:

1. Name: Terry Barnhardt
2. Name: Linda Matthews
3. Name: _____
4. Name: _____
5. Name: _____

House Pages
Assignments
Wednesday, February 22, 2017
Session: 12:00 PM

Committee	Room	Time	Staff	Comments	Member
Appropriations on Health and Human Services	643	8:30 AM	Sarah Bowles		Rep. Speaker Tim Moore
			Lucas Franklin		Rep. Speaker Tim Moore
Appropriations on Justice and Public Safety	415	8:30 AM	Ryan Glendy		Rep. Edward Hanes
			Pierce Robinson		Rep. Speaker Tim Moore
Appropriations, Education	Other	8:30 AM	Diamond McCray		Rep. Speaker Tim Moore
			Madison Swallows		Rep. Mark Brody
Appropriations, General Government	425	8:30 AM	William Mitchell		Rep. Speaker Tim Moore
			Archer Zureich		Rep. Speaker Tim Moore
Appropriations, Transportation	1027/1128	8:30 AM	Ashley Swallows		Rep. Mark Brody
			Anissa Wilson		Rep. Rodney Moore

VISITOR REGISTRATION SHEET

JT Comm. on App.Transportation 02/22/17

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Kim Padfield	DOT
Thomas Mac	CCA
M Benton	RMC
Jay Stem	NCAA
RJ Winn	RMC
MIKE HOLDER	NCDOT
Joy Nichols	NCDOA&CS
Julie White	NCMMC
Debbie Cook	NCC
Phil Lu	MWC

VISITOR REGISTRATION SHEET

JT Comm. on App.Transportation 02/22/17

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Kelsey Byerly	Walk West
James Smith	ACEC/NC
[illegible]	NS
H. Isaico	NCDOT
Berry Jenkins	Carolinas AGC
Greg Dean	Carolinas Conc. Paving Assn.

Joint Appropriations Committee on Transportation
February 28, 2017
8:30 a.m.
Room 1027/1128 LB
Minutes

The Joint Appropriations Committee on Transportation met February 28, 2017at 8:30 a.m. in Room 1027/1128 LB with five Senators and eight Reprsentatives present.

Senator Tom McInnis presided.

Senator McInnnis introduced himself, the Sergeant at Arms, and Pages

David Wasserman(Manager, Strategic Prioritization Office of Transportation and STIP Western Region North Carolina Department of Transportation) & Van Argabright (Manager, STIP and Feasibility Studies Unit North Carolina Department of Transportation) presented STI Prioritization and Programming Process.

Dana Stoogenke (Director, Rocky River RPO
President, North Carolina Association of Rural Planning Organizations) and Chris Lukasina (Executive Director, Capital Area MPO) presented Consensus Recommendations from Rural Transportation Planning Organizations (RPOs) and Metropolitan Planning Organizations (MPOs)

Amna Cameron, Principal (Fiscal Analyst, Fiscal Research Division North Carolina General Assembly) presented Base Budget Overview.

Not having time for further presentations, Senator McInnis adjorned the meeting at 10:00am.

Senator Tom McInnis
Presiding

Libby Spain (Sen. Tom McInnis)
Committee Clerk

Joint Appropriations Committee on Transportation

February 28, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis, Chairing
Senator Wesley Meredith

Representative Frank Iler
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. STI Prioritization and Programming Process

   - David Wasserman, Manager, Strategic Prioritization Office of Transportation and STIP Western Region
     North Carolina Department of Transportation

   - Van Argabright, Manager, STIP and Feasibility Studies Unit
     North Carolina Department of Transportation

3. Consensus Recommendations from Rural Transportation Planning Organizations (RPOs) and Metropolitan Planning Organizations (MPOs)

   - Dana Stoogenke, Director, Rocky River RPO
     President, North Carolina Association of Rural Planning Organizations

   - Chris Lukasina, Executive Director
     Capital Area MPO

4. Base Budget Overview

   - Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division
     North Carolina General Assembly

5. DMV Base Budget Review (if time permits)

   - Susan Tyler, Fiscal Analyst, Fiscal Research Division
     North Carolina General Assembly

Next meeting: DMV - Wednesday, March 1st, 8:30 a.m.

Principal Clerk
Reading Clerk

SENATE
NOTICE OF COMMITTEE MEETING
AND
BILL SPONSOR NOTICE

The **Senate Committee on Appropriations on Department of Transportation** will meet at the following time:

DAY	DATE	TIME	ROOM
Tuesday	February 28, 2017	8:30 AM	1027/1128 LB

Agenda To Be Announced

Senator Jim Davis, Co-Chair
Senator Tom McInnis, Co-Chair
Senator Wesley Meredith, Co-Chair

NORTH CAROLINA
Department of Transportation



STI Prioritization and Programming Process

David Wasserman, P.E.
Van Argabright, P.E.
Strategic Prioritization Office (SPOT) & STIP Unit

February 28, 2017

ATTACHMENT 1

Today's Roadmap

1. State Transportation Improvement Program (STIP)
2. Strategic Transportation Investments (STI) Law
3. Prioritization 4.0 and Draft 2018-2027 STIP
4. Prioritization 5.0



State Transportation Improvement Program

State Transportation Improvement Program (STIP)

STIP identifies funding and scheduling of projects in NCDOT's capital program (55% of DOT Budget)

10 Year Program (currently 2016-2025)

- 1st Five Years is "Delivery STIP" – committed projects
- 2nd Five Years is "Developmental STIP" – projects in early scoping and environmental development stage

Updated every 2 years

Current STIP contains over $25 Billion of projects

- Highway, non-highway, bridges, safety, Interstate Maintenance, CMAQ

Types of Projects in the STIP



Types of Projects in the STIP





Strategic Transportation Investments Law

Strategic Transportation Investments (STI) Law

Prioritizes Capital Expenditures across all modes (Mobility/Expansion + Modernization)

Needs-based

Directly ties funding to Prioritization Results

Workgroup

How STI Works

40% of Funds	30% of Funds	30% of Funds

Estimated $20B in Funds for SFY 2018-2027

Statewide Mobility

Focus → Address Significant Congestion and Bottlenecks

- Selection based on 100% Data
- Projects Programmed prior to Local Input Ranking

Regional Impact

Focus → Improve Connectivity within Regions

- Selection based on 70% Data & 30% Local Input
- Funding based on population within Region (7)

Division Needs

Focus → Address Local Needs

- Selection based on 50% Data & 50% Local Input
- Funding based on equal share for each Division (14) = ~$42M / yr

Eligibility Definitions

Mode	Statewide Mobility	Regional Impact	Division Needs
Highway	• Interstates (existing & future) • NHS routes (July 1, 2012) • STRAHNET • ADHS Routes • Uncompleted Intrastate projects • Designated Toll Facilities	Other US and NC Routes	All County (SR) Routes
Aviation	Large Commercial Service Airports ($500K cap)	Other Commercial Service Airports not in Statewide ($300K cap)	All Airports without Commercial Service ($18.5M cap)
Bicycle-Pedestrian	N/A	N/A	All projects ($0 state funds)
Public Transportation	N/A	Service spanning two or more counties (10% cap)	All other service, including terminals and stations
Ferry	N/A	Ferry expansion	Replacement vessels
Rail	Freight Capacity Service on Class I Railroad Corridors	Rail service spanning two or more counties not Statewide	Rail service not included on Statewide or Regional

Highway Project Scoring Overview

Mode	Statewide Mobility	Regional Impact	Division Needs
Eligible Projects	• Statewide	• Statewide • Regional	• Statewide • Regional • Division
Overall Weights	100% Quantitative Data	70% Quantitative Data / 30% Local Input	50% Quantitative Data / 50% Local Input
Quant. Criteria	• Benefit-Cost • Congestion • Economic Comp. • Safety • Freight • Multimodal • Pavement Condition • Lane Width • Shoulder Width	• Benefit-cost • Congestion • Safety • Freight • Multimodal • Pavement Condition • Lane Width • Shoulder Width • Accessibility and connectivity to employment centers, tourist destinations, or military installations	• Benefit-cost • Congestion. • Safety • Freight • Multimodal • Pavement Condition • Lane Width • Shoulder Width • Accessibility and connectivity to employment centers, tourist destinations, or military installations
Notes:	Projects Selected Prior to Local Input	Quant. Criteria can be different for each Region	Quant. Criteria can be different for each Division

Non-Highway Criteria

Separate prioritization processes for each mode

- Minimum of 4 quantitative criteria
- Criteria based on 0-100 point scale with no bonus points







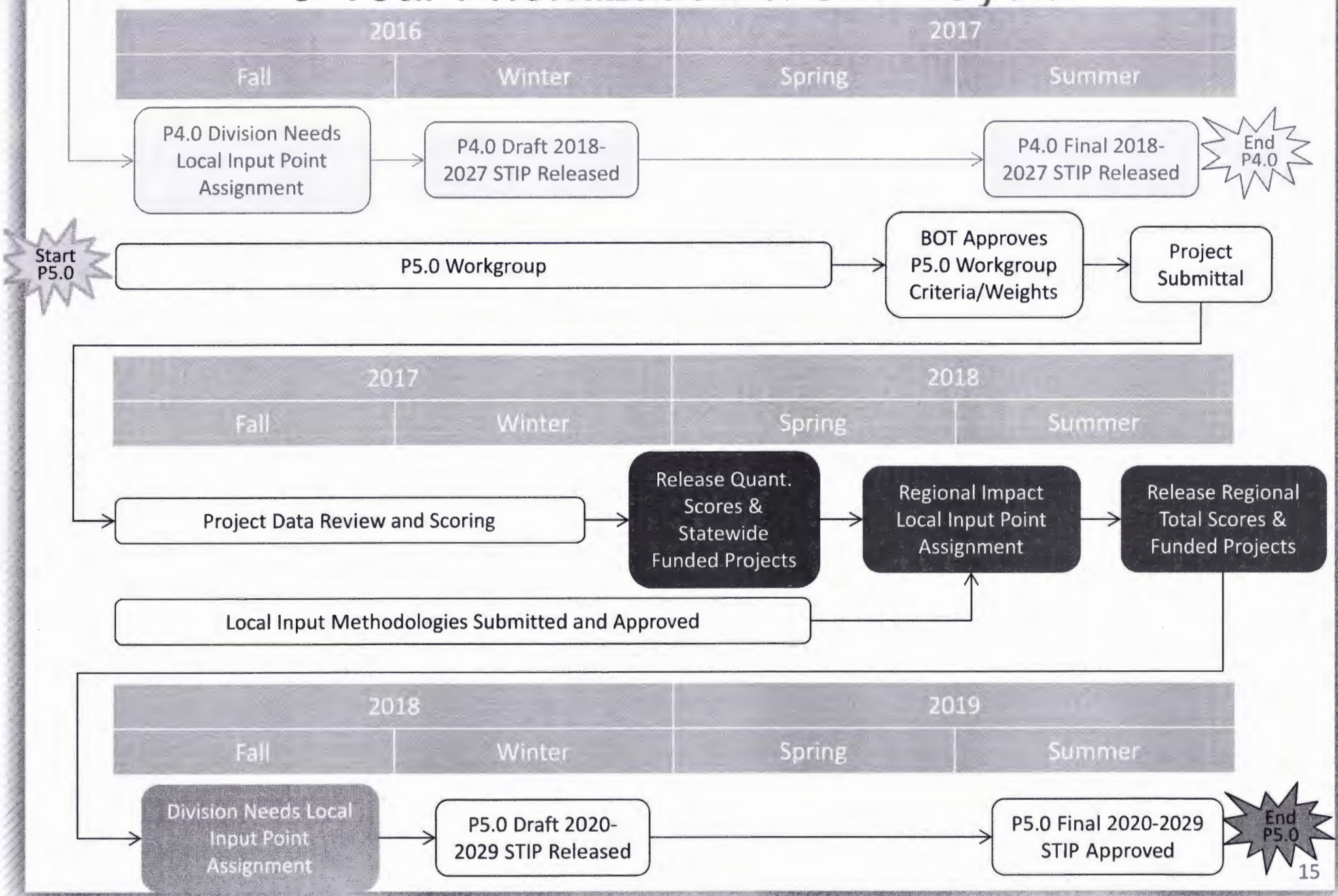
Workgroup Members

- 4 MPO reps
- 4 RPO reps
- Metro Mayors Coalition
- League of Municipalities
- Regional Council of Governments
- Association of County Commissioners
- 12 NCDOT reps
- Advisory reps



Prioritization 4.0 and Draft 2018-2027 STIP

3-Year Prioritization & STIP Cycle



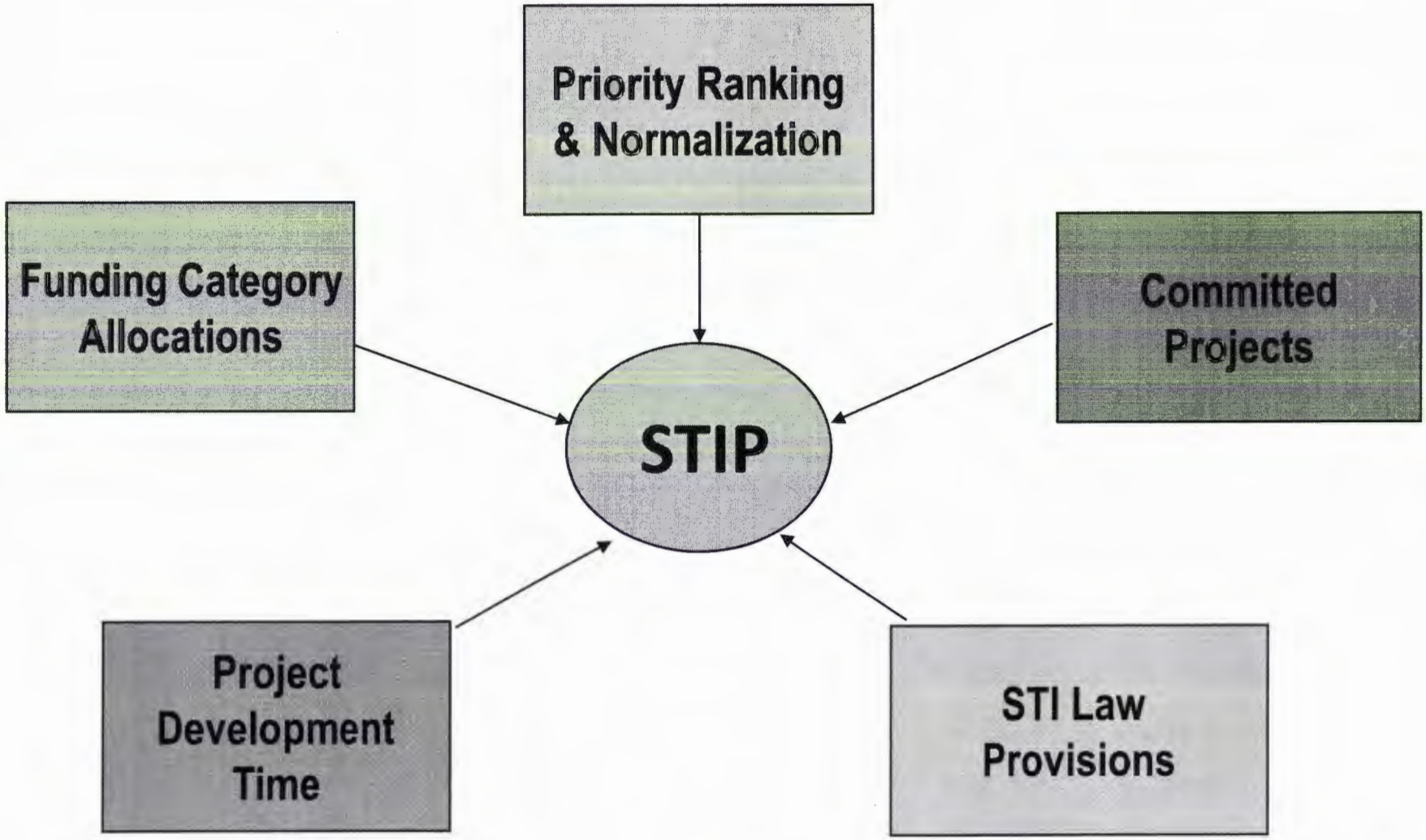
P4.0 Highway Scoring Criteria & Weights

Funding Category	QUANTITATIVE Data		LOCAL INPUT Division	LOCAL INPUT MPO/RPO
Statewide Mobility	Congestion = 30% Benefit-Cost = 25% Safety = 15% Economic Comp. = 10% Freight = 15% Multimodal = 5%	**100%**	--	--
Regional Impact	Congestion = 20% Benefit-Cost = 20% Safety = 10% Accessibility/Connectivity = 10% Freight = 10%	**70%**	**15%**	**15%**
Division Needs	Congestion = 15% Benefit-Cost = 15% Safety = 10% Accessibility/Connectivity = 5% Freight = 5%	**50%**	**25%**	**25%**

P4.0 Non-Highway Criteria

Aviation	Bicycle & Pedestrian	Ferry	Public Transportation	Rail
NCDOA Project Rating	Safety	Asset Condition	Access	Cost Effectiveness
FAA ACIP Rating	Access	Benefits	System Safety	System Health
Non-State Contribution Index	Demand/ Density	Accessibility/ Connectivity	Impact/Age	Safety and Suitability
Benefit/Cost	Connectivity	Asset Efficiency	Cost Effectiveness	Project Support
	Cost Effectiveness	Capacity/ Congestion	Market Share	
			Ridership Growth	

STIP Development



Scheduling Impacts to Programming

Project Ranking	Expected Project Delivery Time (Years)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	9		NEPA →		→	Design →		ROW →		CON	
2	4	Design →		ROW →		CON					
3	1	CON									
4	5	Design →			ROW →		CON				
5	8		NEPA →		→	Design →		ROW →		CON	

- Regardless of priority, projects cannot be programmed for Right of Way (ROW) or Construction prior to completion of planning/environmental (NEPA) and design work
- A lower scoring project that can be delivered soon may get scheduled prior to a higher ranking project that still needs extensive work

Annual Funding Balance

+/-10% Variance Test

Year	2016	2017	2018	2019	2020	Total
Statewide						Test
Regional						Test
Division						Test
Annual Budgets	Test	Test	Test	Test	Test	Test

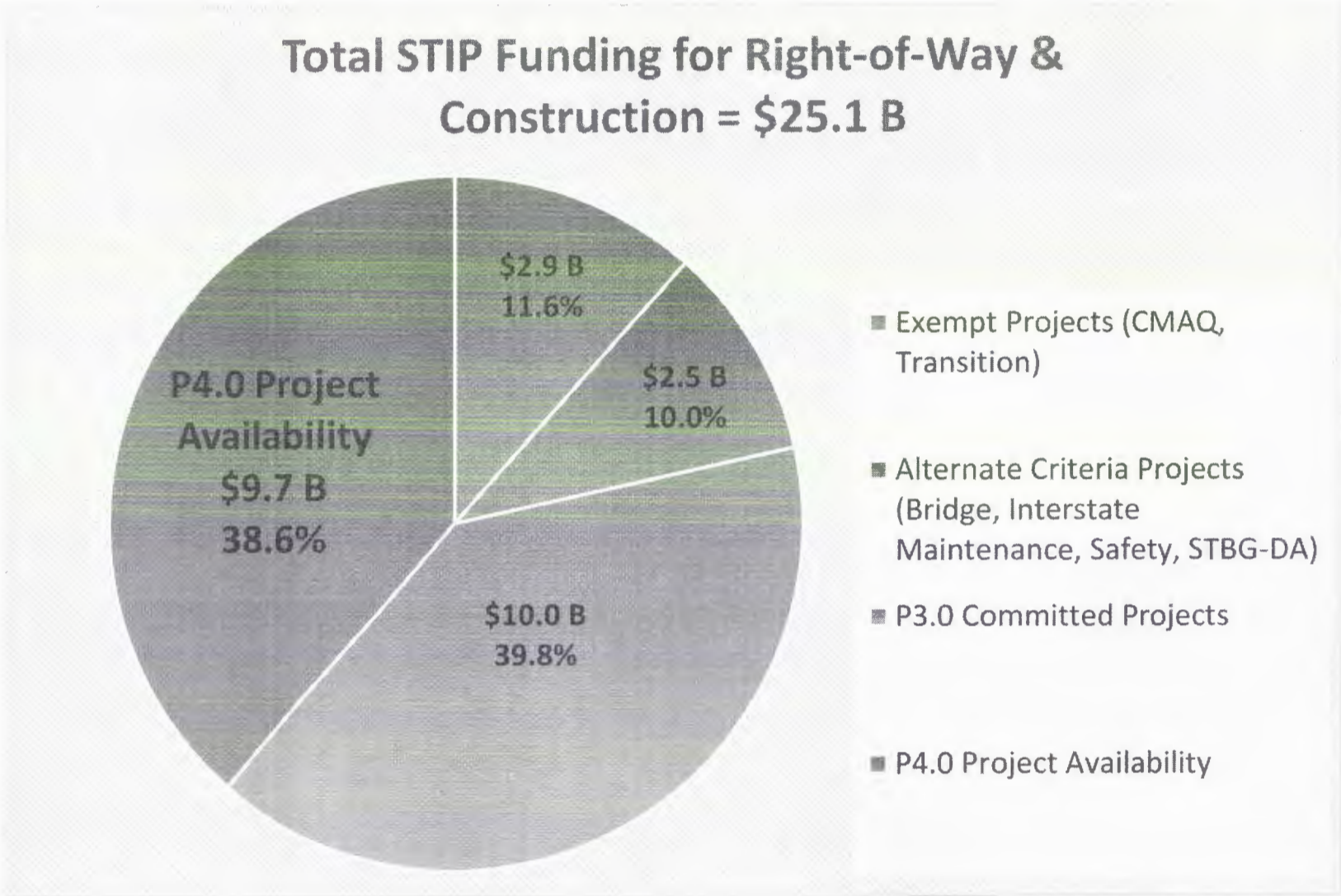
- Many budget tests included in State and Federal Law
- Compare total programmed amount to anticipated annual budget for each year
- For every five year period, compare programmed amounts to budget targets set by law in the Statewide, Regional and Division categories

STI Legislation Funding Caps and Restrictions

Caps which Impact Programming:

- Statewide Mobility corridor cap
- Funding limits on airport projects in all categories
- Funding limits on Regional Impact transit projects
- Funding limit on light rail and commuter rail projects
- Prohibition on using state funds to match federal-aid for independent bicycle and pedestrian projects

2018-2027 Draft STIP Funding



Prioritization 4.0 Results & 2018-2027 Draft STIP

Evaluated 1929 Projects ($57 B)

- 1202 highway ($53 B)
- 727 non-highway ($4 B)

532 project funded ($9.7 B) → 17% funded

- 350 highway ($9.1 B)
- 182 non-highway ($0.6 B)

P4.0 Results & 2018-2027 Draft STIP Statewide Mobility Category

Mode	# of Candidate Projects	Cost of Candidate Projects (to STI)	# of Projects Selected	Amount Programmed	% of Candidate Projects Cost Programmed
Highway	**355**	**$29.1 B**	**55**	**$3.1 B**	**10.7 %**
Aviation	13	$6.3 M	9	$4.5 M	71.4 %
Rail	55	$2.2 B	3	$122.1 M	5.5 %
Total Non-Highway	**68**	**$2.2 B**	**12**	**$126.6 M**	**5.7 %**

P4.0 Results & 2018-2027 Draft STIP Regional Impact Category

Mode	# of Candidate Projects	Cost of Candidate Projects (to STI)	# of Projects Selected	Amount Programmed	% of Candidate Projects Cost Programmed
Highway	**806**	**$41.4 B**	**125**	**$2.9 B**	**7.0 %**
Aviation	15	$4.9 M	7	$2.1 M	42.9 %
Public Transportation	46	$6.0 M	12	$2.8 M	46.7 %
Ferries	1	$1.5 M	0	$0	0.0 %
Rail	57	$2.5 B	15	$195.5 M	7.8 %
Total Non-Highway	**119**	**$2.5 B**	**34**	**$200.4 M**	**8.0 %**

*Includes projects which have cascaded down from the Statewide Mobility category

P4.0 Results & 2018-2027 Draft STIP Division Needs Category

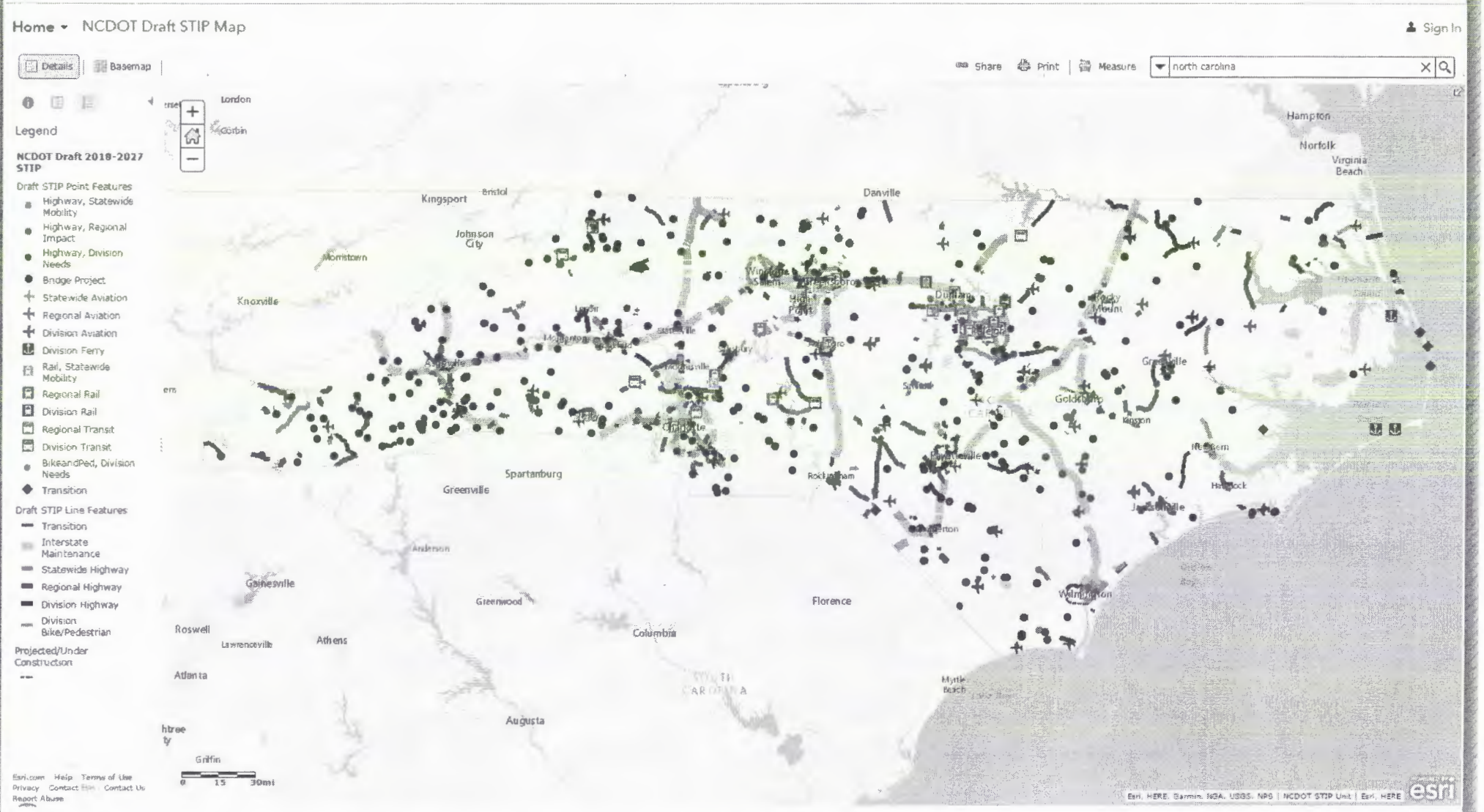
Mode	# of Candidate Projects	Cost of Candidate Projects (to STI)	# of Projects Selected	Amount Programmed	% of Candidate Projects Cost Programmed
Highway	**1,031**	**$45.3 B**	**170**	**$3.2 B**	**7.1 %**
Aviation	160	$476.6 M	49	$126.7 M	26.6 %
Bike/Ped	358	$379.6 M	79	$71.9 M	18.9 %
Public Transportation	102	$39.1 M	7	$0.5 M	1.2 %
Ferries	9	$113.2 M	1	$10.8 M	9.5 %
Rail	52	$2.4 B	0	0	0.0 %
Total Non-Highway	**681**	**$3.4 B**	**136**	**$209.9 M**	**6.2 %**

*Includes projects which have cascaded down from the Regional Impact category

P4.0 Results & 2018-2027 Draft STIP All Projects

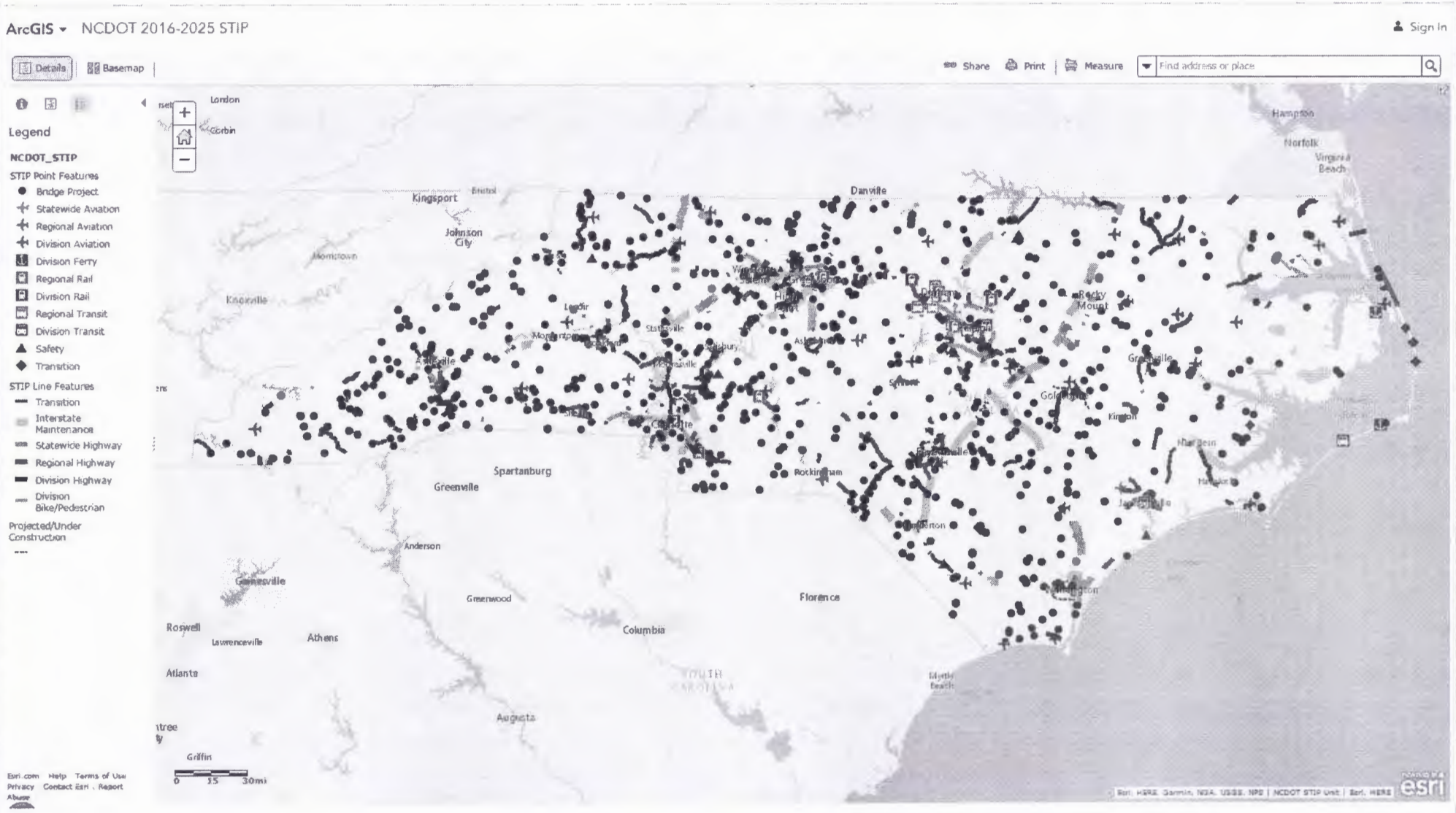
Mode	# of Candidate Projects	Cost of Candidate Projects (to STI)	# of Projects Selected	Amount Programmed	% of Candidate Projects Cost Programmed
Highway	**1202**	**$52.9 B**	**350**	**$9.1 B**	**17.2 %**
Aviation	176	$483.2 M	65	$133.3 M	27.6 %
Bike/Ped	358	$379.6 M	79	$71.9 M	18.9 %
Public Transportation	114	$41.9 M	19	$3.3 M	7.9 %
Ferries	9	$113.2 M	1	$10.8 M	9.5 %
Rail	70	$2.8 B	18	$317.6 M	11.3 %
Total Non-Highway	**727**	**$3.8 B**	**182**	**$536.9 M**	**14.1 %**
Total All Projects	**1929**	**$56.7 B**	**532**	**$9.7 B**	**17.1 %**

2018-2027 Draft STIP Distribution



Note: Map does NOT include bridges funded from Highway Fund

2016-2025 STIP Distribution



Note: Map includes bridges funded from Highway Fund



Prioritization 5.0

P5.0 Workgroup Meetings

Kickoff meeting on October 3rd (meet ~ twice a month)

Consensus recommendations to date:

- P5.0 schedule
- Committed projects
- Continued use of scaling
- Project submittals and submittal coordination
- Continued use of Peak ADT
- Normalization
- Aviation scoring
- Ferry scoring

Future Meeting Topics

Future Meeting Topics:

- Public Transportation scoring
- Rail scoring
- Bicycle & Pedestrian scoring
- Geographic distribution of projects
- Highway scoring
  - Modernization projects
  - Future interstates
- Local Input Points & Process Verification (Cambridge)

Contact Information

STRATEGIC TRANSPORTATION INVESTMENTS

Smart decisions to keep North Carolina moving.

Van Argabright, P.E.
STIP and Feasibility Studies Manager
(919) 707-4622
vargabright@ncdot.gov

David Wasserman, P.E.
Prioritization Office (SPOT) / STIP Western Region Manager
(919) 707-4743
dswasserman@ncdot.gov

Sarah E. Lee
Prioritization Office (SPOT)
(919) 707-4742
selee@ncdot.gov

Jason Schronce, P.E.
Prioritization Office (SPOT)
(919) 707-4646
jschronce@ncdot.gov

https://www.ncdot.gov/sti

TRANSPORTATION PLANNING

RURAL & METROPOLITAN PLANNING ORGANIZATIONS

Chris Lukasina: Capital Area MPO
Dana Stoogenke: Rocky River RPO

February 28, 2017

House & Senate Transpo
Appropriations Comm

ATTACHMENT 2

Transportation Partners



- 19 Metropolitan Planning Organizations
- 18 Rural Planning Organizations
- 14 Division Engineers

Transportation Partners



Workgroup 5

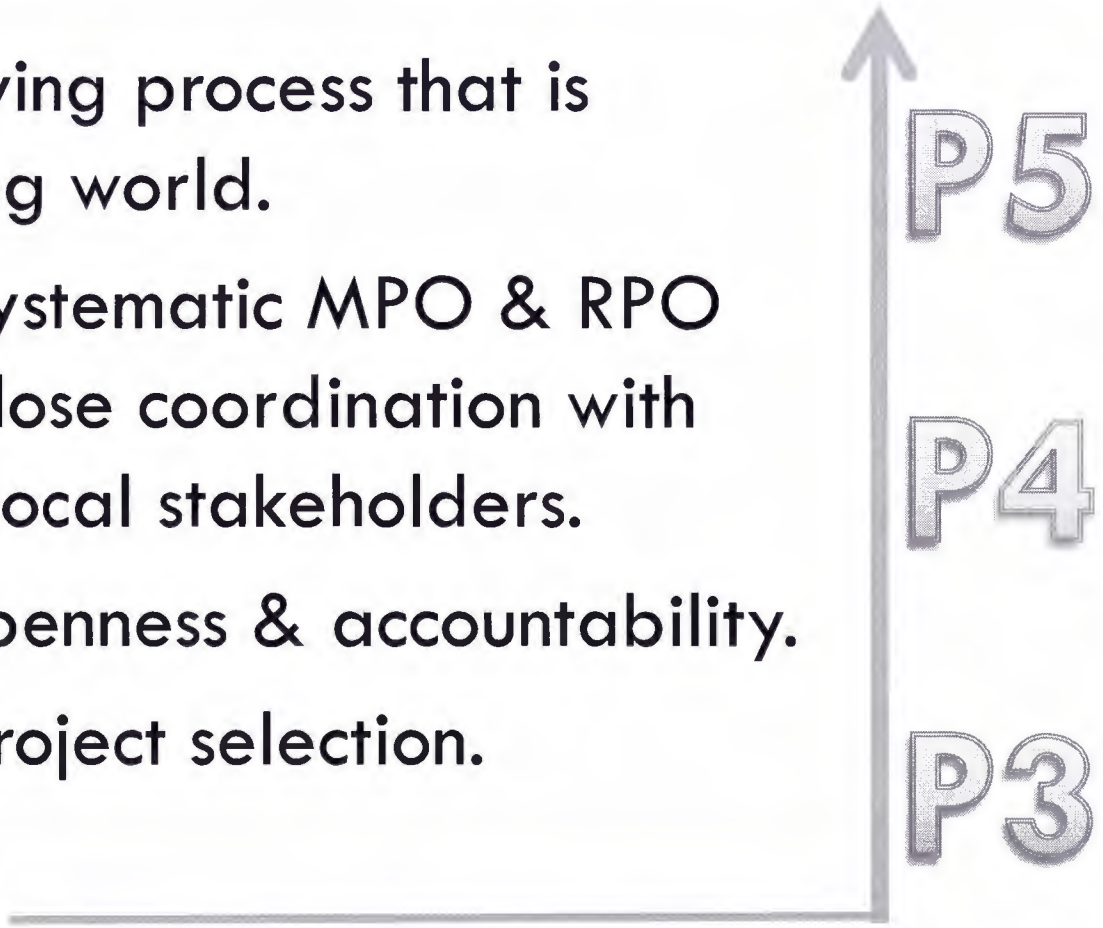
- The *Workgroup* provides a structured process for considering options and transparent decision-making.
- The *Workgroup* is working well and is a national model.



(8 members not pictured)

Prioritization Process Continues Evolving

- Prioritization is an evolving process that is responsive to a changing world.
- The process promotes systematic MPO & RPO needs evaluation and close coordination with Division Engineers and local stakeholders.
- The process provides openness & accountability.
- The process improves project selection.



ev·o·lu·tion (noun) the gradual development of something, especially from a simple to a more complex form

Comprehensive Approach

- Division Engineers/MPOs/RPOs work effectively with elected officials to identify needs and solve problems.
- The combination of MPO/RPO long term, system-wide focus and Division Engineer operational knowledge and regional scope greatly enhances the process.
- The better Division Engineers/MPOs/RPOs coordinate point and project submittals, the better the results for an area.



All MODES

The Workgroup recognizes that all transportation modes play a critical role in moving people and goods and fueling the economy of this great state.



Support

- We recommend increased resources for prioritization and related data collection and analytical functions at NCDOT.
- Continuing to learn as we go and to refine the process over time is important.
- New methods and data collection technologies can improve our ability to measure need and outcomes.



Strong infrastructure System

- The RPOs/MPOs agree that the *Workgroup* still has lots of fine-tuning to do, but we are fully committed to working with NCDOT through that process.
- The RPOs/MPOs agree the state needs to have a strong infrastructure system, for examples; bottle necking in urban places impact on rural areas and/or completion of Strategic Transportation Corridors to move people and goods throughout the state.



QUESTIONS?

Chris Lukasina: Capital Area MPO
Dana Stoogenke: Rocky River RPO

House & Senate Transportation Appropriations Committees

Joint Appropriations Committees on
Transportation

Base Budget Overview





February 28, 2017

FISCAL RESEARCH DIVISION
A Staff Agency of the North Carolina General Assembly

ATTACHMENT 3

Full Chair Guidance

- Review the Base Budget
- Develop a Committee Strategy to focus discussion:
    - Use the Long Session to focus on broad policy initiatives
    - Use the Short Session to make adjustments
- Determine which programs work



Refer to the Full Chairs:

- **Salary issues**
- **Capital expenditures**

Budgeting Terms: Appropriation

Appropriation

An enactment by the General Assembly authorizing the withdrawal of money from the State treasury.
State Budget Act – Chapter 143C-1-1(d)(1)

"No money shall be drawn from the State treasury but in consequence of appropriations made by law."
NC Constitution, Art. V, Section 7

Budget Terms: Base Budget



- Previous year's authorized budget
- Backs out nonrecurring reductions or increases
- May also include adjustments for:
  - Annualization of programs
  - Federal payroll tax changes
  - Contracted lease rate increases
  - Receipt projections
  - Reconciliation of intra- and intergovernmental transfers

Budgeting Terms: Budget Types

Certified Budget: The budget as enacted by the General Assembly, plus any funds appropriated to reserves to be allocated to agencies.

Ex.: The 2016 Budget appropriates $10,000 for computers.

Certified budget = $10,000

Authorized Budget: The certified budget updated to reflect line-item reallocations approved by the Office of State Budget and Management (OSBM) as authorized by G.S. 143C-6-4.

Ex.: DOT needs new computers. They want to take some money from the furniture budget to pay for it.

Authorized budget = $11,000



Actual Budget: The budget as it was implemented.

Ex.: The Division of State Purchase and Contract got the State a great deal on computers. The final cost for Agency Y's 11 computers is $5,500.

Actual budget = $5,500

Budgeting Terms: Codes

Budget Code: A five digit code assigned by OSBM that identifies the fund type (General Fund, Highway Fund, etc.) and the entity.

- DOT has 7 Certified Budget Codes:
  - Highway Fund: 84210
  - Highway Trust Fund: 84290
  - Turnpike Special Fund: 64208
  - Ports: 04210
  - Global TransPark: 04280
  - Collegiate Plates: 24265
  - Special Registration Plates: 24261

Fund Code: A four digit code identifying funds designated for a specific purpose or program within an agency. Fund Codes are a subset of the Budget Code.

- DOT has 178 Highway Fund (84210) – Fund Codes

Budgeting Terms: Funds

General Fund: The main source of operating funds for the State. Comprised of the beginning credit balance, State tax revenue, and State non-tax revenue.

Special Fund: Fund to which revenues are deposited that are designated for a specific purpose and remain in the account until expended for that purpose.

Example: Seized and Forfeited Assets Funds

Enterprise Fund: Fund for any activity for which a fee is charged to external users for goods or services.

Example: Correction Enterprise Fund



Budgeting Terms: Accounts



Personal Services: Services rendered by permanent and temporary employees and related fringe benefits.

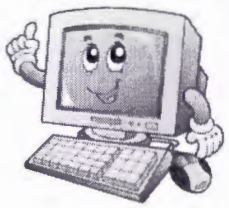


Purchased Services: Services provided by external firms, agencies, or divisions within the same organization. Includes contracts, IT and travel costs.



Supplies: Supplies or materials expected to be consumed within the normal course of operating and which are generally recurring in nature.

Budgeting Terms: Accounts



Property, Plant and Equipment: Payments for acquiring property, constructing additions to buildings, and purchasing equipment, furniture, and machinery that is not consumable or expendable and has an expected life of longer than one year.

LexisNexis™

Other Expenses and Adjustments: Miscellaneous operational costs such as legal or permit costs, pension payments, or subscriptions.



Aid and Public Assistance: Funds to direct recipients, providers or other agencies for designated programs, assistance or special projects.


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QUESTIONS
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Glossary

Appropriation: An action by the General Assembly authorizing withdrawal of funds from the State treasury pursuant to Article V, Sec. 7 of the North Carolina Constitution. An enactment by the General Assembly that authorizes, specifies, or otherwise provides that funds may be used for a particular purpose is not an appropriation.

Authorized Budget: The working budget composed of the certified budget plus allowable budget revisions and adjustments authorized in G.S. 143C-6-4.

Availability: A reference to the total amount of money available, including unreserved fund balance and all receipts and revenue anticipated in a fiscal year.

Availability Statement: A list of revenue anticipated to offset the expenditures or appropriations included in the budget bill. G.S.143C-5-3 requires the legislature to include a list or statement in the annual appropriations act for the General Fund, Highway Fund, and Highway Trust Fund.

Base Budget: The part of the State budget that provides the baseline for the next biennium. The authorized budget is used as the starting point and adjusted for federal payroll taxes, annualization of programs and positions, adjustments for recurring and nonrecurring items during a prior fiscal biennium, adjustments for receipt projections, and reconciliation of inter- and intra-governmental transfers. Section 6.4 of S.L. 2014-100 amended the State Budget Act, repealing G.S. 143C-1-1(d)(7a), the definition of Continuation Budget and added G.S. 143C-1-1(d)(1c) establishing the Base Budget.

Biennium: The two fiscal years beginning on July 1 of each odd-numbered year and ending on June 30 of the next odd-numbered year.

Bill Figures: Specific appropriations, found at the beginning of the annual appropriations act, for State agencies and other items of statewide significance such as pension and employee compensation adjustments. In the first year of a biennium (a two-year budget) these amounts represent only that portion of each agency's total appropriation derived from general purpose revenue (such as sales and income taxes). In the second year of a biennium these numbers represent changes to the originally enacted appropriations made in the first year of the biennium. Agency receipts and other sources of funding are appropriated by reference to the Governor's Recommended Budget.

Budget Technical Corrections: A bill introduced (following enactment of the main budget bill) to address technical issues or errors in the enacted budget. Other non-technical items may be included in the bill.

Capital Improvements: Nonrecurring appropriations for new construction, rehabilitation or repairs of existing facilities, and real property acquisition.

Carryforward: Funds appropriated but unspent in a fiscal year that are brought forward for expenditure in the following year.

Certificates of Participation (COPs): Tax-exempt bonds issued by government entities usually secured with the pledge of appropriation. COPs enable governmental entities to finance capital projects such as prisons, office buildings, and land. Backed by a pledge of appropriation, this type of special indebtedness does not pledge the faith and credit of the State and does not require voter approval.

Glossary

Certified Budget: The budget as enacted by the General Assembly, including adjustments made for (i) distributions to State agencies from statewide reserves appropriated by the General Assembly, (ii) distributions of reserves appropriated to a specific agency by the General Assembly, and (iii) organizational or budget changes mandated by the General Assembly.

Committee Report (Money Report): A compilation of all legislative adjustments made to the Governor's Recommended Base Budget. The Committee Report lists each adjustment and provides a brief description along with guidance on specific items or explicit legislative intent. This report is used to construe the intent of the appropriations act (G.S. 143C-5-5).

Consensus Revenue Forecast: A statement of anticipated taxes, fees, and other money the State General Fund is expected to receive during a fiscal year, independently developed by the Fiscal Research Division and the Office of State Budget and Management. The consensus forecast may be used by the Governor and the General Assembly when formulating their respective budgets.

Contingency and Emergency Fund: A special fund which the Director of the Budget may expend for emergencies or other unanticipated needs with approval by the Council of State and as authorized by G.S. 143C-4-4.

Continuation Review: A legislatively mandated budget review which (1) requires specified programs whose funding was made nonrecurring to provide written reports and (2) authorizes the Appropriations Committees of the Senate and the House of Representatives to review those reports to determine whether to restore funding for those programs.

Continuing Resolution (CR): A short-term appropriations bill that keeps State government funded and operating when the legislature fails to enact a new biennial budget prior to June 30th .The need for and composition of a CR varies but most often extends the State's spending authority at specified levels and for a specified period of time.

Current Operations: The costs associated with the daily activity of programs supported by the State, such as salaries, utilities, and travel; excludes capital improvements and repairs and renovation costs.

Debt Service Fund: A budgeting and account entity used to administer the accumulation of funds and the payment of general long-term debt principal and interest.

(Departmental) Receipts: Fees, licenses, federal funds, grants, fines, penalties, tuition, and other similar collections or credits generated by State agencies in the course of performing their governmental functions that are applied to the cost of a program administered by the State. Departmental receipts may include funds transferred into a fiscal year from a prior fiscal year.

Enacted Budget: The budget as enacted by the General Assembly in the annual Current Operations Appropriations Act in accordance with Article 5 of Chapter 143C. The enacted budget usually includes items funded through various reserves but not yet distributed to State agencies. Examples include the funding needed to bring a new building online during the fiscal year and funds anticipated for economic incentive projects.

Glossary

Encumbrance: A financial obligation created by a purchase order, contract, salary commitment, unearned or prepaid collections for services provided by the State, or other legally binding agreement.

Entitlement: A government program that provides individuals, state and local governments, with personal financial benefits or services to which an indefinite number of potential beneficiaries have a legal right (enforceable in court, if necessary) whenever they meet eligibility conditions that are specified by the standing law that authorizes the program. The best known example of an entitlement program at the state level is Medicaid.

Enterprise Fund: A fund used to account for any activity for which a fee is charged to non-state entities for goods or services and for which that fee is the principal source of revenue. Examples include the N.C. State Lottery Fund and the N.C. State Fair.

Exempt from the Human Resources Act (EHRA): A designation (previously referred to as EPA) for government positions not subject to Chapter 126, the State Human Resources Act and the policies, procedures and rules adopted by the State Human Resources Commission.

Expansion Budget: The part of the State budget which provides for new programs, growth of existing programs, and increases in salaries and benefits.

Fiscal Note: A formal fiscal estimate, including a brief statement of costs and revenue impact, for the first five fiscal years the legislation would be in effect. GS_143C-2-3 requires a State agency proposing a bill that affects the State budget to prepare a fiscal analysis for the bill and submit the analysis to the Fiscal Research Division upon introduction of the bill.

Full Time Equivalent (FTE): A unit used to quantify staffing. One FTE (1.0) is a full year, 40-hour-per-week position.

Fund: A fiscal and accounting entity with a self-balancing set of accounts recording cash and other resources, together with all related liabilities and residual equities or balances, and changes therein, for the purpose of carrying on stated programs, activities, and objectives of State government.

General Fund Operating Budget: The sum of all appropriations from the General Fund for a fiscal year, except appropriations for (i) capital improvements, including repairs and renovations, and (ii) one-time expenditures due to natural disasters or other emergencies.

General Fund: The fund to which revenues are deposited that are not designated for special purposes and are therefore available to support the general operations of State government.

General Obligation Bond: Bonds used for funding permanent public capital improvements such as buildings and roads. The repayment of these bonds is made from the levy of taxes, and voter approval is required per the NC Constitution.

General Purpose Revenue: Revenue derived primarily from taxes and various fees not required by law to be deposited into a specific fund other than the General Fund and are not designated for special purposes.

Glossary

Highway Fund: The special revenue fund to which revenue designated for transportation-related operations, maintenance, and improvements is deposited.

Highway Trust Fund: A special revenue fund established in 1989 for the completion of certain specified highway construction projects. The Highway Trust Fund is used to fund projects selected through the Strategic Transportation Investments Act (S.L. 2013-183), N.C. Turnpike Authority projects, administrative costs and transportation debt.

Internal Service Fund: A fund which accounts for any activity that provides goods or services to other funds, departments, or agencies of the State and its component units, or to other governments on a cost-reimbursement basis.

Justification Review: A review of selected programs and initiatives conducted by the Fiscal Research Division. These reviews are part of a pilot zero base budgeting exercise that was first authorized in S.L. 2005-276, Section 6.34.

Lapsed Salaries: Surplus funds resulting from the salary and associated benefits not expended for temporarily vacant positions. GS 143C-6-9 prohibits the use of lapsed salaries for recurring purposes.

Management Flexibility Reserve: A method by which a legislatively mandated budget reduction is imposed without detailing the specific lines of expenditure to be decreased. This method is also known as a negative reserve.

Negative Reserve: A budget reduction imposed without detailing the specific lines of expenditure to be decreased. (See also management flexibility reserve.)

Net General Fund Appropriation: An appropriation of the General Fund's general purpose revenue. Total requirements – departmental receipts = net General Fund appropriation. (See also total requirements and departmental receipts.)

Nonrecurring: A term applied to revenue or expenditures that are for one-year only.

Nontax Revenue: Revenue that is not a tax proceed or a departmental receipt and that is required by law to be credited to a specific fund.

Receipts: See Departmental Receipts

Repairs and Renovation Reserve: A reserve in the General Fund to provide for the repair and renovation of State facilities and related infrastructures that are supported from the General Fund. (G.S. 143C-4-3)

Requirements: See Total Requirements

Reversion: The unexpended, unencumbered balance of an appropriation at fiscal year end that reverts, as required by law, to the fund from which the appropriation was made.

Salary Reserve: Funds that accumulate when a position is downgraded or filled at a salary amount less than the amount at which it was budgeted. Salary reserve can be used to increase the salary of

other positions due to promotion and/or reclassification or filling a position at a salary higher than that at which the position was vacated.

Savings Reserve Account: A component of the unappropriated General Fund balance that is maintained as a reserve to address unanticipated events and circumstances such as natural disasters, economic downturns, threats to public safety, health, and welfare, and other emergencies. (GS_143C-4-2)

Self-Liquidating Debt: Debt obligations whose principal and interest are payable primarily from the earnings of enterprises for the construction or improvement of which they were originally issued.

Special Provisions: Language contained in the annual appropriations bill that sets forth legislative expectations and directives that govern the expenditure of funds and other requirements. Special provisions have the force of law and typically pertain directly to the budget and may be substantive, amending existing laws or creating new laws.

State Agency: A unit of the executive, legislative, or judicial branch of State government, including departments, institutions, divisions, commissions, boards, councils, and constituent campuses of The University of North Carolina. The term does not include a unit of local government or a public authority.

State Funds: Any moneys, including federal funds, deposited in the State treasury, except monies deposited in a trust fund or agency fund as described in G.S. 143C-1-3.

Special Revenue Fund: A fund used to account for revenue designated by law for a specific purpose; revenue deposited must remain in the fund until expended for that purpose.

Statutory Appropriation: An appropriation that authorizes the withdrawal of funds from the State treasury during fiscal years extending beyond the current fiscal biennium, without further act of the General Assembly.

Subject to the Human Resources Act (EHRA): A designation (previously referred to as SPA) for government positions that are subject to Chapter 126, the State Human Resources Act and the policies, rules and procedures adopted by the State Human Resources Commission.

Tax Expenditures: Revenue that the State foregoes through the provisions of State law that allows (1) deductions, exclusions or exemptions from the taxpayers' taxable income, (2) deferral of tax liability, or (3) preferential tax rates.

General Fund Availability: The sum of the beginning General Fund unreserved fund balance, various general purpose taxes such as sales and income tax, and nontax revenue including judicial fees and interest income.

Total Source of Funds: All funding sources including the General Fund's general purpose revenue and agency revenue, special fund revenue (such as gasoline taxes or sale of fishing licenses); and enterprise fund revenue as certified by the Office of State Budget and Management.

(Total) Requirements: The total cost associated with a proposed expenditure of funds regardless of source of funds. Total requirements – departmental receipts = net General Fund appropriation. (See also departmental receipts and net General Fund appropriation.)

Glossary

Unreserved Fund Balance: The available cash balance in a fund effective June 30 after excluding documented encumbrances, unearned revenue, federal grants, statutory requirements, and other legal obligations. Beginning unreserved fund balance equals ending unreserved fund balance from the prior fiscal year.

Veto: An act by the Governor to reject an entire legislative measure. Article II, Section 22 of the NC Constitution provides the Governor with authority to reject or veto a bill, including the budget, enacted by the General Assembly.

Highway Fund (Department of Transportation) Budget Code 84210		Enacted Budget			Legislative Changes			Revised Budget		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
0001	Board of Transportation	61,834	-	61,834	-	-	-	61,834	-	61,834
0002	Communications	1,805,282	-	1,805,282	-	-	-	1,805,282	-	1,805,282
0006	Legal - Attorney General Staff	1,487,928	-	1,487,928	-	-	-	1,487,928	-	1,487,928
0007	Administration - Secretary	3,275,617	261,774	3,013,843	-	-	-	3,275,617	261,774	3,013,843
0177	Computer Systems	389,663	389,663	-	-	-	-	389,663	389,663	-
1096	Strategic Planning Office of Transportation	177,973	-	177,973	-	-	-	177,973	-	177,973
1104	Governance Office - Admin	632,053	-	632,053	-	-	-	632,053	-	632,053
7011	Inspector General	2,424,025	675,096	1,748,929	-	-	-	2,424,025	675,096	1,748,929
7015	Human Resources	4,476,225	-	4,476,225	-	-	-	4,476,225	-	4,476,225
7020	Financial	9,472,574	4,054,093	5,418,481	78,616	78,616	-	9,551,190	4,132,709	5,418,481
7025	Information Technology	58,134,239	6,492,880	51,641,359	-	-	-	58,134,239	6,492,880	51,641,359
7030	Facilities Management and Support Services	23,251,622	3,607,721	19,643,901	-	-	-	23,251,622	3,607,721	19,643,901
	DOT ADMINISTRATION	**105,589,035**	**15,481,227**	**90,107,808**	**78,616**	**78,616**	**-**	**105,667,651**	**15,559,843**	**90,107,808**
0055	Chief Engineer	661,136	-	661,136	-	-	-	661,136	-	661,136
0056	Deputy Chief Engineer of Operations	854,057	-	854,057	-	-	-	854,057	-	854,057
0064	Director of Preconstruction	33,103	33,103	-	-	-	-	33,103	33,103	-
0149	Transportation Mobility and Safety	5,353,414	5,353,414	-	-	-	-	5,353,414	5,353,414	-
0178	Project Development and Environmental Analysis	883,378	883,378	-	-	-	-	883,378	883,378	-
1018	Director of Construction	245,178	245,178	-	-	-	-	245,178	245,178	-
1065	Utilities Unit - Administration	298,461	298,461	-	-	-	-	298,461	298,461	-
1067	Materials and Tests Unit	1,054,087	1,054,087	-	-	-	-	1,054,087	1,054,087	-
1069	Roadside Environmental Unit	2,306,740	-	2,306,740	-	-	-	2,306,740	-	2,306,740
1070	Construction Unit	632,908	632,908	-	-	-	-	632,908	632,908	-
1078	Office of Equal Opportunity and Workforce Services	334,084	334,084	-	-	-	-	334,084	334,084	-
1129	Office of Equal Opportunity and Workforce Services	365,487	365,487	-	-	-	-	365,487	365,487	-
1130	Office of Equal Opportunity and Workforce Services	676,974	-	676,974	-	-	-	676,974	-	676,974
1186	Structure Management	459,276	459,276	-	-	-	-	459,276	459,276	-
7070	Transportation Planning Program	174,731	174,731	-	-	-	-	174,731	174,731	-
1201	Division 1 - Right of Way Administration	46,294	46,294	-	-	-	-	46,294	46,294	-
1202	Division 2 - Right of Way Administration	47,814	47,814	-	-	-	-	47,814	47,814	-
1203	Division 3 - Right of Way Administration	57,497	57,497	-	-	-	-	57,497	57,497	-
1204	Division 4 - Right of Way Administration	49,054	49,054	-	-	-	-	49,054	49,054	-
1205	Division 5 - Right of Way Administration	61,596	61,596	-	-	-	-	61,596	61,596	-
1206	Division 6 - Right of Way Administration	51,112	51,112	-	-	-	-	51,112	51,112	-
1207	Division 7 - Right of Way Administration	43,820	43,820	-	-	-		43,820	43,820	-
1208	Division 8 - Right of Way Administration	45,419	45,419	-	-	-		45,419	45,419	-
1209	Division 9 - Right of Way Administration	102,390	102,390	-	-	-		102,390	102,390	-
1210	Division 10 - Right of Way Administration	44,304	44,304	-	-	-		44,304	44,304	-
1211	Division 11 - Right of Way Administration	48,872	48,872	-	-	-		48,872	48,872	-
1212	Division 12 - Right of Way Administration	39,749	39,749	-	-	-		39,749	39,749	-
1213	Division 13 - Right of Way Administration	43,966	43,966	-	-	-		43,966	43,966	-
1214	Division 14 - Right of Way Administration	48,967	48,967	-	-	-		48,967	48,967	-
1256	Program Development - Administration	1,533,247	1,533,247	-	-	-		1,533,247	1,533,247	-
7080	Division 1	1,591,841	-	1,591,841	-	-		1,591,841	-	1,591,841
7085	Division 2	1,774,325	-	1,774,325	-	-		1,774,325	-	1,774,325
7090	Division 3	1,709,132	-	1,709,132	-	-		1,709,132	-	1,709,132
7095	Division 4	1,616,684	-	1,616,684	-	-		1,616,684	-	1,616,684
7100	Division 5	1,822,335	-	1,822,335	-	-		1,822,335	-	1,822,335
7105	Division 6	1,737,242	-	1,737,242	-	-		1,737,242	-	1,737,242
7110	Division 7	1,820,648	-	1,820,648	-	-		1,820,648	-	1,820,648
7115	Division 8	1,533,066	-	1,533,066	-	-		1,533,066	-	1,533,066
7120	Division 9	1,608,235	-	1,608,235	-	-		1,608,235	-	1,608,235
7125	Division 10	2,063,088	-	2,063,088	-	-		2,063,088	-	2,063,088

ATTACHMENT 5

Highway Fund (Department of Transportation)		Enacted Budget			Legislative Changes			Revised Budget		
Budget Code 84210										
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
7130	Division 11	1,465,762	-	1,465,762	-	-	-	1,465,762	-	1,465,762
7135	Division 12	1,516,666	-	1,516,666	-	-	-	1,516,666	-	1,516,666
7140	Division 13	1,413,375	-	1,413,375	-	-	-	1,413,375	-	1,413,375
7145	Division 14	1,752,340	-	1,752,340	-	-	-	1,752,340	-	1,752,340
7150	Preconstruction Design Administration	1,555,873	1,555,873	-	-	-	-	1,555,873	1,555,873	-
7153	Technical Services - Administration	5,081,352	4,688,009	393,343	-	-	-	5,081,352	4,688,009	393,343
7175	Field Operations Support	1,001,747	-	1,001,747	-	-	-	1,001,747	-	1,001,747
7176	State Asset Management	1,594,752	40,000	1,554,752	-	-	-	1,594,752	40,000	1,554,752
7185	Safety	3,159,051	580,517	2,578,534	-	-	-	3,159,051	580,517	2,578,534
7190	Right of Way - Administration	2,447,890	2,447,890	-	-	-	-	2,447,890	2,447,890	-
	DOH ADMINISTRATION	**54,862,519**	**21,410,497**	**33,452,022**	**-**	**-**	**-**	**54,862,519**	**21,410,497**	**33,452,022**
7812	Construction - Secondary	12,000,000	-	12,000,000	-	-	-	12,000,000	-	12,000,000
7814	Construction - Public Service Roads	1,723,707	-	1,723,707	-	-	-	1,723,707	-	1,723,707
7817	Spot Safety	12,100,000	-	12,100,000	-	-	-	12,100,000	-	12,100,000
7818	Construction - Contingency	12,000,000	-	12,000,000	-	-	-	12,000,000	-	12,000,000
7837	Division of Small Urban Construction	-	-	-	2,500,000	-	2,500,000	2,500,000	-	2,500,000
7838	Economic Development	4,731,171	-	4,731,171	-	-	-	4,731,171	-	4,731,171
	CONSTRUCTION	**42,554,878**	**-**	**42,554,878**	**2,500,000**	**-**	**2,500,000**	**45,054,878**	**-**	**45,054,878**
0934	Reserve - General Maintenance	45,560,850	-	45,560,850	422,023,149	-	422,023,149	467,583,999	-	467,583,999
7821	Maintenance - Primary	135,479,149	-	135,479,149	(135,479,149)	-	(135,479,149)	-	-	-
7822	Maintenance - Secondary	285,289,910	-	285,289,910	(285,289,910)	-	(285,289,910)	-	-	-
7824	Contract Resurfacing	497,946,495	-	497,946,495	-	-	-	497,946,495	-	497,946,495
7841	Pavement Preservation	85,045,024	-	85,045,024	-	-	-	85,045,024	-	85,045,024
7839	Bridge Program	242,074,444	-	242,074,444	300,000	-	300,000	242,374,444	-	242,374,444
	MAINTENANCE	**1,291,395,872**	**-**	**1,291,395,872**	**1,554,090**	**-**	**1,554,090**	**1,292,949,962**	**-**	**1,292,949,962**
7827	FHWA Construction	876,621,600	876,621,600	-	-	-	-	876,621,600	876,621,600	-
	PLANNING & RESEARCH	**876,621,600**	**876,621,600**	**-**	**-**	**-**	**-**	**876,621,600**	**876,621,600**	**-**
7832	OSHA Program	358,030	-	358,030	-	-	-	358,030	-	358,030
	OSHA	**358,030**	**-**	**358,030**	**-**	**-**	**-**	**358,030**	**-**	**358,030**
7836	State Aid - Highway Fund for WBS	147,500,000	-	147,500,000	-	-	-	147,500,000	-	147,500,000
	STATE AID TO MUNICIPALITIES	**147,500,000**	**-**	**147,500,000**	**-**	**-**	**-**	**147,500,000**	**-**	**147,500,000**
0041	Aeronautics	2,264,669	203,717	2,060,952	-	-	-	2,264,669	203,717	2,060,952
7830	Airports Program	51,700,000	20,000,000	31,700,000	14,817,417	-	14,817,417	66,517,417	20,000,000	46,517,417
0036	Public Transportation	330,350	-	330,350	-	-	-	330,350	-	330,350
7831	Public Transportation - Highway Fund	122,576,052	34,732,983	87,843,069	4,000,000	-	4,000,000	126,576,052	34,732,983	91,843,069
0037	Rail Division	603,869	-	603,869	-	-	-	603,869	-	603,869
7829	Railroad Program	73,273,725	50,225,920	23,047,805	13,750,000	-	13,750,000	87,023,725	50,225,920	36,797,805
0035	Bicycle Program	726,895	-	726,895	-	-	-	726,895	-	726,895
7040	Ferry Administration	1,281,490	-	1,281,490	-	-	-	1,281,490	-	1,281,490
7825	Ferry Operations	44,318,905	5,000,000	39,318,905	10,000,000	-	10,000,000	54,318,905	5,000,000	49,318,905
	MULTI-MODAL	**297,075,955**	**110,162,620**	**186,913,335**	**42,567,417**	**-**	**42,567,417**	**339,643,372**	**110,162,620**	**229,480,752**
0042	Governor's Highway Safety Program	502,482	251,241	251,241	-	-	-	502,482	251,241	251,241
7828	Governor's Highway Safety Program	13,500,000	13,500,000	-	-	-	-	13,500,000	13,500,000	-
	GOVERNOR'S HIGHWAY SAFETY PROGRAM	**14,002,482**	**13,751,241**	**251,241**	**-**	**-**	**-**	**14,002,482**	**13,751,241**	**251,241**
0049	Driver Licensing	50,577,557	180,400	50,397,157	3,160,541	-	3,160,541	53,738,098	180,400	53,557,698
0054	Motor Vehicle Exhaust Emissions	12,077,863	-	12,077,863	-	-	-	12,077,863	-	12,077,863
7050	DMV [illegible]mmissioner's Office	9,085,196	11,000	9,0[illegible]6	1,812,636	-	1,812,636	10,897,832	11,00[illegible]	10,886,832

Highway Fund (Department of Transportation) Budget Code 84210		Enacted Budget			Legislative Changes			Revised Budget		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
7055	Vehicle Registration	52,789,744	17,184,124	35,605,620	2,045,995	2,045,995	-	54,835,739	19,230,119	35,605,620
7060	License and Theft Bureau	13,925,107	745,726	13,179,381	-	-	-	13,925,107	745,726	13,179,381
	DIVISION OF MOTOR VEHICLES	**138,455,467**	**18,121,250**	**120,334,217**	**7,019,172**	**2,045,995**	**4,973,177**	**145,474,639**	**20,167,245**	**125,307,394**
0862	Department of Agriculture - Gasoline Inspection Fee	5,223,690	-	5,223,690	-	-	-	5,223,690	-	5,223,690
1260	State Ethics Commission	56,679	-	56,679	-	-	-	56,679	-	56,679
0864	DOR - Gasoline Tax Collections	4,995,683	-	4,995,683	-	-	-	4,995,683	-	4,995,683
0852	DOR - International Registration Plan	229,020	-	229,020	-	-	-	229,020	-	229,020
0865	DHHS - Chemical Testing	567,804	-	567,804	-	-	-	567,804	-	567,804
0889	OSBM - Civil Penalty	27,700,000	27,700,000	-	-	-	-	27,700,000	27,700,000	-
0893	OSC - Best Shared Services	-	-	-	496,578	-	496,578	496,578	-	496,578
7834	Motor Carrier Safety	2,117,353	-	2,117,353	-	-	-	2,117,353	-	2,117,353
	OTHER STATE AGENCIES	**40,890,229**	**27,700,000**	**13,190,229**	**496,578**	**-**	**496,578**	**41,386,807**	**27,700,000**	**13,686,807**
0869	Reserve - Global TransPark	750,000	-	750,000	-	-	-	750,000	-	750,000
1288	North Carolina State Ports Authority	35,000,000	-	35,000,000	-	-	-	35,000,000	-	35,000,000
	TRANSFER TO AUTHORITIES	**35,750,000**	**-**	**35,750,000**	**-**	**-**	**-**	**35,750,000**	**-**	**35,750,000**
0933	Reserve - Minority Contractor Development	150,000	-	150,000	-	-	-	150,000	-	150,000
0878	State Fire Protection Grant Fund	-	-	-	158,000	-	158,000	158,000	-	158,000
0877	Stormwater Management	500,000	-	500,000	-	-	-	500,000	-	500,000
0882	Reserve - Visitor Center	400,000	400,000	-	-	-	-	400,000	400,000	-
0881	Consolidated Call Center	556,074	-	556,074	-	-	-	556,074	-	556,074
0885	Reserve - State Employee Medical Plan	1,681,639	-	1,681,639	-	-	-	1,681,639	-	1,681,639
0937	Reserve - Administration Reduction	(2,087,167)	-	(2,087,167)	-	-	-	(2,087,167)	-	(2,087,167)
0873	Legislative Salary Increases	789,642	-	789,642	-	-	-	789,642	-	789,642
0871	Employer's Contribution - Retirement	713,051	-	713,051	-	-	-	713,051	-	713,051
0935	Reserve for SEIBP	2,000,000	-	2,000,000	-	-	-	2,000,000	-	2,000,000
1289	Workers' Compensation Adjustment Reserve	6,830,000	-	6,830,000	-	-	-	6,830,000	-	6,830,000
1163	Continuation Reserve	9,694,578	-	9,694,578	(9,694,578)	-	(9,694,578)	-	-	-
	OTHER RESERVES	**21,227,817**	**400,000**	**20,827,817**	**(9,536,578)**	**-**	**(9,536,578)**	**11,691,239**	**400,000**	**11,291,239**
0892	GARVEE Bond Redemption	67,605,000	67,605,000	-	-	-	-	67,605,000	67,605,000	-
	DEBT SERVICE	**67,605,000**	**67,605,000**	**-**	**-**	**-**	**-**	**67,605,000**	**67,605,000**	**-**
7826	Capital Improvements	6,965,700	-	6,965,700	-	-	-	6,965,700	-	6,965,700
	CAPITAL IMPROVEMENTS	**6,965,700**	**-**	**6,965,700**	**-**	**-**	**-**	**6,965,700**	**-**	**6,965,700**
0704	Legal - Field	9,654,515	9,654,515	-	-	-	-	9,654,515	9,654,515	-
0714	Engineer Trainee Program	3,683,520	3,683,520	-	-	-	-	3,683,520	3,683,520	-
0720	Governor's Highway Safety Program	15,364,703	15,364,703	-	-	-	-	15,364,703	15,364,703	-
1017	Director of Preconstruction - Field	164,921	164,921	-	-	-	-	164,921	164,921	-
1020	Utilities Unit - Engineering and Encroachments	3,469,288	3,469,288	-	-	-	-	3,469,288	3,469,288	-
1066	Utilities Unit - Field	54,527,700	54,527,700	-	-	-	-	54,527,700	54,527,700	-
1068	Materials and Tests - Field	22,068,536	22,068,536	-	-	-	-	22,068,536	22,068,536	-
1071	Construction Unit - Field	5,862,512	5,862,512	-	-	-	-	5,862,512	5,862,512	-
1080	Roadside Environmental Unit - SW Field	9,270,621	9,270,621	-	-	-	-	9,270,621	9,270,621	-
1081	Equal Opportunity and Workforce Services - Field	3,195,392	3,195,392	-	-	-	-	3,195,392	3,195,392	-
1087	Safe Routes to School - Field	1,424,183	1,424,183	-	-	-	-	1,424,183	1,424,183	-
1088	Public Information - Field	650,672	650,672	-	-	-	-	650,672	650,672	-
1097	Strategic Planning - Office of Transportation - Field	407,842	407,842	-	-	-	-	407,842	407,842	-
1098	HR Talent Management - Field	218,128	218,128	-	-	-	-	218,128	218,128	-
1099	Governance Office - Field	1,151,528	1,151,528	-	-	-	-	1,151,528	1,151,528	-
1112	State Road Maintenance - Field	3,849,797	3,849,797	-	-	-	-	3,849,797	3,849,797	-
1136	State Road Maintenance - Field	1,875,653	1,875,653	-	-	-	-	1,875,653	1,875,653	-

Highway Fund (Department of Transportation)		Enacted Budget			Legislative Changes			Revised Budget		
Budget Code 84210										
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
1255	Performance Metrics Management	169,646	169,646	-	-	-	-	169,646	169,646	-
1258	Program Development - Field	7,387,886	7,387,886	-	-	-	-	7,387,886	7,387,886	-
7200	01 Field	79,352,283	79,352,283	-	-	-	-	79,352,283	79,352,283	-
7235	02 Field	78,117,668	78,117,668	-	-	-	-	78,117,668	78,117,668	-
7265	03 Field	111,227,037	111,227,037	-	-	-	-	111,227,037	111,227,037	-
7295	04 Field	77,509,676	77,509,676	-	-	-	-	77,509,676	77,509,676	-
7325	05 Field	99,437,772	99,437,772	-	-	-	-	99,437,772	99,437,772	-
7355	06 Field	89,548,521	89,548,521	-	-	-	-	89,548,521	89,548,521	-
7385	07 Field	144,542,488	144,542,488	-	-	-	-	144,542,488	144,542,488	-
7415	08 Field	65,621,189	65,621,189	-	-	-	-	65,621,189	65,621,189	-
7445	09 Field	128,162,425	128,162,425	-	-	-	-	128,162,425	128,162,425	-
7470	10 Field	124,206,328	124,206,328	-	-	-	-	124,206,328	124,206,328	-
7500	11 Field	96,836,362	96,836,362	-	-	-	-	96,836,362	96,836,362	-
7530	12 Field	70,951,055	70,951,055	-	-	-	-	70,951,055	70,951,055	-
7555	13 Field	92,821,591	92,821,591	-	-	-	-	92,821,591	92,821,591	-
7580	14 Field	76,751,087	76,751,087	-	-	-	-	76,751,087	76,751,087	-
7610	IT - Field	36,494,077	36,494,077	-	-	-	-	36,494,077	36,494,077	-
7615	Ferry	52,992,071	52,992,071	-	-	-	-	52,992,071	52,992,071	-
7620	Facilities Management and Operations Support	17,580,398	17,580,398	-	-	-	-	17,580,398	17,580,398	-
7625	Preconstruction Design - Field	54,448,890	54,448,890	-	-	-	-	54,448,890	54,448,890	-
7626	Technical Services - Field	97,289,697	97,289,697	-	-	-	-	97,289,697	97,289,697	-
7627	Structure Management - Field	32,613,744	32,613,744	-	-	-	-	32,613,744	32,613,744	-
7665	Construction Materials - Field	1,506,893	1,506,893	-	-	-	-	1,506,893	1,506,893	-
7671	Traffic Mobility and Safety	37,207,307	37,207,307	-	-	-	-	37,207,307	37,207,307	-
7675	Right of Way - Field	28,766,918	28,766,918	-	-	-	-	28,766,918	28,766,918	-
7685	Transportation Planning Program - Field	29,194,846	29,194,846	-	-	-	-	29,194,846	29,194,846	-
7690	IT Group	12,011,612	12,011,612	-	-	-	-	12,011,612	12,011,612	-
7695	PDEA - Field	66,036,898	66,036,898	-	-	-	-	66,036,898	66,036,898	-
7700	Construction and Maintenance - Field	1,589,594,939	1,589,594,939	-	-	-	-	1,589,594,939	1,589,594,939	-
7705	Grants - Field	360,195,845	360,195,845	-	-	-	-	360,195,845	360,195,845	-
7710	Equipment and Inventory Unit	163,484,244	163,484,244	-	-	-	-	163,484,244	163,484,244	-
	FIELD OPERATIONS	**4,058,900,904**	**4,058,900,904**	**-**	**-**	**-**	**-**	**4,058,900,904**	**4,058,900,904**	**-**
Department-wide Items										
N/A	Compensation Increase Reserve	-	-	-	7,441,663	N/A	7,441,663	7,441,663	N/A	7,441,663
N/A	Compensation Bonus Reserve	-	-	-	3,720,831	N/A	3,720,831	3,720,831	N/A	3,720,831
N/A	State Retirement Contributions	-	-	-	2,420,643	N/A	2,420,643	2,420,643	N/A	2,420,643
N/A	Severance Reserve	-	-	-	2,951,030	N/A	2,951,030	2,951,030	N/A	2,951,030
Total		**$7,199,755,488**	**$5,210,154,339**	**$1,989,601,149**	**$61,213,462**	**$2,124,611**	**$59,088,851**	**$7,260,968,950**	**$5,212,278,950**	**$2,048,690,000**
Total (excluding duplicate receipt-supported fund codes)		**$3,140,854,584**	**$1,151,253,435**	**$1,989,601,149**	**$61,213,462**	**$2,124,611**	**$59,088,851**	**$3,202,068,046**	**$1,153,378,046**	**$2,048,690,000**

Highway Trust Fund (Department of Transportation)		Enacted Budget			Legislative Changes			Revised Budget		
Budget Code 84290										
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
6002	Program Administration	35,064,813	-	35,064,813	-	-	-	35,064,813	-	35,064,813
6005	Bond Redemption	51,785,964	-	51,785,964	-	-	-	51,785,964	-	51,785,964
6006	Bond Interest	9,226,265	-	9,226,265	-	-	-	9,226,265	-	9,226,265
6008	Turnpike Authority	49,000,000	-	49,000,000	-	-	-	49,000,000	-	49,000,000
6012	Transfer to Visitor Center	400,000	-	400,000	-	-	-	400,000	-	400,000
9075	Strategic Prioritization	1,193,757,958	-	1,193,757,958	32,045,000	-	32,045,000	1,225,802,958	-	1,225,802,958
Total		**$1,339,235,000**	**$0**	**$1,339,[illegible]0**	**$32,045,000**	**$0**	**$32,045,000**	**$1,371,280,000**		**1,371,280,000**

HIGHWAY PROJECTS	Funded Statewide		Funded Regional		Funded Division		Total Funded	
	# of Projects	% of Total	# of Projects	% of Total	# of Projects	% of Total	# of Projects	% of Total
MPO Totals	55	100.00%	84	67.20%	95	55.88%	234	66.86%
RPO Totals	0	0.00%	41	32.80%	75	44.12%	116	33.14%

HIGHWAY PROJECTS	Funded Statewide		Funded Regional		Funded Division		Total Funded		
	Programmed Amount	% of Total	Programmed Amount	% of Total	Programmed Amount	% of Total	Programmed Amount	% of Total	Average $ Per Capita
MPO Totals	$3,072,159,000	100.00%	$1,982,860,000	69.16%	$1,738,096,000	54.58%	$6,793,115,000	74.45%	$953
RPO Totals	$0	0.00%	$884,161,000	30.84%	$1,446,584,000	45.42%	$2,330,745,000	25.55%	$790

ALL MODES	Funded Statewide		Funded Regional		Funded Division		Total Funded	
	# of Projects	% of Total	# of Projects	% of Total	# of Projects	% of Total	# of Projects	% of Total
MPO Totals	67	100.00%	115	72.33%	163	53.27%	345	64.85%
RPO Totals	0	0.00%	44	27.67%	143	46.73%	187	35.15%

ALL MODES	Funded Statewide		Funded Regional		Funded Division		Total Funded		
	Programmed Amount	% of Total	Programmed Amount	% of Total	Programmed Amount	% of Total	Programmed Amount	% of Total	Average $ Per Capita
MPO Totals	$3,198,744,000	100.00%	$2,183,248,000	71.18%	$1,836,827,986	54.11%	$7,218,819,986	74.72%	$1,058
RPO Totals	$0	0.00%	$884,180,000	28.82%	$1,557,738,600	45.89%	$2,441,918,600	25.28%	$827

ATTACHMENT 6

Strategic Prioritization Process Annual Report

December 1, 2016

EXECUTIVE SUMMARY

In accordance with the Strategic Transportation Investment (STI) law, *"Beginning December 1, 2016, the Department shall report annually to the Joint Legislative Transportation Oversight Committee on any changes made to the highway or non-highway prioritization process and the resulting impact to the State Transportation Improvement Program"* (G.S. 136-189.11(h)). This report provides an update on the implementation of the Department's Strategic Prioritization Process in accordance with the STI law for the period of 2014-2016. This is the first such report and covers the results of the first implementation of the Strategic Prioritization Process in accordance with the STI law in 2014, as well as changes made with the implementation of the second cycle in 2015 and 2016.

The Strategic Transportation Investments law was passed in June 2013. This landmark legislation fundamentally changed how capital transportation projects were selected and funded in North Carolina. Projects are selected based on a systematic evaluation and ranking, using a combination of data and local priorities. Funding is applied to projects with the highest scores.

Prioritization 3.0, also known as P3.0, was the third generation of the Department's Strategic Prioritization Process for evaluating and ranking projects using a systematic, data-driven approach in conjunction with local input. P3.0, implemented in 2013-2014, was the first cycle of the prioritization process that was executed following the passage of the STI legislation. During P3.0, the Department evaluated nearly 3,000 projects across all six modes, totaling $70 billion. Of these projects, approximately 650 were funded in the 2016-2025 STIP with an estimated total cost of nearly $16 billion (these numbers account for additional revenue from the Appropriations Act of 2015).

Building off the success of P3.0, the Department developed P4.0 in 2014-2015. As in P3.0, the Department employed *"the use of a workgroup process to develop improvements to the prioritization process."* Changes were made to *"continually improve the methodology and criteria used to score highway and non-highway projects pursuant to* [the STI law], *including the use of normalization techniques, and methods to strengthen the data collection process"* (G.S. 136-189.11(h)). As part of the P4.0 update, the Department hired Cambridge Systematics consulting firm to provide an independent review and statistical analysis of the scoring and data used in P3.0. Overall, Cambridge indicated that P3.0 represents a mature prioritization process that reflects numerous best practices and is viewed nationally as one of the most comprehensive State DOT prioritization processes. To continually improve the prioritization process, Cambridge recommended both global improvements (across all 6 modes) and mode-specific improvements.

The P4.0 Workgroup met 17 times over a 12 month period and made recommendations to enhance the scoring process, many of which were suggested by Cambridge. The Workgroup recommended the following changes for P4.0:

Global Changes

- Scale all criteria on a relative basis within each mode to provide a better distribution of scores
- Continue to use Normalization approach from P3.0

Highway Scoring Changes

- Incorporate the use of Peak Average Daily Traffic to account for seasonal traffic volumes
- Provide additional points to areas that contribute local dollars or tolls towards the project costs
- Include safety benefits when calculating the overall benefits of a project
- Incorporate the Department's new Statewide Travel Demand Model for generating travel time savings
- Update the Economic Competitiveness criteria to analyze the project's economic impact at the county level
- Enhance the Accessibility/Connectivity criteria to improve access to opportunity in rural and less affluent areas and improve interconnectivity of the transportation network
- Split the previously combined Multimodal and Freight criteria into two separate criteria and include measures that evaluate the proximity of the project to the nearest transportation terminal

Non-Highway Mode Scoring Changes

- Combine Aviation criteria of Local and Federal contribution into single criteria measuring all non-state contribution
- New Aviation criteria measuring the benefit of flight operations and economic data compared to the project cost
- Update the definition of eligible Aviation projects to only consider projects that exceed the system objectives or regulatory requirements for the airport's infrastructure
- New Bicycle and Pedestrian criteria focusing on bicycle/pedestrian network connectivity
- Revised all Public Transportation criteria and weights for vehicle and facility project types, to improve scoring process and allow for higher quality of project data (fixed guideway criteria were not revised)
- Revised all Rail criteria and weights, to improve scoring process and efficiency
- Revised and simplified all Rail project types

Other Changes

- Define committed projects as those funded for right-of-way or construction in the first five years of the STIP (projects funded in the last five years are subject to rescoring in P4.0)
- Use similar approaches as those used in P3.0 in determining the number of project submittals and local input points

All Workgroup recommendations were approved by the Board of Transportation for P4.0 on July 9, 2015.

In P4.0, which was implemented in 2015-2016, the Department evaluated nearly 2,000 projects across all six modes, totaling $57 billion. At the time of writing of this report, the Draft 2018-2027 STIP is currently being developed, therefore the number of funded projects is currently not known. The Department anticipates updating this document by March 31, 2017 with the full results from P4.0 and the subsequent impact to 2018-2027 Draft STIP.

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INTRODUCTION

In accordance with the Strategic Transportation Investment (STI) law, *"Beginning December 1, 2016, the Department shall report annually to the Joint Legislative Transportation Oversight Committee on any changes made to the highway or non-highway prioritization process and the resulting impact to the State Transportation Improvement Program"* (G.S. 136-189.11(h)). This report provides an update on the implementation of the Department's Strategic Prioritization Process in accordance with the STI law for the period of 2014-2016. This is the first such report and covers the results of the first implementation of the Strategic Prioritization Process in accordance with the STI law in 2014, as well as changes made with the implementation of the second cycle in 2015 and 2016.

The Strategic Transportation Investments law was passed in June 2013. This landmark legislation fundamentally changed how capital transportation projects were selected and funded in North Carolina. Projects are selected based on a systematic evaluation and ranking using a combination of data and local priorities. Funding is applied to projects with the highest scores.

Prior to the enactment of the STI law, funding was distributed to NCDOT's 14 Transportation Divisions using a geographic equity law. Funding for each Division was based on a combination of population (50%), equal share (25%), and miles to complete the state's former intrastate system (25%), which was a system of approximately 3600 miles of four-lane or greater highways within 10 miles of 90% of the state's population. The results of the Strategic Prioritization Process were used to guide project selection, but did not always result in the funding of highest scoring projects due to funding availability. In addition, projects were not required to be funded based on the prioritization score.

Prioritization 3.0, also known as P3.0, was the third generation of the Department's Strategic Prioritization Process for evaluating and ranking projects using a systematic, data-driven approach in conjunction with local input. P3.0, implemented in 2013-2014, was the first cycle of the prioritization process that was executed following the passage of the STI legislation. Prioritization 4.0 (P4.0), was implemented two years later in 2015-2016, building off of the success of P3.0. Changes were made to *"continually improve the methodology and criteria used to score highway and non-highway projects pursuant to* [the STI law], *including the use of normalization techniques, and methods to strengthen the data collection process"* (G.S. 136-189.11(h)). This report describes the results of STI under P3.0, changes made to P4.0, and the expected results. The initial development of STI under P3.0, submitted on December 31, 2013, can be found on the Joint Legislative Transportation Oversight Committee (JLTOC) website at *http://www.ncleg.net/documentsites/committees/JLTOC/2013-14_Biennium/2.7.14_Meeting/STI%20Implementation%20Final%20Report%20123113.pdf.*

The STI law officially established the use of a Prioritization Workgroup process to provide recommendations to the Department on the scoring of capital projects subject to STI. This includes recommendations on the criteria and measures used to evaluate projects, the weights associated with each criteria, and the process submitting and evaluating projects, including the use of local input points. Local input points are most often used to indicate a local area's priority for transportation projects. G.S. 136-189.11(h) officially lists Workgroup participants.

PRIORITIZATION 3.0 IMPLEMENTATION

Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), and NCDOT Divisions submitted candidate projects for P3.0 for all six modes (Aviation, Bicycle & Pedestrian, Ferry, Highway, Public Transportation, and Rail) during the period of January 27th through March 3rd, 2014, using the Department's newly created SPOT On!ine tool. This tool, developed by NCDOT in partnership with ESRI, captures user-entered project information and derives data from Geographic Information Systems (GIS) to score projects. Users were provided preliminary scores for highway and bicycle/pedestrian projects after each project was submitted. Following the submittal of projects, the Prioritization Office, in coordination with several other business units, reviewed and updated the data associated with each project to ensure it was as accurate as possible. Project submitters (MPOs, RPOs, and Divisions) had an opportunity to review all data as well. Once the data was considered accurate, scores were updated as needed. All projects were scored using the criteria and weights approved by the Board of Transportation (BOT) in November 2013 (see Appendix A). The quantitative scores for all projects and the top-scoring projects that were funded in the Statewide Mobility category were released on May 14, 2014 in user-friendly spreadsheets.

In P3.0, each MPO, RPO, and Division had a single 90 day period to assign their Regional Impact and Division Needs local input points to eligible projects. Each entity was to assign these points based on their approved local input point methodology. MPOs and RPOs are required by statute (GS 136-18.42) to have an NCDOT-approved process for assigning local input points. The NCDOT Division Engineers have a formal process as well. This 90 day period provided ample opportunity for each entity to receive public input, following their approved methodology on the assignment of local input points. Once points were finalized and approved by their board (for MPOs and RPOs), each entity submitted the points assigned to each project in SPOT On!ine. Following the closure of the local input point window, the Prioritization Office calculated the total scores for each project. These final scores were released on September 24, 2014.

During the months of September, October, and November 2014, the Department's TIP Unit developed the Draft STIP using the prioritization results as the primary input. Other factors considered were:

- Normalization approach for allocating funds between highway and non-highway projects
- Funds allocated to transition projects (projects let between October 1, 2013 and July 1, 2015, per the STI law)
- Provisions in the STI law such as corridor caps and caps affecting non-highway projects
- Project delivery time
- Funding availability for each STI category

PRIORITIZATION 3.0 RESULTS

The first Draft STIP based on STI was released on December 4, 2014. Following public comment meetings, the Final 2016-2025 STIP was approved by the BOT on June 4, 2015. In September 2015, the 2015 Current Operations and Capital Improvements Appropriations Act of 2015 (Session Law 2015-241, House Bill 97) was passed by the Legislature and signed by the Governor, providing an additional $1.7 billion dollars over the 2016-2025 period. Due to the significant increase in revenue, the STIP was amended in January 2016 by the BOT to account for the acceleration of many projects as well as the addition of numerous projects to the 10 year program.

A total of nearly 3,000 projects at a cost to NCDOT of almost $70 billion were evaluated in P3.0. The breakdown by mode is shown below in Figure 1.

Figure 1: P3.0 Projects Evaluated by Mode with 2016-2025 STIP Programmed Amounts

Mode	Total Projects Evaluated	Cost to NCDOT ($million)	Total Projects Programmed in 2016-2025 STIP*	Amount Programmed in 2016-2025* ($million)
Highway	1,731	$66,288	511	$15,237
Aviation	495	$731	36	$280
Bicycle & Pedestrian	461	$409	80	$80
Ferry	16	$131	1	$12
Public Transportation	221	$471	7	$22
Rail	32	$1,110	6	$34
Total	**2,956**	**$69,140**	**641**	**$15,665**

*Based on the amended STIP in January 2016

Note that in the table above, the numbers of projects are based on those individually evaluated in P3.0. In developing the STIP, some of the funded projects were combined into a single project.

PRIORITIZATION 4.0 WORKGROUP PROCESS

The prioritization process typically occurs every two years. Prioritization 4.0 officially kicked off on September 22, 2014 with the first meeting of the P4.0 Workgroup. See Appendix B for a listing of P4.0 Workgroup members. The Workgroup met 17 times between September 2014 and August 2015, discussing many topics, while reaching consensus on over 100 items with no votes taken. See Appendix C for a full listing of the items for which consensus was reached.

As part of the update of the prioritization process for P4.0, the Department hired Cambridge Systematics to conduct an independent, statistical analysis of the scoring and data used in P3.0. The objective of this assessment was to:

- Review the results, criteria, and methodologies from P3.0 (the assignment of local input points was not included)
- Identify strengths and weaknesses of the process
- Recommend enhancements for implementation in P4.0 and beyond

Overall, Cambridge indicated that P3.0 represented a mature prioritization process that reflected numerous best practices and is viewed nationally as one of the most comprehensive State DOT prioritization processes. To continually improve the prioritization process, Cambridge recommended both global improvements (across all 6 modes) and mode-specific improvements. For more details on the Cambridge Analysis and Recommendations, please visit *http://www.ncleg.net/documentsites/committees/JointAppropriationsTransportation/2015_Session/3.05.15/2.Cambridge_Report_FINAL.PDF*

Cambridge presented their findings and recommendations to the Workgroup at several meetings. The Workgroup considered the recommendations as they updated the scoring for P4.0. Ultimately, the Workgroup recommended the following changes:

Global Scoring Changes (applies to all 6 modes)

Scale all criteria on a relative basis within each mode – Cambridge noted that the biggest statistical issues with P3.0 were small ranges of values, groupings of low or high values, and criteria that had a disproportional impact on the total score. The main cause of these statistical issues was the use of inconsistent factoring approaches to reach 0-100 point values. The implementation of scaling would provide a better distribution of scores.

Continue to use Normalization approach from P3.0 – The Workgroup discussed at length the potential use of cross-modal scoring where the same criteria would be used to evaluate projects across all six modes. This included participating in a USDOT-sponsored Peer Exchange in December 2014 to see if other states have used such a process. The use of mode-specific criteria, while ideal, presents several significant challenges, including different purposes and benefits, and the availability of adequate data

for all six modes. Cambridge and the Workgroup recommended to continue allocating funds between Highway and Non-Highway projects in a transparent manner as in P3.0. Therefore, the following approach was used:

- **Statewide Mobility** – Available funds were allocated to the highest scoring eligible projects, regardless of mode (only certain highway, rail, and aviation projects are eligible in this category)
- **Regional Impact** – A minimum of 4% of available funds were allocated to the highest scoring eligible non-highway projects, a minimum of 90% of available funds were allocated to the highest scoring eligible highway projects, and the remaining 6% of available funds were allocated to the remaining highest scoring projects regardless of mode
- **Division Needs** – A minimum of 4% of available funds were allocated to the highest scoring eligible non-highway projects, a minimum of 90% of available funds were allocated to the highest scoring eligible highway projects, and the remaining 6% of available funds were allocated to the remaining highest scoring projects regardless of mode

Highway Scoring Changes

Peak ADT – The Workgroup recommended the use of Peak Average Daily Traffic (Peak ADT or PADT) instead of Average Annual Daily Traffic (AADT) in order to account for seasonal variations in traffic throughout the state. The Peak ADT volumes were based on the highest month of the year for each roadway. For example, the Peak ADT volumes for several roadways at the beach are from July, while the Peak volumes for several roads in the mountains are from October. Peak ADT was used in scoring formulas for Congestion, Freight, and Multimodal criteria where traffic volume was used.

Local Contribution and Safety Benefits – there was a concern following P3.0 that scores did not substantially change as a result of areas committing local funding or agreeing to tolls. To entice more areas to commit local funds or tolls to projects, the Workgroup recommended to revise the Benefit/Cost calculation as follows:

$$\left[\frac{\text{Project Benefits}}{\text{Project Cost to NCDOT}}\right] + \left[\frac{\text{Other Funds}}{\text{Total Project Cost}} \times 100\right]$$

The Project Benefits are based on the expected travel time savings and the safety benefits resulting from the project over a 10 year period (previously the time period was 25 years in P3.0). New to P4.0, the Workgroup included safety benefits of projects to better account for the expected safety impacts of the proposed improvement. The safety benefits allowed modernization and similar projects to receive a Benefit/Cost score, even if there was no expected travel time savings associated with the project (in P3.0 these projects received a zero for the Benefit/Cost criteria score). The Project Cost to NCDOT is the total cost of the project minus local funds or expected toll revenue (same as in P3.0). The second half of the equation is new to P4.0 and provides additional points for projects with local funds or tolls (local contribution).

Statewide Travel Demand Model (NCSTM) – NCDOT, working with a consultant, has been developing the North Carolina Statewide Travel Demand Model (NCSTM) for the past several years. This computer

model uses existing travel characteristics and existing and future land use to forecast traffic volumes on all of the primary highways throughout the state through the year 2040. The Workgroup discussed the use of NCSTM at several meetings and agreed to use it to generate travel time savings for eligible Statewide Mobility projects over a 10 year period.

Economic Competitiveness – The Workgroup continued to support the use of TREDIS in generating the two measures for the Economic Competitiveness criteria: the long-term jobs created, and the percent change in the local economy. However, they recommended two changes for P4.0: change the evaluation period to a 10 year period (from 25 years), and change the analysis region to the county (instead of the Division). The 10 year period matches the 10 year travel time savings results generated by the NCSTM, which is a primary input into TREDIS. By changing analysis regions to the county level, projects which are expected to generate a decent travel time savings will have a much greater impact on the economy in a less affluent area than one with a vibrant economy.

Accessibility/Connectivity – The Workgroup discussed enhancing the Accessibility/Connectivity criteria over several meetings. The first challenge was defining the purpose of the criteria, which after much discussion, they agreed to the following: improve access to opportunity in rural and less affluent areas, and improve interconnectivity of the transportation network. To evaluate projects based on this purpose, the Workgroup agreed to use the following two measures, each weighted at 50% of the Accessibility/Connectivity criteria score:

- **County Tier Designation** – Points are based on economic distress indicators from the Department of Commerce (included rankings: property tax base per capita, population growth, median household income, and unemployment rate)
- **Does project upgrade how the roadway functions?** – Points are based on whether the project upgrades the roadway to provide a higher level of mobility by enhancing traffic flow, eliminating/bypassing signalized sections, increasing control of access, and accounting for the travel time savings per user.

Multimodal & Freight – In P3.0, these two criteria were combined into a single criteria for project evaluation. In P4.0, the Workgroup recommended separating the two criteria (as listed in the STI law) in order to allow each criteria to focus on different characteristics of the projects.

- **Freight** – The purpose is to measure congestion along routes that provide connection to freight intermodal terminals and routes that have high truck volumes. The criteria is measured by truck volumes, whether the project is along a non-Interstate STRAHNET route or a designated future interstate route (new to P4.0), and the distance to the nearest freight intermodal terminal. Freight terminals were defined as:
    - Public freight intermodal terminals (truck/rail/pipeline)
    - Seaports and inland ports
    - Statewide Mobility eligible airports which handle large movement of freight
    - Major military bases
    - Major ferry terminals

- Large private freight intermodal terminals (truck to rail)

In P3.0, a project was required to directly to touch the property line of the terminal to receive points. In P4.0, the Workgroup recommended that projects could receive points as long as they were within 20 miles of the freight terminal, using a graduated point scale based on distance.

- **Multimodal** – The purpose is to measure congestion along routes that provide a connection to multimodal passenger terminals. The criteria is measured by the distance to the nearest multimodal passenger terminals and the congestion along the route. Multimodal passenger terminals were defined as:
  - Amtrak stations
  - Major transit terminals
  - Commercial service airports
  - Red & blue general aviation airports (as defined by Division of Aviation)
  - Major military bases
  - Ferry terminals (all)

  In P3.0, a project was required to directly to touch the property line of the terminal to receive points. In P4.0, the Workgroup recommended that projects could receive points as long as they were within 5 miles of the multimodal passenger terminal, using a graduated point scale based on distance.

Other Discussion – The Workgroup also discussed other potential changes, but ultimately decided not to incorporate into project scoring. This included the following:

- **Hurricane evacuation routes** – On several occasions, the Workgroup discussed awarding points for projects on hurricane evacuation routes. However, there were two challenges with incorporating this measure into scoring. First, this measure would only applicable for projects in eastern North Carolina. The Workgroup also considered inclusion of Nuclear Evacuation Routes, however this would result in nearly all roadways in the vicinity of a nuclear power plant as eligible. Second, in the STI law, evacuation routes is not an eligible criteria, so there was a challenge to decide which criteria this measure could fit within.
- **Route continuity** – The Workgroup discussed the use of route continuity for scoring projects. The purpose of this measure was to award points to projects that helped eliminate a lane imbalance along adjacent roadway sections, or project sections that completed new location facilities. However, similar to hurricane evacuation routes, there was a challenge to decide which criteria this measure could fit within.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring highway projects in P4.0, as shown in Figure 3 on page 13, which changed from P3.0. The table includes the P3.0 measures and weights for comparison.

Aviation Scoring Changes

The Division of Aviation recommended replacements for two criteria as well as changes to most of the criteria weights. P3.0 heavily emphasized rating systems used by the Division of Aviation and the Federal Aviation Administration. These criteria continued to be used in P4.0, but with weighting more evenly distributed to other criteria. Two P3.0 criteria measuring local funds and federal funds were combined into a new criteria for P4.0 that emphasizes the combined effect of all non-state fund contributions. A new criteria was also added to measure the benefit of flight operations and economic data compared to the project cost.

The Division of Aviation also recommended a major change to the definition of eligible capital projects that would be eligible for evaluation in P4.0. P3.0 considered all projects that changed the 'footprint' of the airport's infrastructure. However, P4.0 considered only projects that exceed the system objectives or regulatory requirements for the airport's infrastructure.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring aviation projects in P4.0, as shown in Figure 4 on page 15, which changed from P3.0. The table includes the P3.0 measures and weights for comparison.

Bicycle & Pedestrian Scoring Changes

Four identical criteria were carried forward from P3.0 to P4.0. These criteria measured the same data, while incorporating a new safety benefit, as well as a population factor for unoccupied housing units (second homes) and group housing, excluding prisons. P3.0 criteria measuring project readiness was removed, with its data instead being used as project detail informational inputs. P4.0 added a new Connectivity criteria focusing on bicycle/pedestrian network connectivity, measuring the project's degree of separation from a roadway, ADA compliance, and connectivity to similar or better project type.

Using the update criteria and measures, the Workgroup recommended the criteria and weights for scoring bicycle & pedestrian projects in P4.0, as shown in Figure 5 on page 16, which changed from P3.0. The table includes the P3.0 measures and weights for comparison.

Ferry Scoring Changes

P3.0 criteria underwent very little changes for P4.0, beyond renaming two criteria, tweaking a few data points, and slightly adjusting weights.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring ferry projects in P4.0, as shown in Figure 6 on page 17, which changed from P3.0. The table includes the P3.0 measures and weights for comparison.

Public Transportation Scoring Changes

P3.0 criteria proved to be more complicated and difficult to accurately measure and score than anticipated. Weights also heavily favored certain criteria, therefore certain types of projects as well. In P4.0, the Public Transportation Division utilized a working group of stakeholders for initial discussion of changes and recommendations to take to the P4.0 Workgroup. The criteria and weights for vehicles and facilities were revised for P4.0, so that final criteria used simpler but more measurable data, and the weights were more evenly distributed across all criteria. Criteria and weights for fixed guideway were mostly unchanged.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring public transportation projects in P4.0, as shown in Figure 7 on page 18, which changed from P3.0. The table includes the P3.0 measures and weights for comparison.

Rail Scoring Changes

P3.0 scoring was very complicated with 7 criteria, as well as 4 different project types that were each weighted differently within each criteria and each STI category. Some scoring formulas also resulted in criteria that had a disproportional impact compared to the intended weighs. P4.0 scoring was revised, reducing to 4 criteria and only 2 overarching project types. Weights were simplified and consolidated across project types.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring rail projects in P4.0, as shown in Figure 8 on page 21, which changed from P3.0. The table includes the P3.0 measures and weights for comparison.

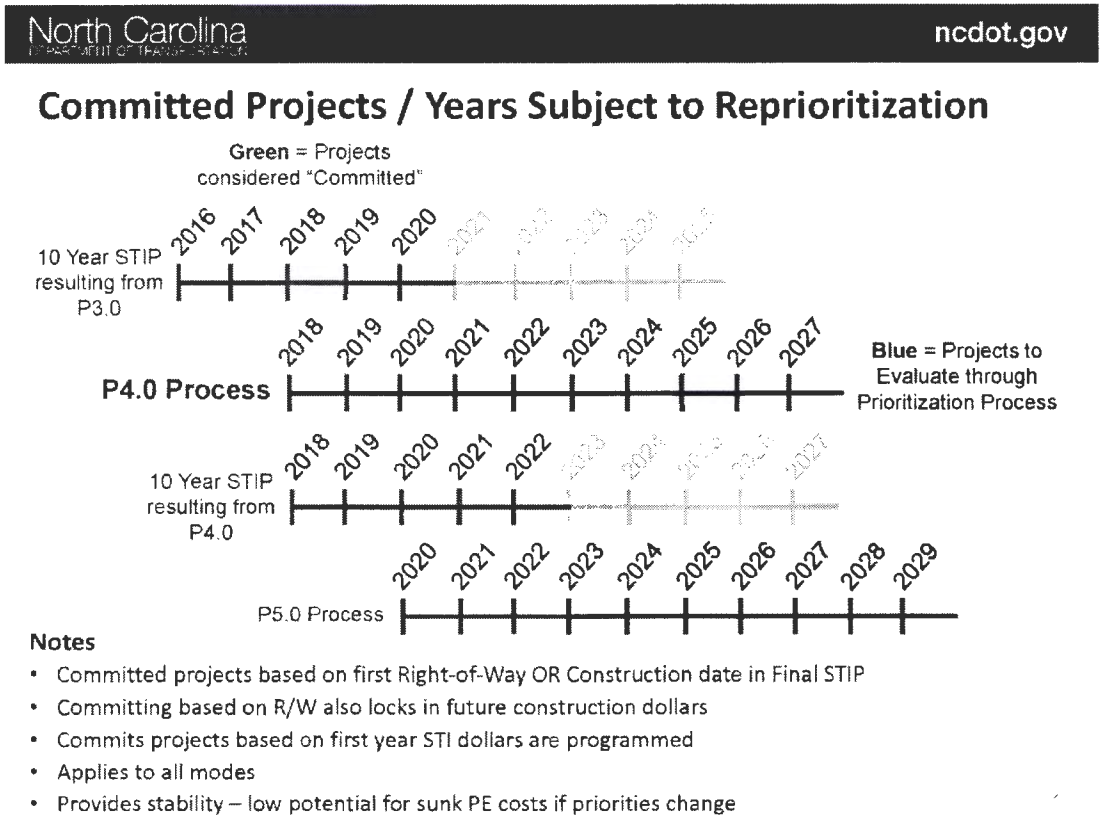
Project Database

In addition to the scoring changes noted above, the Workgroup made the following recommendations for P4.0:

Committed Projects – Since P4.0 was the second generation of the Prioritization Process under STI, a decision was needed to determine which projects in the 10 year STIP would be considered "committed" and not be subject to reprioritization and those projects that should be re-evaluated in P4.0 using the updated criteria and weights. The Workgroup recommended that projects in the Final 2016-2025 STIP with Right-of-Way or Construction programmed in state fiscal year 2016-2020 are considered committed and are not subject to re-evaluation in P4.0. These projects are funded in the "Deliverable" portion of the STIP (first five years). This means that projects first funded for Right-of-Way or

Construction in state fiscal year 2021 and later are re-evaluated in P4.0. These projects are funded in the "Developmental" portion of the STIP (last five years). Figure 1 below provides a visual representation of years of the committed projects.

Figure 2: Projects Evaluated in Ten Year Prioritization Timeframe



Projects to evaluate in P4.0 – There are two types of projects evaluated in P4.0: carryover projects and submittals. The Workgroup recommended the following for each:

Carryover Projects – these projects were evaluated in the previously Prioritization cycle and are automatically evaluated in the subsequent cycle:

- Projects programmed first funded in the 2016-2025 STIP for Right-of-Way or Construction in state fiscal year 2021 and later (projects programmed in the last five years of the STIP as noted above).
- Projects with a completed NEPA document, or one where the environmental document is actively begin worked on as of December 31, 2014

- Siblings of programmed projects, where for example, section A of a project is programmed, sections B, C, & D would be considered a carryover project
- Projects that received any amount of local input points in P3.0 (in either the Regional Impact or Division Needs categories)

Modifications of carryover projects were also allowed without counting as a submittal. This provided MPOs, RPOs, and Divisions an opportunity to evaluate different segments or intersections separately from the larger project, as long as there was agreement between the respective MPOs/RPOs and Divisions.

Submittals – The Workgroup recommended continuing to use the approach from P3.0 to determine the number of projects each MPO and RPO could submit for P4.0. This approach is based on each MPO and RPO having a minimum of 10 project submittals, plus one additional submittal for every 100,000 people in their geographic area, up to a maximum of 20. The Workgroup recommended a different approach for the number of projects each Division could submit, in order to help limit the number of projects evaluated in P4.0. They recommended that each Division could submit up to seven projects. The number of submittals for MPOs, RPOs, and Divisions was the same for each mode for consistency. In addition, each MPO, RPO, and Division could gain additional submittals for every carryover project removed from the database, as long as both the MPO/RPO and Division agreed on the project removal. Submittals are comprised of both brand new projects that have not previously been evaluated in a prioritization cycle and projects that were previously evaluated but are not considered a carryover project. See Appendix D for the listing of the number of submittals for each MPO, RPO, and Division.

Local Input Points

The Workgroup recommended continuing to use the approach from P3.0 to determine the local input points in both the Regional Impact and Division Needs categories allocated to each MPO, RPO, and Division. Each MPO, RPO, and Division received a minimum of 1,000 points, plus an additional 100 points for every 50,000 people in their geographic area, up to a maximum of 2,500 points. Each entity receives a separate allocation but the same number of points for both the Regional Impact and Division Needs categories. Appendix D also lists the number of local input points for each MPO, RPO, and Division.

The Workgroup also recommended to hold separate time periods for assigning points in the Regional Impact and Division Needs categories. In P3.0, there was one 90 day period to assign points to both categories, whereas in P4.0, there were separate periods for each. This allowed MPOs, RPOs, and Divisions to see which projects were funded in the Regional Impact category (and therefore not cascade down) prior to submitting local input points in the Division Needs category. The Workgroup recommended two separate 60 day windows for each period, however to improve coordination on the assignment of points between MPOs, RPOs, and Divisions, the Regional Impact period was over 90 days, while the Division Needs period was 60 days.

In accordance with GS 136-18.42, MPOs and RPOs are required to have a formal methodology approved by NCDOT for assigning local input points. Most MPOs and RPOs updated their methodologies from

P3.0, all of which were reviewed and approved by a NCDOT-led local input point methodology review committee, which included representatives from MPOs and RPOs. The Division Engineers also have a formal process for assignment points. The committee also reviewed their updated methodology for P4.0.

On July 9, 2015, the BOT approved the P4.0 Criteria, Measures, and Weights as recommended by the Workgroup. No changes were made by the BOT from the Workgroup's recommendations.

Comparison of Criteria, Measures and Weights between P4.0 and P3.0 for All Modes

Figure 3: Highway Scoring Criteria, Measures, and Weights

Criteria	P4.0 Measure(s)	P4.0 Weights			P3.0 Measure(s)	P3.0 Weights		
		SW	REG	DIV		SW	REG	DIV
Congestion	• Volume-to-Capacity Ratio • Volume	30%	20%	15%	• Volume-to-Capacity Ratio • Volume	30%	25%	20%
Benefit/Cost	• Travel Time Savings • Safety Benefits • Cost of Project to NCDOT • % Local Contribution	25%	20%	15%	• Travel Time Savings • Cost of Project to NCDOT	30%	25%	20%
Safety	• Critical Crash Rates, Crash Severity, Crash Density (segments) • Crash Frequency, Severity Index (intersections)	15%	10%	10%	• Critical Crash Rates, Crash Severity, Crash Density (segments) • Crash Frequency, Severity Index (intersections)	10%	10%	10%
Economic Comp.	• Long-term Jobs Expected • % Change in County Economy	10%	N/A	N/A	• Long-term Jobs Expected • % Change in Division Economy	10%	N/A	N/A
Multimodal	• Congestion on Route near Multimodal Passenger Terminal • Distance to nearest Multimodal Terminal	5%	N/S	N/S	• Congestion on STRAHNET Routes • Congestion on Routes that provide Direct Connection to Transportation Terminal • Truck Volumes	20%	N/S	N/S
Freight	• Truck Volumes • Congestion on non-Interstate STRAHNET or Designated Future Interstate Route • Distance to nearest Freight Terminal	15%	10%	5%				
Accessibility / Connectivity	• County Economic Indicator • Does the Project Upgrade how the Roadway Functions?	N/A	10%	5%	• Commerce County Tier Designation • Does project upgrade roadway • Commuting times by Census tracts	N/S	10%	N/S
Lane Width	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S
Shoulder Width	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S
Pavement Condition	• Pavement Condition Rating	N/S	N/S	N/S	• Pavement Condition Rating	N/S	N/S	N/S

Note: Figure 3 lists the default criteria, measures, and weights for evaluating highway projects. In both P3.0 and P4.0, Regions and Divisions were allowed to use Alternative Criteria, as long as all MPOs, RPOs, and Divisions (within the Region or Division) were in agreement. With Alternate Criteria, the entities within a Region or Division can select different criteria (than the defaults above) and/or assign different weights to the criteria. However, the measure is the same for each criteria across the state. In P3.0, entities within Regions A and B, and Divisions 1, 2, 3, and 4 agreed to the use of Alternate Criteria. In P4.0, entities within Region B, and Divisions 2, 3, and 6 agreed to the use of Alternate Criteria.

N/A = Not Applicable based on the STI law

N/S = Considered, but Not Selected by the Workgroup for use in evaluating projects

Figure 4: Aviation Scoring Criteria, Measures, and Weights

Criteria	P4.0 Measure(s)	P4.0 Weights			P3.0 Measure(s)	P3.0 Weights		
		SW	REG	DIV		SW	REG	DIV
NCDOA Project Rating	• NCDOA Project Rating (reflects updated System Plan)	40%	30%	25%	• NCDOA Project Rating	40%	40%	30%
FAA ACIP Rating	• Federal Aviation Administration Airport Capital Improvement Plan (ACIP) rating	10%	5%	10%	• Federal Aviation Administration Airport Capital Improvement Plan (ACIP) rating	40%	20%	10%
Non-State Contribution Index	• Local, federal, or private funds toward the project • State funds toward the project	30%	20%	5%	Not used			
Benefit/Cost	• Total $ Econ. Contribution of Tier • Total # of Instrument Flight Rule (IFR) Ops of Tier • NCDOA Capital Project Rating • Project Cost	20%	15%	10%	Not used			
Local Investment Index	Not used – data used in Non-State Contribution Index				• Local funds toward the project • State funds toward the project	10%	5%	5%
Federal Investment Index	Not used – data used in Non-State Contribution Index				• Federal funds toward the project • State funds toward the project	10%	5%	-
Volume / Demand Index	Not used – data used as benefit in Benefit/Cost				• Based aircraft, aircraft operations, and recorded Instrument Flight Rule (IFR) operations • Employment density near the airport	-	-	5%

NCDOA = NC Division of Aviation

Figure 5: Bicycle and Pedestrian Scoring Criteria, Measures, and Weights

Criteria	P4.0 Measure(s)	P4.0 Weight DIV	P3.0 Measure(s)	P3.0 Weight DIV
Safety	• Number of crashes • Posted speed limit • Project safety benefit	15%	• Crash Points • Speed Limit Points	15%
Access	• Destination Type within buffer • Distance to Prime Destination	10%	• Destination Type within buffer • Distance to Prime Destination	10%
Demand / Density	• Number of households within buffer • Number of employees within buffer ~Added factor for unoccupied housing units (second homes) + group housing, excluding prisons)	10%	• Number of households within buffer • Number of employees within buffer	10%
Connectivity	• Specific Improvement Type • Degree of bike/ped separation from roadway • ADA compliance • Connectivity to a similar/better project type	10%	Not used	
Cost Effectiveness	• Safety score • Access score • Demand / Density score • Connectivity score • Estimated Project Cost to NCDOT	5%	• Access Points • Demand / Density Points • Cost to NCDOT [was called Benefit-Cost]	10%
Constructability	Not used		• Right-of-Way Acquired • Preliminary Engineering / Design Completed • Environmental Impact Points	5%

Figure 6: Ferry Scoring Criteria, Measures, and Weights

Criteria	P4.0 Measure(s)	P4.0 Weights		P3.0 Measure(s)	P3.0 Weights	
		REG	DIV		REG	DIV
Asset Condition	• Asset Condition Rating	15%	15%	• Average Vessel Health Ratings • Average Ramp & Gantry Ratings [was called Safety]	15%	15%
Benefits	• Monetized value of number of hours saved	10%	10%	• Highway hours on alternate route • Hours on ferry crossing [was called Benefit/Cost]	15%	15%
Accessibility / Connectivity	• Number of points of interest within 3 concentric rings of the route	10%	10%	• Number of points of interest within 3 concentric rings of the route	10%	10%
Asset Efficiency	• 3-year maintenance cost • Pro-rated 3-year replacement cost	15%	15%	• 3-year maintenance cost • Pro-rated 3-year replacement cost	10%	10%
Capacity / Congestion	• Number of vehicles left behind at each departure • Total number of vehicles loaded and carried by the route	20%	-	• Number of vehicles left behind at each departure • Total number of vehicles loaded and carried by the route	20%	-

Figure 7: Public Transportation Scoring Criteria, Measures, and Weights

Public Transportation – Vehicles

Criteria	P4.0 Measure(s)	P4.0 Weights		P3.0 Measure(s)	P3.0 Weights	
		REG	DIV		REG	Div
Access	• Annual OpStat Reported Hours • Vehicles in Fleet	10%	5%	Not used		
System Safety	• OpStat Reported Miles • 3 Year Average of Incidents	10%	10%	Not used		
Impact	• Unlinked Annual Passenger Trips • Projected New Unlinked Annual Passenger Trips	20%	15%	Not used		
Cost Effectiveness	• Projected New Annual Unlinked Passenger Trips • Cost to the State	20%	15%	Not used		
Market Share	• Unlinked Annual Passenger Trips • Projected New Unlinked Annual Passenger Trips • Service Area Population	10%	5%	Not used		
Benefit-Cost	Not used			• Projected ridership • Cost to the State	45%	25%
Vehicle Utilization Data	Not used			• Maximum vehicles utilized during the peak hour • Total fleet size	5%	5%
System Safety	Not used			• Transit system safety statistics • National average safety statistics	5%	5%
Connectivity	Not used			• Projected increase in ridership • Types of destinations served • Projected ridership	5%	5%
System Operational Efficiency	Not used			• Annual ridership • Service hours • Revenue hours	10%	10%

Public Transportation – Facilities (Passenger or Administrative/Maintenance/Operations)

Criteria	P4.0 Measure(s)	P4.0 Weights		P3.0 Measure(s)	P3.0 Weights	
		REG	DIV		REG	DIV
Impact (or) Age	• Unlinked Annual Passenger Trips • Projected New Unlinked Annual Passenger Trips • Additional capacity • Existing capacity • Age of facility	20%	15%	Not used		
Cost Effectiveness	• Unlinked Annual Passenger Trips • Cost to the State	20%	15%	Not used		
Market Share	• Unlinked Annual Passenger Trips • Projected New Unlinked Annual Passenger Trips • Service Area Population	15%	10%	Not used		
Ridership Growth	• Ridership Growth Trend for previous 5 years	15%	10%	Not used		
Age of Facility (or) Facility Demand (or) Park & Ride Demand (or) Bus Shelter Demand	Not used			• Facility age • Peak service vehicles • Facility capacity • Number of spaces in lot • State match • Average boardings • Average alightings	40%	30%
Benefit-Cost	Not used			• Annual trips provided by facility • State match	5%	5%
System Operational Efficiency	Not used			• Annual ridership • Service hours • Revenue hours	5%	5%
Facility Capacity	Not used			• Proposed capacity • Current usage • Existing design capacity	20%	20%

Public Transportation – Fixed Guideway

Criteria	P4.0 Measure(s)	P4.0 Weights		P3.0 Measure(s)	P3.0 Weights	
		REG	DIV		REG	DIV
Mobility	• Estimated Annual Trips	20%	15%	• Estimated Annual Trips	20%	15%
Cost Effectiveness	• Cost of the Trip Over the Life of the Project	15%	15%	• Cost of the Trip Over the Life of the Project	15%	15%
Economic Development	• Number of new employees • Number of new residents	20%	10%	• Number of new employees • Number of new residents	20%	10%
Congestion Relief	• Passengers/Day • Average Time of Trip	15%	10%	• Passengers/Day • Average Time of Trip	15%	10%

Figure 8: Rail Scoring Criteria, Measures, and Weights

Criteria	P4.0 Measure(s)	P4.0 Weights			P3.0 Measure(s)	P3.0 Weight		
		SW	REG	DIV		SW	REG	DIV
Cost Effectiveness	• Return on Investment Index • Regional Job Creation Index	35%	25%	20%	Not used			
System Health	• Capacity Index • Accessibility/Connectivity Index	35%	20%	10%	Not used			
Safety and Suitability	• Safety Index	20%	15%	10%	Not used			
Project Support	• Funding Leverage Index	10%	10%	10%	Not used			
Benefit Cost	Not used – incorporated into Cost Effectiveness				• Benefits due to emissions savings, fuel savings, travel time savings, and highway-to-rail diversions	VAR	VAR	VAR
Economic Competitiveness	Not used – incorporated into Cost Effectiveness				• Number of jobs	VAR	VAR	VAR
Capacity / Congestion	Not used – incorporated into System Health				• Current daily volume • Maximum daily allowable volume	VAR	VAR	VAR
Safety	Not used – incorporated into Safety and Suitability				• Safety Review Index	VAR	VAR	VAR
Accessibility	Not used – incorporated into System Health				• Project length • National Highway System miles • County unemployment rate	VAR	VAR	VAR
Connectivity	Not used – incorporated into System Health				• Projected daily volume • National Highway System facilities • Ridership increase	VAR	VAR	VAR
Mobility	Not used				• Future capacity • Current capacity • Number of trains • Current daily volume • Projected daily volume • Population	VAR	VAR	VAR

VAR = Varies. P4.0 utilized 4 different project types that were assigned varying weights or eligibility within each criteria and each STI category.

PRIORITIZATION 4.0 IMPLEMENTATION

MPOs, RPOs, and Divisions submitted candidate projects for P4.0 for all six modes (Aviation, Bicycle & Pedestrian, Ferry, Highway, Public Transportation, and Rail) during the period of October 20th through November 20th, 2015, using the SPOT Online application, which was updated for P4.0. Following the submittal of projects, the Prioritization Office, in coordination with several other business units, reviewed and updated the data associated with each project to ensure it was as accurate as possible. Project submitters (MPOs, RPOs, and Divisions) had an opportunity to review any updated data as well. Once the data was considered clean, scores were updated as needed. All projects were scored using the criteria and weights approved by the BOT in July 2015 (see Appendix E). The quantitative scores for all projects and the top-scoring projects funded in the Statewide Mobility category were released on April 13, 2016 in user-friendly spreadsheets.

As recommended by the Workgroup and approved by the BOT, each MPO, RPO, and Division had two time periods to assign local input points. Each entity assigned their Regional Impact local input points between April 18th and July 29th, 2016 based on their approved methodologies. In August 2016, the Prioritization Office first calculated the total scores for all Regional Impact projects, then the TIP Unit developed the draft list of funded Regional Impact projects. The final scores and list of funded projects were released on August 24, 2016.

The Division Needs local input point assignment period was originally scheduled from September 1st to October 31st, however due to the flooding experienced from Hurricane Matthew, this period was extended to November 14th. Following the submittal of the Division Needs local input points, the Prioritization Office calculated the total scores for all Division Needs projects.

At the time of writing of this report, the TIP Unit is currently programming the highest scoring Division Needs projects. This list of funded projects will be released with all of the other funded projects in the 2018-2027 Draft STIP, with the anticipated release of January 2017. The TIP Unit combines the lists of funded projects from the Statewide Mobility, Region Impact, and Division Needs categories in developing the Draft STIP. Similar to P3.0, the prioritization results are the primary input in determining the funded projects. Other factors considered are:

- Normalization approach for allocating funds between highway and non-highway projects
- Funds allocated to transition projects (projects let between October 1, 2013 and July 1, 2015)
- Provisions in the STI law such as corridor caps and caps affecting non-highway projects
- Project delivery time
- Funding availability for each STI category

The Department anticipates updating this document by March 31, 2017 with the full results from P4.0 and the resulting impact to 2018-2027 Draft STIP.

PRIORITIZATION 4.0 RESULTS

A total of nearly 2,000 projects at a cost to NCDOT of almost $57 billion were evaluated in P4.0, for the time period of 2021-2027 (projects in 2018-2020 are considered committed and were not evaluated in P4.0). The breakdown by mode is shown below in Figure 1.

Figure 9: P4.0 Projects Evaluated by Mode with 2018-2027 STIP Programmed Amounts

Mode	Total Projects Evaluated	Cost to NCDOT ($million)	Total Projects Programmed in 2018-2027 Draft STIP*	Amount Programmed in 2018-2027* ($million)
Highway	1202	$52,864		
Aviation	176	$483		
Bicycle & Pedestrian	358	$380		
Ferry	9	$113		
Public Transportation	114	$42		
Rail	70	$2,756		
Total	**1,929**	**$56,638**		

*These values will be provided following release of the 2018-2027 Draft STIP in January 2017.

APPENDIX A – P3.0 SCORING CRITERIA, MEASURES, AND WEIGHTS FOR ALL MODES

Highway Scoring

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Statewide Mobility	**[Travel Time] Benefit/Cost = 30%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project to NCDOT **Congestion = 30%** • Comparison of the existing traffic volume to the existing capacity of the roadway (depending on data availability, Congestion may be measured by comparing congested travel speeds to uncongested speeds) **Economic Competitiveness = 10%** • Estimate of the number of long-term jobs and the % change in economic activity within the NCDOT Division the project is expected to provide over 30 years **Safety = 10%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Multimodal [& Freight + Military] = 20%** • Measure of existing congestion along key military and truck routes, and routes that provide connections to transp. terminals **Total = 100%**	--	--
Regional Impact	**[Travel Time] Benefit/Cost = 25%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project to NCDOT **Congestion = 25%** • Comparison of the existing traffic volume to the existing capacity of the roadway (depending on data availability, Congestion may be measured by comparing congested travel speeds to uncongested speeds) **Accessibility/Connectivity = 10%** • Three component formula using commute times by census tracts, upgrade of travel function of roadway, and Department of Commerce County Tier designations **Safety = 10%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Total = 70%**	**15%**	**15%**
Division Needs	**[Travel Time] Benefit/Cost = 20%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project to NCDOT **Congestion = 20%** • Comparison of the existing traffic volume to the existing capacity of the roadway **Safety = 10%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Total = 50%**	**25%**	**25%**

Note: Divisions 1, 2, 3, 4 have approved different criteria and weights for their respective areas – see end of Appendix A.

Aviation Scoring

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Statewide Mobility	**NCDOA Project Rating = 40%** • Projects prioritized and classified within NC Division of Aviation (NCDOA) established project categories. Assigns point values based on priority of the project and need of the project **FAA Airport Capital Improvement Plan = 40%** • Federal Aviation Administration Airport Capital Improvement Plan (ACIP) Rating. Ratings based on critical airport development and capital needs within National Airspace System (NAS) **Local Investment Index = 10%** • A measurement of the project's local funds compared to state funds and provides greater points for projects that have a higher % of local funding sources (i.e. local or public-private funds) **Federal Investment Index = 10%** • A measurement of the project's federal funds compared to state funds and provides greater points for projects with higher % of federal funds verses state funds **Total = 100%**	--	--
Regional Impact	**NCDOA Project Rating = 40%** • Projects prioritized and classified within NC Division of Aviation (NCDOA) established project categories. Assigns point values based on priority of the project and need of the project **FAA Airport Capital Improvement Plan = 20%** • Federal Aviation Administration Airport Capital Improvement Plan (ACIP) Rating. Ratings based on critical airport development and capital needs within National Airspace System (NAS) **Local Investment Index = 5%** • A measurement of the project's local funds compared to state funds and provides greater points for projects that have a higher % of local funding sources (i.e. local or public-private funds) **Federal Investment Index = 5%** • A measurement of the project's federal funds compared to state funds and provides greater points for projects with higher % of federal funds verses state funds **Total = 70%**	**15%**	**15%**
Division Needs	**NCDOA Project Rating = 30%** • Projects prioritized and classified within NC Division of Aviation (NCDOA) established project categories. Assigns point values based on priority of the project and need of the project **FAA Airport Capital Improvement Plan = 10%** • Federal Aviation Administration Airport Capital Improvement Plan (ACIP) Rating **Local Investment Index = 5%** • A measurement of the project's local funds compared to state funds and provides greater points for projects that have a higher % of local funding sources (i.e. local or public-private funds) **Volume/Demand Index = 5%** • Index representing traffic (aircraft operations) plus employment density (jobs near the airport). Identifies projects where there is more traffic and in areas with more user demand **Total = 50%**	**25%**	**25%**

Bicycle & Pedestrian Scoring

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Division Needs	**Access = 10%** • This criterion measures community benefit as a result of constructing the proposed project, and is measured by the quantity and significance of destinations associated with the proposed project. Access benefit is also measured by the proximity of the proposed project to the most important end destination **Constructability = 5%** • This criterion measures the readiness of a project to be constructed in the near term. Factors such as secured right-of-way, environmental impact, and preliminary engineering work complete are used to calculate this score **Safety = 15%** • This criterion uses bicycle and pedestrian crash data and speed limit information along project corridors to determine the existing safety need **Demand Density = 10%** • This criterion measures user benefit as a result of constructing the proposed project, and it is measured by the density of population and employment within a walkable or bike-able distance of the proposed project **Benefit/Cost = 10%** • This criterion adds the Access and Demand scores together to create a combined benefit score, and then the benefit is divided into the cost of the project to NCDOT **Total = 50%**	**25%**	**25%**

Ferry Scoring

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact *(Note: all vessels are excluded from this category)*	**Safety [Route Health Index] = 15%** • The safety analysis of the ferry route based an Asset Health Index that is determined based on the condition ratings of the vessels and the ramps & gantries **Benefit/Cost [Travel Time] = 15%** • Travel time savings determined by comparing the travel hours saved by utilizing the various ferry routes instead of taking the shortest available alternative route **Accessibility/Connectivity = 10%** • A measurement of the accessibility and connectivity provided by the various routes based on the number of points of interest within travel radii of 10, 20, & 30 miles **Asset Efficiency = 10%** • An evaluation of the cost effectiveness of asset operations in respect to continued maintenance on an asset versus the replacement costs of the subject asset **Capacity/Congestion = 20%** • A measure of the capacity/congestion by an evaluation of the vehicles that are left behind each time a ferry vessel departs compared to the total numbers of vehicles carried by the route in a year **Total = 70%**	**15%**	**15%**
Division Needs	**Safety [Route Health Index] = 15%** • The safety analysis of the ferry route based an Asset Health Index that is determined based on the condition ratings of the vessels and the ramps & gantries **Benefit/Cost [Travel Time] = 15%** • Travel time savings determined by comparing the travel hours saved by utilizing the various ferry routes instead of taking the shortest available alternative route **Accessibility/Connectivity = 10%** • A measurement of the accessibility and connectivity provided by the various routes based on the number of points of interest within travel radii of 10, 20, & 30 miles **Asset Efficiency = 10%** • An evaluation of the cost effectiveness of asset operations in respect to continued maintenance on an asset versus the replacement costs of the subject asset **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Expansion)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact	**Benefit/Cost = 45%** • Assesses the projected ridership for the life of the expansion vehicle relative to the cost of the vehicle to the state **Vehicle Utilization Data = 5%** • Examines how systems are maximizing current fleet **System Safety = 5%** • Compares system safety statistics to the national average **Connectivity = 5%** • Measures the connectivity of the proposed expansion of service to destinations (education, medical, employment, retail, other transfers) **System Operational Efficiency = 10%** • Compares the number of trips to revenue hours reported **Total = 70%**	**15%**	**15%**
Division Needs	**Benefit/Cost = 25%** • Assesses the projected ridership for the life of the expansion vehicle relative to the cost of the vehicle to the state **Vehicle Utilization Data = 5%** • Examines how systems are maximizing current fleet **System Safety = 5%** • Compares system safety statistics to the national average **Connectivity = 5%** • Measures the connectivity of the proposed expansion of service to vital destinations **System Operational Efficiency = 10%** • Compares the number of trips to revenue hours reported **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Facilities)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact	**Age of Facility, Facility Demand, Park & Ride, Bus Shelter = 40%** • Age: examines the age of the facility compared to the useful life of the facility • Facility Demand: measures the demand for new or expanded maintenance and operations facilities • Park & Ride: compares utilization to cost to state to construct • Bus Shelter: examines current demand (boardings and alightings) at the proposed shelter location **Benefit-Cost = 5%** • Examines the benefit (trips) relative to the cost of the project to the state **System Operational Efficiency = 5%** • Compares the number of trips to revenue hours reported **Facility Capacity = 20%** • Identifies the need for additional capacity by comparing proposed capacity, current usage, and current capacity **Total = 70%**	**15%**	**15%**
Division Needs	**Age of Facility, Facility Demand, Park & Ride, Bus Shelter = 30%** • Age: examines the age of the facility compared to the useful life of the facility • Facility Demand: measures the demand for new or expanded maintenance and operations facilities • Park & Ride: compares utilization to cost to state to construct • Bus Shelter: examines current demand (boardings and alightings) at the proposed shelter location **Benefit-Cost = 5%** • Examines the benefit (trips) relative to the cost of the project to the state **System Operational Efficiency = 5%** • Compares the number of trips to revenue hours reported **Facility Capacity = 10%** • Identifies the need for additional capacity by comparing proposed capacity, current usage, and current capacity **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Fixed Guideway)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact	**Mobility = 20%** • Measures the project usage (annual trips) **Cost Effectiveness = 15%** • Measures the cost effectiveness of the project per trip over the life of the project **Economic Development = 20%** • Measures the new employment and population growth in the fixed guideway corridor over 20 years **Congestion Relief = 15%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project **Total = 70%**	**15%**	**15%**
Division Needs	**Mobility = 15%** • Measures the project usage (annual trips) **Cost Effectiveness = 15%** • Measures the cost effectiveness of the project per trip over the life of the project **Economic Development = 10%** • Measures the new employment and population growth in the fixed guideway corridor over 20 years **Congestion Relief = 10%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project **Total = 50%**	**25%**	**25%**

Rail Scoring (Track and Structures)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Statewide Mobility (Class I Freight Only)	**Benefit/Cost = 20%** • Benefits associated with emissions savings, fuel savings, travel time savings divided by the project cost to the state **Economic Competitiveness = 10%** • High-level relative measure of the anticipated statewide benefits of project improvements in numbers of jobs **Capacity/Congestion = 15%** • Percentage that the existing track segment is over-capacity **Safety = 15%** • Crash potential for railroad/highway at-grade crossings **Accessibility = 10%** • Measures the potential for new or improved accessibility to rail service for industries by a freight rail project **Connectivity = 10%** • Values projects on strategic corridors, carrying military, ports, intermodal and transload traffic **Mobility = 20%** • Measures either the change in percentage of available capacity or travel time savings provided by project **Total = 100%**	--	--
Regional Impact (Freight / Passenger)	**Benefit/Cost = 10% (freight) / 10% (passenger)** • Benefits associated with emissions savings, fuel savings, travel time savings divided by the project cost to the state **Capacity/Congestion = 15% (freight) / 25% (passenger)** • Percentage that the existing track segment is over-capacity **Safety = 15% (freight) / 15% (passenger)** • Crash potential for railroad/highway at-grade crossings **Accessibility = 10% (freight only)** • Measures the potential for new or improved accessibility to rail service for industries by a freight rail project **Connectivity = 5% (freight only)** • Values projects on strategic corridors, carrying military, ports, intermodal and transload traffic **Mobility = 15% (freight) / 20% (passenger)** • Measures either the change in percentage of available capacity or travel time savings provided by project **Total = 70%**	**15%**	**15%**
Division Needs (Freight / Passenger)	**Benefit/Cost = 10% (freight) / 10% (passenger)** • Benefits associated with emissions savings, fuel savings, travel time savings divided by the project cost to the state **Capacity/Congestion = 10% (freight) / 15% (passenger)** • Percentage that the existing track segment is over-capacity **Safety = 10% (freight) / 10% (passenger)** • Crash potential for railroad/highway at-grade crossings **Accessibility = 5% (freight only)** • Measures the potential for new or improved accessibility to rail service for industries by a freight rail project **Connectivity = 5% (freight only)** • Values projects on strategic corridors, carrying military, ports, intermodal and transload traffic	**25%**	**25%**

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
	Mobility = 10% (freight) / 15% (passenger) • Measures either the change in percentage of available capacity or travel time savings provided by project **Total = 50%**		

Rail Scoring (Freight Intermodal Facilities / Intercity Passenger Service & Stations)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact (Intercity Passenger Service Only)	**Benefit/Cost = 15%** • Benefits associated with emissions savings, fuel savings, travel time savings divided by the project cost to the state **Capacity/Congestion = 25%** • Percentage that the existing facility is over-capacity **Connectivity = 10%** • Values projects based on type and value of connections to intercity passenger service, commuter service, bus service and parking **Mobility = 20%** • Values daily volumes in relation to catchment area population **Total = 70%**	**15%**	**15%**
Division Needs (Facilities/ Intercity Passenger Service & Stations)	**Benefit/Cost = 10%** • Benefits associated with emissions savings, fuel savings, travel time savings divided by the project cost to the state **Capacity/Congestion = 15%** • Percentage that the existing facility is over-capacity **Connectivity = 10%** • Values passenger projects based on type and value of connections to intercity passenger service, commuter service, bus service and parking • Values projects serving military, port, intermodal and transload traffic and % of NC population in catchment area **Mobility = 15%** • Values daily volumes in relation to catchment area population **Total = 50%**	**25%**	**25%**

Highway Scoring - Alternate Criteria for Region A (Divisions 1 & 4)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact	**[Travel Time] Benefit/Cost = 20%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project to NCDOT. *Toll revenues anticipated from a project will reduce the cost to NCDOT and therefore increase the score in this criteria* **Congestion = 15%** • Comparison of the existing traffic volume to the existing capacity of the roadway (depending on data availability, Congestion may be measured by comparing congested travel speeds to uncongested speeds) **Safety = 15%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Lane Width = 10%** • Comparison of existing lane width to NCDOT Design standards. The greater the difference the higher the points awarded **Shoulder Width = 10%** • Comparison of existing paved shoulder width to NCDOT Design standards. The greater the difference the higher the points awarded **Total = 70%**	**15%**	**15%**

Highway Scoring - Alternate Criteria for Region B (Divisions 2 & 3)

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Regional Impact	**[Travel Time] Benefit/Cost = 20%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project to NCDOT. *Toll revenues anticipated from a project will reduce the cost to NCDOT and therefore increase the score in this criteria* **Safety = 25%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Multimodal [& Freight + Military] = 25%** • Measure of existing congestion along key military and truck routes, and routes that provide connections to transportation terminals **Total = 70%**	**15%**	**15%**

Highway Scoring - Alternate Criteria for Divisions 1 & 4

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Division Needs	**[Travel Time] Benefit/Cost = 10%** • Travel time savings the project is expected to provide over 30 years divided by the cost of the project to NCDOT. *Toll revenues anticipated from a project will reduce the cost to NCDOT and therefore increase the score in this criteria* **Congestion = 10%** • Comparison of the existing traffic volume to the existing capacity of the roadway (depending on data availability, Congestion may be measured by comparing congested travel speeds to uncongested speeds) **Safety = 10%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Lane Width = 10%** • Comparison of existing lane width to NCDOT Design standards. The greater the difference the higher the points awarded **Shoulder Width = 10%** • Comparison of existing paved shoulder width to NCDOT Design standards. The greater the difference the higher the points awarded **Total = 50%**	**25%**	**25%**

Highway Scoring - Alternate Criteria for Divisions 2 & 3

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO R
Division Needs	**Congestion = 20%** • Comparison of the existing traffic volume to the existing capacity of the roadway (depending on data availability, Congestion may be measured by comparing congested travel speeds to uncongested speeds) **Safety = 20%** • Evaluation of the number, severity, and frequency of crashes along the roadway **Multimodal [& Freight + Military] = 10%** • Measure of existing congestion along key military and truck routes, and routes that provide connections to transportation terminals **Total = 50%**	**25%**	**25%**

APPENDIX B – P4.0 WORKGROUP MEMBERS

Full Name	Organization/Unit	Member Type
Betty Huskins	North Carolina Regional Council of Governments	Participant
Chris Lukasina	Capital Area MPO	Participant
Dana Stoogenke	Rocky River RPO	Participant
David Wasserman	NCDOT Prioritization Office (SPOT)	Participant
Debbie Barbour	NCDOT Preconstruction	Participant
Don Voelker	NCDOT Prioritization Office (SPOT)	Participant
Jay Swain	NCDOT Division Thirteen Engineer	Participant
Johanna Reese	North Carolina Association of County Commissioners	Participant
John Rouse	NCDOT Division Two Engineer	Participant
Julie White	North Carolina Metropolitan Mayor's Coalition	Participant
Karyl Fuller	Isothermal RPO	Participant
Lauren Blackburn	NCDOT - Non-highway modes	Participant
Louis Mitchell	NCDOT Division Ten Engineer	Participant
Matt Day	Triangle Area RPO	Participant
Mike Holder	NCDOT Chief Engineer's Office	Participant
Neil Burke	Charlotte Regional Transportation Planning Org.	Participant
Patrick Flanagan	Eastern Carolina RPO	Participant
Patrick Norman	NCDOT Transportation Planning Branch	Participant
Peggy Holland	Jacksonville Urban Area MPO	Participant
Rob Stone	NCDOT Division Eight Engineer	Participant
Rose Williams	North Carolina League of Municipalities	Participant
Sarah Lee	NCDOT Prioritization Office (SPOT)	Participant
Tyler Meyer	Greensboro Urban Area MPO	Participant
Van Argabright	NCDOT Program Development Branch	Participant
Susan Pullium	NCDOT Strategic Planning	Facilitator
Amna Cameron	Legislative Staff	Advisory
Bryce Ball	Legislative Staff	Advisory
Dan Madding	Department of Agriculture	Advisory
Frank Winn	NCDOT IT	Advisory
George Hoops	Federal Highway Administration	Advisory
Hugh Johnson	Governor's Office	Advisory
Jason Soper	Legislative Staff - House	Advisory
Jeff DeBellis	Department of Commerce	Advisory
Kolt Ulm	Legislative Staff - Senate	Advisory
Stephanie Ayers	NC State Ports Authority	Advisory
Shelly Heath	NCDOT	Administrative

APPENDIX C – P4.0 CONSENSUS ITEMS

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
9/22/2014	*Welcome/Kick-Off*	Decision Making Process	Use a consensus approach where possible, only 'call for a vote' when absolutely necessary	Consensus	
10/20/2014	*Plus/Delta; Establishing Priorities*	n/a	n/a	n/a	
11/3/2014	*P3.0 Review; P4.0 Schedule*	n/a	n/a	n/a	
11/17/2014	*P3.0 Review; P4.0 Potential Changes*	P4.0 Schedule	2 - 60 day local input periods	Consensus	
12/1/2014	*Commerce Update; Potential Changes*	Emergency Evacuation Routes*	Can be included but should be measured as part of local input points if important to an area*	Consensus	*Reviewed discussion multiple times, see final decision on 3/30/15
12/15/2014	*Goals for Prioritization; Re-prioritization*	Goals for Prioritization	Acceptable as written during P3.0	Consensus	
		Projects not subject to re-prioritization	ROW or construction w/in first 5 years of STIP	Consensus	
1/5/2015	*Update on current efforts external to workgroup*	n/a	n/a	n/a	
1/20/2015	*Midterm Review; Potential Changes*	Land Use	Do not include in P4.0 criteria	Consensus	
2/2/2015	*Cambridge Recommendations; Peak ADT; Potential Changes*	Cambridge Global Recommendations	Improve consistency of terminology used in multiple modes	Consensus	
2/2/2015		Cambridge Global Recommendations	When possible, calculate future benefits rather than current conditions	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
2/2/2015		Cambridge Global Recommendations	Scale all criteria on a relative basis based on the distribution of results from projects included in P3.0	Consensus	
2/2/2015		Cambridge Global Recommendations	Rely on consistent scaling of mode-specific criteria for evaluating projects across modes	Consensus	
2/2/2015		Cambridge: Ensure transparency when evaluating across modes	Continue using the P3.0 method of allocating funds across highway vs. non-highway	Consensus	
2/2/2015		Route Continuity	Due to constrained criteria in STI legislation, route continuity should be measured as part of local input points if important to an area	Consensus	
2/16/2015	*Potential Changes to Criteria*	Accessibility/Connectivity	50% County Tier Designation (based on economic distress indicator from DOC) + 50% Upgrade of Roadway Function (based on chart of improvement types & travel time savings/user)	Consensus	
2/16/2015		Multimodal [&Freight+Military]	Split into two separate criteria, one for passenger and one for freight	Consensus	
2/16/2015		Multimodal [+Military]	40% V/C along route if project is within 5 miles of a multimodal passenger terminal + 60% proximity (graduated within 5 miles) to multimodal passenger/military terminal	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
2/16/2015		Freight [+Military]	50% Truck volume along route + 30% V/C if project is non-interstate STRAHNET or future interstate + 20% proximity (graduated within 20 miles) to freight/military terminal	Consensus	
2/16/2015		Scoring by Improvement Type (Highway Projects)	Continue P3.0 methodology of scoring all highway projects using the same criteria	Consensus	
3/2/2015	*Potential Changes in Criteria; Non-Highway Review*	Pavement Condition	Continue using the P3.0 method of scoring	Consensus	
3/2/2015		Lane Width	Continue using the P3.0 method of scoring	Consensus	
3/2/2015		Shoulder Width	Continue using the P3.0 method of scoring	Consensus	
3/2/2015		Economic Competitiveness	Continue using the P3.0 method of scoring; continue to review/refine inputs to the model	Consensus	
3/16/2015	*Potential Changes in Criteria; Travel Demand Model Update; Non-Highway Criteria*	Category Specific Measures	Use the same criteria definitions across all three categories (statewide, regional, division) for the following critieria: Benefit/Cost*, Safety, Freight*, Economic Competitiveness*, Accessibility/Connectivity*, Lane Width, Shoulder Width, Pavement **subject to potential use of NCSTM*	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/16/2015		Inputs to TREDIS	Travel Growth Rate: use VMT growth rate by county, area type, and facility type from NCSTM	Consensus	
3/16/2015		Peak ADT	Develop location specific factors for all primary routes. Use default factors for secondary routes, and examine developing location specific factors for secondary routes if time and resources allow.	Consensus	
3/16/2015		Peak ADT	Use PADT in Congestion (volume/capacity and volume), Freight (volume/capacity), and Multi-Modal (volume/capacity). AADT will continue to be used for calculation of travel time savings (Benefit-Cost and Economic Competitiveness) if statewide model is not used.	Consensus	
3/16/2015		Congestion	Statewide: [((PADT/Capacity) x 60%) + ((PADT) x 40%)] Regional: [((PADT/Capacity) x 80%)) + ((PADT) x 20%))] Division: [PADT/Capacity]	Consensus	
3/16/2015		Benefit-Cost	[(Total Benefits over 10 years/Cost to NCDOT) + (("Other Funds"/Total Project Cost) x 100)]	Consensus	
3/16/2015		Bicycle/Pedestrian Criteria	Safety: 40% B/P Crashes + 40% Posted Speed Limit + 20% Safety Benefit	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/16/2015		Bicycle/Pedestrian Criteria	Access: continue using P3.0 method, adding regional significant B/P facilities to 'Major Centers' and removing household density from both 'Major Centers' and 'Secondary Centers'	Consensus	
3/16/2015		Bicycle/Pedestrian Criteria	Demand-Density: continue using P3.0 method, adding 'factor for unoccupied housing units (second homes),' and 'group housing, excluding prison facilities'	Consensus	
3/16/2015		Bicycle/Pedestrian Criteria	Constructability: remove	Consensus	
3/16/2015		Bicycle/Pedestrian Criteria	Connectivity: quality of service-consistency index score [$CQOS_{endA}$+$CQOS_{endB...}$/n]	Consensus	
3/16/2015		Bicycle/Pedestrian Criteria	Cost-Effectiveness: [(Safety+Access+Demand-Density+Connectivity)/cost to NCDOT]	Consensus	
3/16/2015		Bicycle/Pedestrian Criteria	Criteria Weights: Safety - 15%, Access - 10%, Demand-Density - 10%, Connectivity - 10%, Cost-Effectiveness - 5%	Consensus	
3/30/2015	*Non-Highway Criteria; Highway Criteria Weights*	Emergency Evacuation Routes*	Should be measured as part of local input points if important to an area*	Agreement	*Reviewed discussion multiple times, NCDOT agreed to remove from future P4.0 discussion, original decision from 12/1/14 upheld

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/30/2015		Public Transportation Criteria: Vehicle	Access: annual OpStat reported hours / vehicles in fleet	Consensus	
3/30/2015		Public Transportation Criteria: Vehicle	Safety: OpStat reported miles divided by 3 Year average of incidents*	Consensus	
3/30/2015		Public Transportation Criteria: Vehicle	Impact: (unlinked annual passenger trips + projected new unlinked annual passenger trips) / unlinked annual passenger trips	Consensus	
3/30/2015		Public Transportation Criteria: Vehicle	Cost-Effectiveness: projected new annual unlinked passenger trips for the life of the vehicle / cost to the state	Consensus	
3/30/2015		Public Transportation Criteria: Vehicle	Market Share: (unlinked annual passenger trips + projected new unlinked annual passenger trips) / service area population	Consensus	
3/30/2015		Public Transportation Criteria: Vehicle	Criteria Weights (Regional Impact): Access - 10%, Safety - 5%*, Impact - 20%, Cost-Effectiveness - 20%, Market Share - 15%*	Consensus	*Asked PTD to determine if transit working group has concerns with these edited percentages for 'safety' and 'market share'
3/30/2015		Public Transportation Criteria: Vehicle	Criteria Weights (Division Needs): Access - 5%, Safety - 5%*, Impact - 15%, Cost-Effectiveness - 15%, Market Share - 10%*	Consensus	*Asked PTD to determine if transit working group has concerns with these edited percentages for 'safety' and 'market share'

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/30/2015		Public Transportation Criteria: Facility-Passenger	Impact (either/or - age)*: (unlinked annual passenger trips + projected new unlinked annual passenger trips) / unlinked annual passenger trips	Consensus	*Criteria only used to evaluate expansion facilities
3/30/2015		Public Transportation Criteria: Facility-Passenger	Age (either/or - impact)*: age / 45 years	Consensus	*Criteria only used to evaluate replacement facilities
3/30/2015		Public Transportation Criteria: Facility-Passenger	Cost Effectiveness: estimated trips for the life of the facility / cost to the state	Consensus	
3/30/2015		Public Transportation Criteria: Facility-Passenger	Market Share: (unlinked annual passenger trips + projected annual unlinked passenger trips) / service area population	Consensus	
3/30/2015		Public Transportation Criteria: Facility-Passenger	Ridership Growth: ridership growth trend for the previous 5 years	Consensus	
3/30/2015		Public Transportation Criteria: Facility-Admin/Maint/Oper	Impact (either/or - age)*: (additional capacity + existing capacity) / existing capacity	Consensus	*Criteria only used to evaluate expansion facilities
3/30/2015		Public Transportation Criteria: Facility-Admin/Maint/Oper	Age (either/or - impact)*: age / 45 years	Consensus	*Criteria only used to evaluate replacement facilities
3/30/2015		Public Transportation Criteria: Facility-Admin/Maint/Oper	Cost Effectiveness: unlinked passenger trips for the life of the facility / cost to the state	Consensus	
3/30/2015		Public Transportation Criteria: Facility-Admin/Maint/Oper	Market Share: (unlinked annual passenger trips + projected annual unlinked passenger trips) / service area population	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/30/2015		Public Transportation Criteria: Facility-Admin/Maint/Oper	Ridership Growth: ridership growth trend for the previous 5 years	Consensus	
3/30/2015		Public Transportation Criteria: Facility	Criteria Weights (Regional Impact): Impact or Age - 20%, Cost-Effectiveness - 20%, Market Share - 15%, Ridership Growth - 15%	Consensus	
3/30/2015		Public Transportation Criteria: Facility	Criteria Weights (Division Needs): Impact or Age - 15%, Cost-Effectiveness - 15%, Market Share - 10%, Ridership Growth - 10%	Consensus	
3/30/2015		Public Transportation Criteria: Fixed Guideway	Mobility: estimated annual trips (1 point for every 250,000 trips)	Consensus	
3/30/2015		Public Transportation Criteria: Fixed Guideway	Cost-Effectiveness: cost of the trip over the life of the project (100 points for a cost of $4 or less per trip; decreasing by 1 point for every $0.11 increase per trip)	Consensus	
3/30/2015		Public Transportation Criteria: Fixed Guideway	Economic Development: 1 point per 1,000 new employees and 1 point per 500 new residents	Consensus	
3/30/2015		Public Transportation Criteria: Fixed Guideway	Congestion Relief: ((guideway passengers/day) x 290 days x 30 years x average time of trip x value of time)/$10,000,000	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/30/2015		Public Transportation Criteria: Fixed Guideway	Criteria Weights (Regional Impact): Mobility - 20%, Cost-Effectiveness - 15%, Economic Development - 20%, Congestion Relief - 15%	Consensus	
3/30/2015		Public Transportation Criteria: Fixed Guideway	Criteria Weights (Division Needs): Mobility - 15%, Cost-Effectiveness - 15%, Economic Development - 10%, Congestion Relief - 10%	Consensus	
3/30/2015		Safety Benefits	Only use as an additional benefit for the "Total Benefits over 10 years" element in the 'Benefit-Cost' criteria; do not include in safety criteria	Consensus	
3/30/2015		Safety	Continue using the P3.0 method of scoring	Consensus	
3/30/2015		NC Statewide Travel Demand Model	Use $12.75 for the auto-commute value of time	Consensus	
3/30/2015		NC Statewide Travel Demand Model	Consider use of statewide model for components of 'Benefit-Cost' and 'Economic Competitiveness' criteria only in P4.0; Decision on whether to use the model for these criteria has not yet been made	Consensus	
3/30/2015		Ferry Criteria	Asset Condition: 100 - Asset Condition Rating (provides the most points to the asset in the worst condition)	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/30/2015		Ferry Criteria	Benefits: Monetized values based on number of hours saved due to VMT reductions	Consensus	
3/30/2015		Ferry Criteria	Accessibility/Connectivity: The number of POI within 3 concentric rings of the route is determined, scaled by a multiplying factor (75% for Ring 1, 50% for Ring 2, 25% for Ring 3), and totaled	Consensus	
3/30/2015		Ferry Criteria	Asset Efficiency: 3-year maintenance cost / pro-rated 3-year replacement cost	Consensus	
3/30/2015		Ferry Criteria	Capacity/Congestion: Percentage of the number of vehicles left behind at each departure compared to the total number of vehicles loaded and carried by the route (in a year time frame)	Consensus	
3/30/2015		Ferry Criteria	Criteria Weights (Regional Impact): Asset Condition - 15%, Benefits - 10%, Accesibility/Connectivity - 10%, Asset Efficiency - 15%, Capacity/Congestion - 20%	Consensus	
3/30/2015		Ferry Criteria	Criteria Weights (Division Needs): Asset Condition - 15%, Benefits - 10%, Accesibility/Connectivity - 10%, Asset Efficiency - 15%	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
3/30/2015		Highway Weights: Statewide Mobility	Eliminate the following criteria from consideration: 'Pavement Condition', 'Shoulder Width', and 'Lane Width'	Consensus	
3/30/2015		Highway Weights: Regional Impact	Eliminate the following from consideration as a default criteria: 'Pavement Condition', 'Shoulder Width', and 'Lane Width'	Consensus	
3/30/2015		Highway Weights: Division Needs	Eliminate the following from consideration as a default criteria: 'Pavement Condition', 'Shoulder Width', and 'Lane Width'	Consensus	
4/13/2015	*Non-Highway Criteria; Highway Criteria Weights; Number of Projects and New Submittals; Local Input Points; Normalization*	Aviation Criteria	NCDOA Project Rating: Project rating from the NC Airports System Plan	Consensus	
4/13/2015		Aviation Criteria	FAA ACIP Rating: Rating from FAA Airport Capital Improvement Plan	Consensus	
4/13/2015		Aviation Criteria	Non-State Contribution Index: Project's Highway Trust funds / all other sources of project funding	Consensus	
4/13/2015		Aviation Criteria	Benefit/Cost: [(Total $ Econ. Contribution of Tier / Total # of IFR Ops of Tier) * NCDOA Capital Project Rating] / Project Cost	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
4/13/2015		Aviation Criteria	Criteria Weights (Statewide Mobility): NCDOA Project Rating - 40%, FAA ACIP Rating - 10%, Non-State Contribution Index - 30%, Benefit/Cost - 20%	Consensus	
4/13/2015		Aviation Criteria	Criteria Weights (Regional Impact): NCDOA Project Rating - 30%, FAA ACIP Rating - 5%, Non-State Contribution Index - 20%, Benefit/Cost - 15%	Consensus	
4/13/2015		Aviation Criteria	Criteria Weights (Division Needs): NCDOA Project Rating - 25%, FAA ACIP Rating - 10%, Non-State Contribution Index - 5%, Benefit/Cost - 10%	Consensus	
4/13/2015		Rail Criteria	Cost Effectiveness: (Return on Investment Index * 75%) + (Regional Job Creation Index * 25%)	Consensus	
4/13/2015		Rail Criteria	System Health: (Capacity Index * 75%) + (Accessibility/Connectivity Index * 25%)	Consensus	
4/13/2015		Rail Criteria	Safety and Suitability: Safety Index	Consensus	
4/13/2015		Rail Criteria	Project Support: Funding Leverage Index	Consensus	
4/13/2015		Rail Criteria	Criteria Weights (Statewide Mobility - Freight Rail only): Cost Effectiveness - 35%, System Health - 35%, Safety and	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
			Suitability - 20%, Project Support - 10%		
4/13/2015		Rail Criteria	Criteria Weights (Regional Impact): Cost Effectiveness - 25%, System Health - 20%, Safety and Suitability - 15%, Project Support - 10%	Consensus	
4/13/2015		Rail Criteria	Criteria Weights (Division Needs): Cost Effectiveness - 20%, System Health - 10%, Safety and Suitability - 10%, Project Support - 10%	Consensus	
4/13/2015		Highway Criteria Weights	Statewide Mobility: Benefit-Cost - 25%, Congestion - 30%, Economic Competitiveness - 10%, Safety 15%, Freight - 15%, Multimodal - 5%	Consensus	
4/13/2015		Highway Criteria Weights	Regional Impact: Benefit-Cost - 20%, Congestion - 20%, Accessibility/Connectivity - 10%, Safety - 10%, Freight - 10%	Consensus	
4/13/2015		Highway Criteria Weights	Division Needs: Benefit-Cost - 15%, Congestion - 15%, Accessibility/Connectivity - 5%, Safety - 10%, Freight - 5%	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
4/13/2015		Use of Alternate Criteria for Highway Projects	Each funding region and/or division may submit alternate criteria and/or percentage weights for use in evaluating highway projects at the Regional and/or Division level; requires unanimous support from all impacted MPOs, RPOs, and Division Engineers; submissions must be received by the SPOT office on or before new project submittal period begins in October 2015	Agreement	
4/13/2015		Scaling	Use P4.0 projects to set scale	Consensus	
5/4/2015	*Legislative and BOT Feedback; Normalization*	Public Transportation Criteria: Vehicle	Criteria Weights (Regional Impact): Access - 10%, Safety - 10%*, Impact - 20%, Cost-Effectiveness - 20%, Market Share - 10%*	Consensus Update	*Update to Consensus from 3/30/15
5/4/2015		Public Transportation Criteria: Vehicle	Criteria Weights (Division Needs): Access - 5%, Safety - 10%*, Impact - 15%, Cost-Effectiveness - 15%, Market Share - 5%*	Consensus Update	*Update to Consensus from 3/30/15
5/4/2015		Freight [+Military]	Add ferry terminals where the truck volumes exceed 10,000 to the list of eligible freight terminals	Consensus	
5/4/2015		Normalization	Continue with the same normalization approach in P4.0 as was used in P3.0	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
5/18/2015	*NC Statewide Travel Demand Model; Number of Projects and New Sumbittals; Local Input Points*	NC Statewide Travel Demand Model	Use statewide model for Statewide Mobility and Regional Impact categories (only for components of 'Benefit-Cost' and 'Economic Competitiveness', as stated in 3/30 consensus)	Consensus	
5/18/2015		Benefit-Cost / Economic Competitiveness / NC Statewide Travel Demand Model	Use similar methodology as in P3.0 to calculate components for Division Needs, using 10 year growth factors from statewide model	Consensus	
5/18/2015		Number of Projects in the Database (Highway)	Automatically keep in the database: Projects programmed for R/W or CON only in years 6-10 based on Final STIP, siblings of programmed projects, projects with a completed NEPA document, projects with project planning actively underway as of December 31, 2014, any project that received any amount of local input points in P3.0 (in either Regional Impact or Division Needs category)	Consensus	
5/18/2015		Number of Projects in the Database (Highway)	Any project not automatically retained in the database will be put in "holding tank" for use in resubmittals (SPOT ID and mapping retained, but data will need to be reprocessed)	Agreement	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
5/18/2015		Number of Projects in the Database (Non-Highway)	Non-highway modes will use same method as stated for Highways	Consensus	
5/18/2015		Number of Projects in the Database	Projects remaining in the database may be modified (with MPO/RPO and Division Engineer agreement) without counting against the total number of new submittals	Agreement	
5/18/2015		New Submittals (Highway)	Each MPO/RPO gets a minimum of 10 new project submittals + additional project submittals based on every 100K in pop, maximum of 20 (same method as P3.0); Each Division gets 7 new projects; '1 in, 1 out' is allowed as long as there is agreement between MPO/RPO and Division	Consensus	
5/18/2015		New Submittals (Non-Highway)	MPO/RPO and Division will have the same number of new submittals per mode as stated for Highway	Consensus	
5/18/2015		New Submittals	All new project submittals (all modes) must be made only by MPOs, RPOs, or Divisions	Agreement	
5/18/2015		Number of Local Input Points	Continue P3.0 process (# of points per area = 1000 points + additional 100 points per 50,000 population, with cap of 2,500 per area)	Consensus	

Date	Meeting Focus	Topic	Decision	Consensus/Vote	Notes
5/19/2015		Local Input Point Percentages	One MPO, one RPO, and one Chief Engineer representative will participate in the local input methodology internal review group as advisory members; this group will review MPO and RPO methodologies and provide approval, and will also review Division Engineers' methodologies and provide comments to the Chief Engineer (who will approve them)	Consensus	
5/20/2015		Local Input Point Percentages	Equal split between MPO/RPO and Division Engineer for local input percentages for the Regional Impact (15%/15%) and Division Needs (25%/25%) categories	Consensus	

Totals

- 102 Consensus Items
- 2 Consensus Updates
- 5 Agreement Items (the Workgroup agreed to these items, but consensus not required)
- 3 items n/a (neither agreement nor consensus required)

APPENDIX D – P4.0 PROJECT SUBMITTAL AND LOCAL INPUT POINT ALLOCATIONS

MPO/RPO Name	2013 Census Pop.	Population (Nearest 100,000)	Population (Nearest 50,000)	Maximum New Submittal	Local Input Points
Albemarle RPO	171,853	200,000	150,000	12	1,300
Burlington-Graham MPO	162,290	200,000	150,000	12	1,300
Cabarrus Rowan MPO	319,680	300,000	300,000	13	1,600
Cape Fear RPO	136,026	100,000	150,000	11	1,300
Capital Area MPO	1,105,002	1,100,000	1,100,000	20	2,500
Charlotte Regional TPO	1,296,029	1,300,000	1,300,000	20	2,500
Down East RPO	175,303	200,000	200,000	12	1,400
Durham-Chapel Hill-Carrboro MPO	408,415	400,000	400,000	14	1,800
East Carolina RPO	171,185	200,000	150,000	12	1,300
Fayetteville Area MPO	373,067	400,000	350,000	14	1,700
French Broad River MPO	397,330	400,000	400,000	14	1,800
Gaston-Cleveland-Lincoln MPO	382,310	400,000	400,000	14	1,800
Goldsboro Urban Area MPO	92,025	100,000	100,000	11	1,200
Grand Strand Trans. Study Area	37,066	0	50,000	10	1,100
Greater Hickory MPO	364,501	400,000	350,000	14	1,700
Greensboro Urban Area MPO	376,299	400,000	400,000	14	1,800
Greenville Urban Area MPO	130,792	100,000	150,000	11	1,300
High Country RPO	209,900	200,000	200,000	12	1,400
High Point Urban Area MPO	285,126	300,000	300,000	13	1,600
Isothermal RPO	132,747	100,000	150,000	11	1,300
Jacksonville Urban MPO	143,225	100,000	150,000	11	1,300
Kerr-Tar RPO	165,905	200,000	150,000	12	1,300
Land-of-Sky RPO	64,741	100,000	50,000	11	1,100
Lumber River RPO	226,554	200,000	250,000	12	1,500
Mid-Carolina RPO	186,524	200,000	200,000	12	1,400
Mid-East RPO	111,415	100,000	100,000	11	1,200
New Bern MPO	55,955	100,000	50,000	11	1,100
Northwest Piedmont RPO	172,656	200,000	150,000	12	1,300
Peanut Belt RPO	121,291	100,000	100,000	11	1,200
Piedmont Triad RPO	252,035	300,000	250,000	13	1,500
Rocky Mount Urban Area MPO	79,108	100,000	100,000	11	1,200
Rocky River RPO	106,311	100,000	100,000	11	1,200
Southwestern RPO	134,842	100,000	150,000	11	1,300
Triangle Area RPO	213,707	200,000	200,000	12	1,400
Upper Coastal Plain RPO	228,569	200,000	250,000	12	1,500
Wilmington Urban Area MPO	254,808	300,000	250,000	13	1,500
Winston Salem Urban Area MPO	406,788	400,000	400,000	14	1,800

Division	2013 Census Pop.	Population (Nearest 100,000)	Population (Nearest 50,000)	Maximum New Submittal	Local Input Points
01	262,307	300,000	250,000	7	1,500
02	493,267	500,000	500,000	7	2,000
03	672,930	700,000	650,000	7	2,300
04	583,672	600,000	600,000	7	2,200
05	1,430,323	1,400,000	1,450,000	7	2,500
06	668,091	700,000	650,000	7	2,300
07	900,291	900,000	900,000	7	2,500
08	514,372	500,000	500,000	7	2,000
09	744,298	700,000	750,000	7	2,500
10	1,422,458	1,400,000	1,400,000	7	2,500
11	370,833	400,000	350,000	7	1,700
12	735,110	700,000	750,000	7	2,500
13	498,777	500,000	500,000	7	2,000
14	354,651	400,000	350,000	7	1,700

Notes:

- MPOs/RPOs receive a minimum 10 new project submittals for each mode
- MPOs/RPOs receive an additional submittal per 100,000 people
- Maximum number of new project submittals is 20 for MPOs/RPOs
- Population is rounded to nearest 100,000 people to determine maximum # of new highway project submittals for each MPO/RPO

- All Areas receive a minimum of 1,000 points
- Areas receive an additional 100 points per 50,000 people
- Maximum number of local input points is 2,500
- Population is rounded to nearest 50,000 people to determine # of local input points for each MPO/RPO or Division
- Areas receive separate allocation of local input points for Regional Impact and Division Needs funding categories (amount of points is the same for each)

- MPO/RPO boundaries are be based on official 2015 boundaries.

APPENDIX E – P4.0 SCORING CRITERIA, MEASURES, AND WEIGHTS FOR ALL MODES

Highway Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility	**Benefit/Cost = 25%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 30%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. **Economic Competitiveness = 10%** • Measurement of the estimated number of long-term jobs and the % change in economic activity within the county that the project is expected to provide over 10 years. **Safety = 15%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Multimodal [+ Military] = 5%** • Measurement of congestion along routes that provide connections to multimodal passenger terminals. **Freight [+ Military] = 15%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Total = 100%**	--	--
Regional Impact	**Benefit/Cost = 20%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 20%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. **Safety = 10%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Accessibility/Connectivity = 10%** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Freight [+ Military] = 10%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Total = 70%**	**15%**	**15%**

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Division Needs	**Benefit/Cost = 15%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 15%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway. **Safety = 10%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Freight [+ Military] = 5%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Accessibility/Connectivity = 5 %** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Total = 50%**	**25%**	**25%**

Note: Region B and Divisions 2, 3, 6 have approved different criteria and weights for their respective areas – see end of Appendix E.

Aviation Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility	**NCDOA Project Rating = 40%** • Assigns point values based on priority and need of the project. Projects are prioritized and classified within NC Division of Aviation (NCDOA) established project categories from the NC Airports System Plan. **FAA ACIP Rating = 10%** • Federal Aviation Administration (FAA) Airport Capital Improvement Plan (ACIP) Rating. Ratings based on critical airport development and capital needs within National Airspace System (NAS). **Non-State Contribution Index = 30%** • Measurement of the project's Highway Trust funds compared to all other sources of project funding. Provides greater points for projects with a higher % of non-Highway Trust funding sources (i.e. local, federal, other state grants, or public-private funds). **Benefit/Cost = 20%** • Measurement of the project's total economic contribution to the area. Includes the number of IFR (Instrument Flight Rules) operations, NCDOA project rating, and project cost. **Total = 100%**	--	--
Regional Impact	**NCDOA Project Rating = 30%** • Assigns point values based on priority and need of the project. Projects are prioritized and classified within NC Division of Aviation (NCDOA) established project categories from the NC Airports System Plan. **FAA ACIP Rating = 5%** • Federal Aviation Administration (FAA) Airport Capital Improvement Plan (ACIP) Rating. Ratings based on critical airport development and capital needs within National Airspace System (NAS). **Non-State Contribution Index = 20%** • Measurement of the project's Highway Trust funds compared to all other sources of project funding. Provides greater points for projects with a higher % of non-Highway Trust funding sources (i.e. local, federal, other state grants, or public-private funds). **Benefit/Cost = 15%** • Measurement of the project's total economic contribution to the area. Includes the number of IFR (Instrument Flight Rules) operations, NCDOA project rating, and project cost. **Total = 70%**	**15%**	**15%**
Division Needs	**NCDOA Project Rating = 25%** • Assigns point values based on priority and need of the project. Projects are prioritized and classified within NC Division of Aviation (NCDOA) established project categories from the NC Airports System Plan. **FAA ACIP Rating = 10%** • Federal Aviation Administration (FAA) Airport Capital Improvement Plan (ACIP) Rating. Ratings based on critical airport development and capital needs within National Airspace System (NAS). **Non-State Contribution Index = 5%** • Measurement of the project's Highway Trust funds compared to all other sources of project funding. Provides greater points for projects with a higher % of non-Highway Trust funding sources (i.e. local, federal, other state grants, or public-private funds). **Benefit/Cost = 10%** • Measurement of the project's total economic contribution to the area. Includes the number of IFR (Instrument Flight Rules) operations, NCDOA project rating, and project cost. **Total = 50%**	**25%**	**25%**

Bicycle & Pedestrian Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Division Needs	**Safety = 15%** • Measurement of number of bicycle and/or pedestrian crashes, speed limit, and safety benefits to determine adequacy of safety for users of the project. **Access = 10%** • Measurement of the quantity and significance of destinations associated with the project as well as the distance to the primary destination. Measures benefit to the community as a result of constructing the project. **Demand = 10%** • Measurement of the density of population and employment within a walkable or bike-able distance of the project. Measures user benefit as a result of constructing the project. **Connectivity = 10%** • Measurement of the degree of bike/ped separation from the roadway, ADA compliance, and connectivity to a similar or better project type. **Cost Effectiveness = 5%** • Measurement of combined user benefits of Safety, Access, Demand, and Connectivity criteria compared to the cost of the project to NCDOT. **Total = 50%**	**25%**	**25%**

Ferry Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Asset Condition = 15%** • Measurement of the condition rating of the asset. **Benefits = 10%** • Measurement of the project benefits based on the monetized value of the number of hours saved by utilizing the ferry route instead of taking the shortest alternative route. **Accessibility/Connectivity = 10%** • Measurement of the accessibility and connectivity provided by the route to jobs, services, and other points of interest. Measured by the number of points of interest within pre-determined circles of 10, 20, & 30 miles. **Asset Efficiency = 15%** • Measurement of the cost effectiveness of continued maintenance of the asset compared to replacement of the asset. **Capacity/Congestion = 20%** • Measurement of the number of vehicles left behind at each departure compared to the total number of vehicles loaded and carried by the route in a year. **Total = 70%**	**15%**	**15%**
Division Needs	**Asset Condition = 15%** • Measurement of the condition rating of the asset. **Benefits = 10%** • Measurement of the project benefits based on the monetized value of the number of hours saved by utilizing the ferry route instead of taking the shortest alternative route. **Accessibility/Connectivity = 10%** • Measurement of the accessibility and connectivity provided by the route to jobs, services, and other points of interest. Measured by the number of points of interest within pre-determined circles of 10, 20, & 30 miles. **Asset Efficiency = 15%** • Measurement of the cost effectiveness of continued maintenance of the asset compared to replacement of the asset. **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Vehicle)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Access = 10%** • Measurement of the reported annual hours of operation compared to the number of vehicles in the fleet. **System Safety = 10%** • Measurement of the reported annual miles compared to the 3 year average of reported incidents. **Impact = 20%** • Measurement of the number of existing and projected annual passenger trips compared to the number of existing passenger trips. **Cost Effectiveness = 20%** • Measurement of the total projected passenger trips compared to the cost of the project to the state. **Market Share = 10%** • Measurement of the number of existing and projected annual passenger trips compared to the population in the service area. **Total = 70%**	**15%**	**15%**
Division Needs	**Access = 5%** • Measurement of the reported annual hours of operation compared to the number of vehicles in the fleet. **System Safety = 10%** • Measurement of the reported annual miles compared to the 3 year average of reported incidents. **Impact = 15%** • Measurement of the number of existing and projected annual passenger trips compared to the number of existing passenger trips. **Cost Effectiveness = 15%** • Measurement of the total projected passenger trips compared to the cost of the project to the state. **Market Share = 5%** • Measurement of the number of existing and projected annual passenger trips compared to the population in the service area. **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Passenger Facility)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Impact = 20% (Expansion projects only)** • Measurement of the number of existing and projected annual passenger trips compared to the number of existing passenger trips. **OR** **Age = 20% (Non-expansion projects)** • Age of the facility divided by 45 years (considered the useful life). **Cost Effectiveness = 20%** • Measurement of existing annual passenger trips compared to the cost of the project to the state. **Market Share = 15%** • Measurement of the number of existing and projected annual passenger trips compared to the population in the service area. **Ridership Growth = 15%** • Growth trend of ridership over the past 5 years. **Total = 70%**	**15%**	**15%**
Division Needs	**Impact = 15% (Expansion projects only)** • Measurement of the number of existing and projected annual passenger trips compared to the number of existing passenger trips. **OR** **Age = 15% (Non-expansion projects)** • Age of the facility divided by 45 years (considered the useful life). **Cost Effectiveness = 15%** • Measurement of existing annual passenger trips compared to the cost of the project to the state. **Market Share = 10%** • Measurement of the number of existing and projected annual passenger trips compared to the population in the service area. **Ridership Growth = 10%** • Growth trend of ridership over the past 5 years. **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Admin/Maintenance/Operations Facility)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Impact = 20% (Expansion projects only)** • Measurement of the existing and additional capacity compared to the existing capacity. **OR** **Age = 20% (Non-expansion projects)** • Age of the facility divided by 45 years (considered the useful life). **Cost Effectiveness = 20%** • Measurement of existing annual passenger trips compared to the cost of the project to the state. **Market Share = 15%** • Measurement of the number of existing and projected annual passenger trips compared to the population in the service area. **Ridership Growth = 15%** • Growth trend of ridership over the past 5 years. **Total = 70%**	**15%**	**15%**
Division Needs	**Impact = 15% (Expansion projects only)** • Measurement of the existing and additional capacity compared to the existing capacity. **OR** **Age = 15% (Non-expansion projects)** • Age of the facility divided by 45 years (considered the useful life). **Cost Effectiveness = 15%** • Measurement of existing annual passenger trips compared to the cost of the project to the state. **Market Share = 10%** • Measurement of the number of existing and projected annual passenger trips compared to the population in the service area. **Ridership Growth = 10%** • Growth trend of ridership over the past 5 years. **Total = 50%**	**25%**	**25%**

Public Transit Scoring (Fixed Guideway)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Mobility = 20%** • Measurement of the projected annual trips. **Cost Effectiveness = 15%** • Measurement of the cost per trip over the life of the project. **Economic Development = 20%** • Measurement of the projected new employment and population growth in the fixed guideway corridor over 20 years. **Congestion Relief = 15%** • Measurement of the projected travel time savings to a passenger over 30 years. **Total = 70%**	**15%**	**15%**
Division Needs	**Mobility = 15%** • Measurement of the projected annual trips. **Cost Effectiveness = 15%** • Measurement of the cost per trip over the life of the project. **Economic Development = 10%** • Measurement of the projected new employment and population growth in the fixed guideway corridor over 20 years. **Congestion Relief = 10%** • Measurement of the projected travel time savings to a passenger over 30 years. **Total = 50%**	**25%**	**25%**

Rail Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility (Class I Freight Only)	**Cost Effectiveness = 35%** • Measurement of monetized benefits compared to the project cost to NCDOT, and the jobs created for the region. **System Health = 35%** • Measurement of the volume to capacity ratio, and various measurements of accessibility and connectivity provided by the project via vicinity to points of interest, improvements to statewide rail networks, or employment density. **Safety and Suitability = 20%** • Measurement of potentially hazardous rail crossings. **Project Support = 10%** • Measurement of outside contributions to the project compared to the cost of the project to the state. **Total = 100%**	--	--
Regional Impact	**Cost Effectiveness = 25%** • Measurement of monetized benefits compared to the project cost to NCDOT, and the jobs created for the region. **System Health = 20%** • Measurement of the volume to capacity ratio, and various measurements of accessibility and connectivity provided by the project via vicinity to points of interest, improvements to statewide rail networks, or employment density. **Safety and Suitability = 15%** • Measurement of potentially hazardous rail crossings. **Project Support = 10%** • Measurement of outside contributions to the project compared to the cost of the project to the state. **Total = 70%**	**15%**	**15%**
Division Needs	**Cost Effectiveness = 20%** • Measurement of monetized benefits compared to the project cost to NCDOT, and the jobs created for the region. **System Health = 10%** • Measurement of the volume to capacity ratio, and various measurements of accessibility and connectivity provided by the project via vicinity to points of interest, improvements to statewide rail networks, or employment density. **Safety and Suitability = 10%** • Measurement of potentially hazardous rail crossings. **Project Support = 10%** • Measurement of outside contributions to the project compared to the cost of the project to the state. **Total = 50%**	**25%**	**25%**

Note: Passenger Rail only eligible for Regional Impact and Division Needs.

Highway Scoring - Alternate Criteria for Region B (Divisions 2 & 3)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Safety = 25%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Benefit/Cost = 10%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 10%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. **Accessibility/Connectivity = 10%** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Freight [+ Military] = 10%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Multimodal [+ Military] = 5%** • Measurement of congestion along routes that provide connections to multimodal passenger terminals. **Total = 70%**	**15%**	**15%**

Highway Scoring - Alternate Criteria for Division 2

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Division Needs	**Safety = 20%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Congestion = 10%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. **Accessibility/Connectivity = 10%** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Multimodal [+ Military] = 5%** • Measurement of congestion along routes that provide connections to multimodal passenger terminals. **Freight [+ Military] = 5%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Total = 50%**	**25%**	**25%**

Highway Scoring - Alternate Criteria for Division 3

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Division Needs	**Safety = 15%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Congestion = 10%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. **Multimodal [+ Military] = 10%** • Measurement of congestion along routes that provide connections to multimodal passenger terminals. **Freight [+ Military] = 10%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Accessibility/Connectivity = 5%** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Total = 50%**	**25%**	**25%**

Highway Scoring - Alternate Criteria for Division 6

Funding Category	Quantitative Data	Local Input	
		Division Rank	MPO/RPO Rank
Division Needs	**Benefit/Cost = 15%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 10%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway. **Safety = 10%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Freight [+ Military] = 10%** • Measurement of congestion along routes that provide connections to freight intermodal terminals and routes that have high truck volumes. **Accessibility/Connectivity = 5 %** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Total = 50%**	**25%**	**25%**

NCGA

NORTH CAROLINA GENERAL ASSEMBLY

Joint Appropriations on Department of Transportation

February 28, 2017

Room 1027/1128 LB

8:30 AM

Senate Sergeant at Arms:

JIM HAMILTON

CHARLES MARSALIS

Committee Sergeants at Arms

NAME OF COMMITTEE JC Committee on Appropriations,Transportation

DATE: 2/28/2017 Room: 1027/1128

House Sgt-At Arms:

1. Name: David Leighton
2. Name: Rey Cooke
3. Name: Dean Marshbourne
4. Name:
5. Name:

Senate Sgt-At Arms:

1. Name:
2. Name:
3. Name:
4. Name:
5. Name:

HOUSE PAGES

Week of February 27 - March 2, 2017

Name:	County:	Sponsor:
Sheridan Charles	Wake	Speaker Tim Moore
Melvin McLawhorn	Wake	Speaker Tim Moore
Kelsey Peterson	Buncombe	John Ager
Brion Rogers	Alamance	Speaker Tim Moore
Elizabeth Sebestyen	Onslow	Phillip Shepard
Michaela-Sivan Steele	Cabarrus	Speaker Tim Moore
Mariah-Sydney Steele	Cabarrus	Speaker Tim Moore
James Williams	Wake	Speaker Tim Moore

Senate Pages Attending

COMMITTEE: Jt. App. on D.O.T. **ROOM:** 1027

DATE: 2-28 **TIME:** 8:30

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Page Name Holley	Hometown	Sponsoring Senator
1. Rhushaun Holley	Garner	Chad Barefoot
2. ROTC		
3.		
4.		
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6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

VISITOR REGISTRATION SHEET

JC Committee on Appropriations,Transportation — 2/28/17

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Joy Hicks	NCDOT
Bobby Lewis	NCDOT
Mike Holder	NCDOT
[signature]	NCSC
Justin Delancey	NCDOT
Hope Mozingo	NCDMV
H Tasaico	NCDOT
Audra Douglas	NCDOT
[signature]	RSMC
Jason Gr[illegible]	NC Rural Center
[signature]	MWCCC

VISITOR REGISTRATION SHEET

JC Committee on Appropriations,Transportation — 2/28/17

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Bryan Gibson	NCFA
Caroline Miller	AMGA

VISITOR REGISTRATION SHEET

JC Committee on Appropriations,Transportation — 2/28/17

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Greer Beaty	NCDOT
Eric Boyette	NCDOT
LEE ROACH	NCDMV
Seth Tyler	NCDOT
Patrick Norman	NCDOT
Patrick Flanagan	Down East RPO
Donna Dancausse	FHWA
Sarah Lee	NCDOT
JASON SCHRONCE	NCDOT
Jay Stem	NCAA
BERRY JONES	CAROLINAS AGC

VISITOR REGISTRATION SHEET

JC Committee on Appropriations, Transportation — 2/28/17

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Durwood	NS
Crystal Collins	NC Trucking Assn.
Julie White	NCMC
Nathan Ballard	PPAB
David Collins	SEANC
Andy Chase	KMA
Lisa Riegel	BWNC Bikewalk NC
MATTHEW DAY	NCARPO
[illegible]	MFS
[illegible]	NCAOO
[illegible]	Senate

VISITOR REGISTRATION SHEET

JC Committee on Appropriations,Transportation 2/28/17

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Mildred Spearman	NCAOC

House Committee on Appropriations, Transportation
Wednesday, March 1, 2017 at 8:30 AM
Room 1027/1128 of the Legislative Building

MINUTES

The House Committee on Appropriations, Transportation met at 8:30 AM on March 1, 2017 in Room 1027/1128 of the Legislative Building. Representatives Frank Iler, Michele Presnell, Phil Shepard, John Torbett, Dana Bumgardner, Duane Hall, Larry Strickland, Evelyn Terry and Sam Watford attended, and Senators Jim Davis, Tom McInnis, Don Davis, Cathy Dunn and Joel Ford attended (Attachment 1). Visitors were also in attendance (Attachment 2).

Representative Michele D. Presnell, Chair, presided.

The chair called the meeting to order, and introduced pages (Attachment 3) and House and Senate sergeants-at-arms (Attachment 4).

In accordance with the committee meeting agenda (Attachment 5), Susan Tyler, Fiscal Analyst of the Fiscal Research Division, presented a DMV Base Budget Review (Attachment 6). Eric Boyette, Acting DMV Commissioner of the Dept. of Transportation, presented a DMV Overview (Attachment 7). Committee members, presenters and committee staff discussed presentations while in progress and after completion.

The meeting adjourned at 9:51 a.m.

Rep. Michele D. Presnell

Representative Michele D. Presnell, Chair
Presiding

John Wall, Committee Clerk

Attachment 1

ATTENDANCE
TRANSPORTATION APPROPRIATIONS

DATES	3-1-17														
Representative Frank Iler	✓														
Representative Michele Presnell	✓														
Representative Phil Shepard	✓														
Representative John Torbett	✓														
Representative Dana Bumgardner	✓														
Representative Terry Garrison															
Representative Duane Hall	✓														
Representative Grier Martin															
Representative Larry Strickland	✓														
Representative Evelyn Terry	✓														
Representative Sam Watford	✓														
Senator Jim Davis	✓														
Senator Tom McInnis	✓														
Senator Wesley Meredith															
Senator Don Davis	✓														
Senator Cathy Dunn	✓														
Senator Joel Ford	✓														

Attachment 2

VISITOR REGISTRATION SHEET

Joint Committee on Appropriations/Transportation 03/01/2017 Rm.1027/1128

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Joy Hicks	NCDOT
Hope Mozingo	NCDMV
LEE ROACH	NCDMV
Vicki Pope	NC DMV
FRANK WINN	NCDOT
James Smith	ACEC/NC
Matt Baker	PPAB
David Collins	SEANC
Phil Kirk	MWC
GERRY COHEN	NM
Mac Hulslander	NA

Attachment 2 con't.

VISITOR REGISTRATION SHEET

Joint Committee on Appropriations/Transportation 03/01/2017 Rm.1027/1128

Name of Committee **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Portia Manley	NCDOT
Charlotte Boyd-Malette	NCDOT
Deanna Sevits	NCDOT
Jerry Williams	BANC - etc
John Pollard	NCDOT
[illegible]	Rose
Seth Peher	NCAR
Alex Douglas	NCDOT
Mary Maclean Abell	SELC
Julie [illegible]	NCMC
Crystal Collins	NC Trucking Assn

Attachment 2 cont.

VISITOR REGISTRATION SHEET

Joint Committee on Appropriations/Transportation 03/01/2017 Rm.1027/1128

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Ken Presting	Common Cause NC

Attachment 2 cont.

VISITOR REGISTRATION SHEET

Joint Committee on Appropriations/Transportation 03/01/2017 Rm.1027/1128

Name of Committee **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Kathy Kirkpatrick	BP
John Harper	MFS

House Pages
Assignments
Tuesday, March 1, 2017
Session: 10:00 AM

Committee	Room	Time	Staff	Comments	Member
Agriculture / Environment / Natural Resources	421	8:30 AM	Kelsey Peterson		Rep. John Ager
Appropriations on Department of Transportation	1027/1128	8:30 AM	Elizabeth Sebestyen "Grace"		Rep. Phillip Shepard
Appropriations on General Government and Information Technology	425	8:30 AM	Mariah-Sydney Steele		Rep. Speaker Tim Moore
Appropriations on Health and Human Services	643	8:30 AM	Melvin McLawhorn		Rep. Speaker Tim Moore
			James Williams		Rep. Speaker Tim Moore
Appropriations on Justice and Public Safety	415	8:30 AM	Sheridan Charles		Rep. Speaker Tim Moore
			Brion Rogers		Rep. Speaker Tim Moore
Appropriations, Education	Other	8:30 AM	Michaela-Sivan Steele		Rep. Speaker Tim Moore

Attachment 3

Attachment 3 con't.

Senate Pages Attending

COMMITTEE: Jt. Apps. D.O.T. **ROOM:** 1027

DATE: 3-1 **TIME:** 8:30

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Page Name	Hometown	Sponsoring Senator
1. Nelson Lomick	Gastonia	Kathy Harrington
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

Attachment 4

Committee Sergeants at Arms

NAME OF COMMITTEE Joint Committee on Appropriations, Transportation

DATE: 03/01/2017 Room: 1027/1128

House Sgt-At Arms:

1. Name: David Leighton
2. Name: Terry McCraw
3. Name: Rex Foster
4. Name:
5. Name:

Senate Sgt-At Arms:

1. Name: Hal Roach
2. Name: Archie Smith
3. Name:
4. Name:
5. Name:

Attachment 5

Joint Appropriations Committee on Transportation

March 1, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis
Senator Wesley Meredith

Representative Frank Iler
Representative Michele Presnell, Chairing
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. DMV Base Budget Review

   - Susan Tyler, Fiscal Analyst, Fiscal Research Division
     North Carolina General Assembly

3. DMV Overview

   - Eric Boyette, Acting DMV Commissioner
     Department of Transportation

Next meeting: Governor's Budget/Highway Base Budget- Tuesday, March 7th, 8:30 a.m.

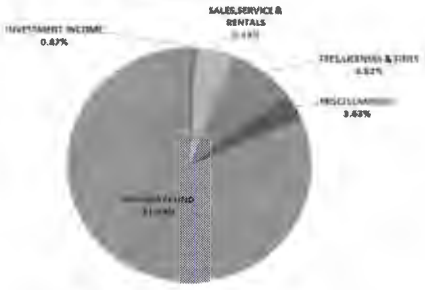
Attachment 6

Department of Transportation

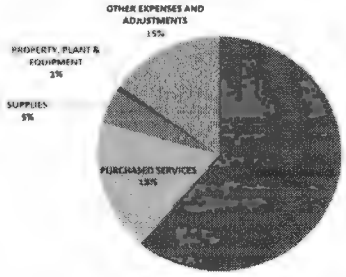
Division of Motor Vehicles Dashboard

Fund Code	Fund Code Description	Total Net Appropriation FY2017-18	Total Net Appropriation FY2018-19	Total FTE FY2017-18	Total FTE FY2018-19
0054	Motor Vehicle Exhaust Emissions	$ 11,128,541	$ 11,128,541	109	109
7050	DMV- Commissioner's Office	$ 4,659,380	$ 4,659,380	49	49
7055	DMV Field Services	$ 79,359,270	$ 79,359,270	951	951
7056	DMV Processing Services	$ 9,841,829	$ 9,841,829	274	274
7060	License and Theft Bureau	$ 15,127,921	$ 15,127,921	175	175
	TOTAL	$ 120,116,941	$ 120,116,941	1,558	1,558

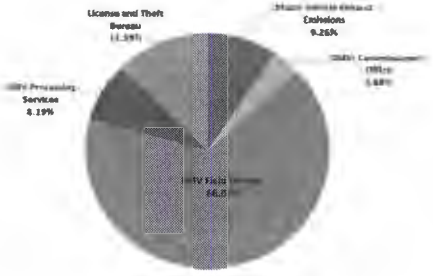
Source of Funds



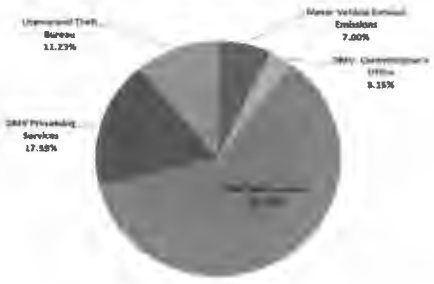
Expenditure of Funds



Net Appropriation FY2017-19



FTE FY2017-19



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ 84,876,314	$ 89,870,130	$ 89,991,095	$ -	$ 89,991,095	$ -	$ 89,991,095
PURCHASED SERVICES	27,166,323	25,431,617	27,272,297	(500,000)	26,772,297	(500,000)	26,772,297
SUPPLIES	6,533,828	5,148,515	7,088,056	-	7,088,056	-	7,088,056
PROPERTY, PLANT & EQUIPMENT	827,787	698,588	1,185,511	-	1,185,511	-	1,185,511
OTHER EXPENSES AND ADJUSTMENTS	24,152,644	26,190,622	22,254,396	-	22,254,396	-	22,254,396
INTRA-GOVERNMENTAL TRANSFERS	3,199,805	-	-	-	-	-	-
Total Requirements	**$ 146,756,701**	**$ 147,339,472**	**$ 147,791,355**	**$ (500,000)**	**$ 147,291,355**	**$ (500,000)**	**$ 147,291,355**
INVESTMENT INCOME	$ 1,714,817	$ 1,275,796	$ 1,275,796	$ -	$ 1,275,796	$ -	$ 1,275,796
SALES,SERVICE & RENTALS	7,882,930	9,306,066	7,562,293	-	7,562,293	-	7,562,293
FEES,LICENSES & FINES	6,175,614	4,327,258	6,432,434	6,551,657	12,984,091	6,551,657	12,984,091
MISCELLANEOUS	8,487,422	5,362,891	5,352,234	-	5,352,234	-	5,352,234
Total Receipts	**$ 24,260,783**	**$ 20,272,011**	**$ 20,622,757**	**$ 6,551,657**	**$ 27,174,414**	**$ 6,551,657**	**$ 27,174,414**
Net Appropriation	**$ 122,495,918**	**$ 127,067,461**	**$ 127,168,598**	**$ (7,051,657)**	**$ 120,116,941**	**$ (7,051,657)**	**$ 120,116,941**

FTE		Actual	Certified	Authorized	Incr/Decr	Total	Incr/Decr	Total
Account Code	Account Title	2015-16	2016-17	2016-17	2017-18	2017-18	2018-19	2018-19
531XXX	PERSONAL SERVICES	1,562	1,557	1,558	0	1,558	0	1,558
Total FTE		**1,562**	**1,557**	**1,558**	**0**	**1,558**	**0**	**1,558**

Increase/Decrease Detail- NR Items Removed

DMV Modernization Initiatives	(500,000)
Estimated revenues from the implementation of DMV Hearing Fees	6,551,657
Total	**6,051,657**

2016-17 Session Significant Budget Actions- Money Items

- Continued funding for a training initiative to assist military personnel in obtaining a Commercial Driver License, $258,885 R FY2016-17.
- Provided funding for contracted driver license examiners to augment existing staffing and implement a 60-hour business week model in Districts 3 and 6, $2,901,656 R FY2016-17.
- Continued funding for 44 time-limited positions to support the Tag and Tax Together Program.
- Increased State funding for advertising/marketing for a multi-channel public outreach campaign to promote DMV modernization initiatives and the availability of online services, $500,000 NR in FY2016-17.
- Increased State funding for the Medical Review Program for contracted medical reviews, $1,312,636 R in FY2016-17.

2016-17 Session Significant Budget Actions- Special Provision

- S.L. 2016-94 Section 35.16 authorized DMV to issue permanent plates to public transportation providers that are recipients of the Federal Transit Administration's formula grant funds.
- S.L. 2016-94 Section 35.15 converted 45 positions from time-limited to permanent status and authorized the cross-training of personnel as deemed necessary by the Commissioner of Motor Vehicles.
- S.L. 2016-94 Section 35.20 modified the medical review procedures in multiple sections of Chapter 20 of the General Statutes to:
  - Allow for license issuance in advance of submission of a signed certificate of physical examination by a health care provider
  - Stay a restriction upon receipt of a hearing request if DMV concludes that continuance of unrestricted driving does not constitute a threat to public safety
  - Make conforming changes
- S.L. 2016-94 Section 35.25 directed DMV to procure an information technology system for its Crash Reporting Program by October 31, 2016 and required reporting in subsequent years on the status of implementation, the transition of maintenance, and observed impacts for access to reports and for DMV operations.

2017-20 Session Significant Issues

- DMV mobile unit access in rural areas
- Antiquated STARS and SADLS systems
- Implementation of hearing fees and accuracy of revenue projections
- New DMV headquarters
- Continued funding for DMV marketing

Department of Transportation

Motor Vehicle Exhaust Emissions

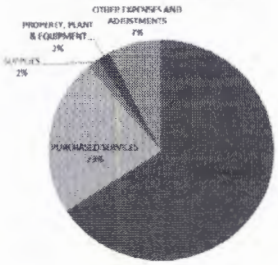
Fund Code: 0054

Purpose: The purpose of the Exhaust Emission Inspection program is to enforce all state and federal laws that regulate motor vehicle operations that involve inspection maintenance, investigations, and the prevention of fraud upon the citizens of North Carolina. The delivery of the program services are provided to the consumer by approximately 4300 emission inspection stations that are licensed by the Division of Motor Vehicles, in accordance with G.S. 20-183.4. To ensure program compliance, DMV personnel are responsible for program oversight through the performance of audits and investigations.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ 6,934,933	$ 8,428,869	$ 7,329,576	$ -	$ 7,329,576	$ -	$ 7,329,576
PURCHASED SERVICES	1,983,603	2,571,702	2,571,702	-	2,571,702	-	2,571,702
SUPPLIES	121,750	174,253	174,253	-	174,253	-	174,253
PROPERTY, PLANT & EQUIPMENT	77,386	214,474	214,474	-	214,474	-	214,474
OTHER EXPENSES AND ADJUSTMENTS	876,592	838,536	838,536	-	838,536	-	838,536
INTRA-GOVERNMENTAL TRANSFERS	446,666	-	-	-	-	-	-
Total Requirements	**$10,440,930**	**$12,227,834**	**$11,128,541**	**$ -**	**$11,128,541**	**$ -**	**$11,128,541**
SALES,SERVICE & RENTALS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	335,703	-	-	-	-	-	-
Total Receipts	**$ 335,703**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Appropriation	**$10,105,227**	**$12,227,834**	**$11,128,541**	**$ -**	**$11,128,541**	**$ -**	**$11,128,541**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
S31XXX	PERSONAL SERVICES	109	123	109	0	109	0	109
Total FTE		**109**	**123**	**109**	**0**	**109**	**0**	**109**

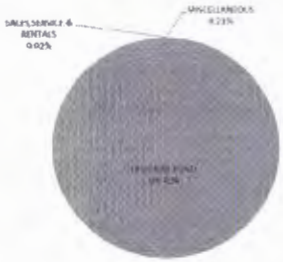
Department of Transportation

DMV- Commissioner's Office

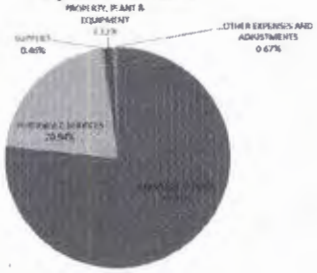
Fund Code: 7050

Purpose: The Commissioner's Office provides overall policy, management, and administration of the Division of Motor Vehicles by overseeing short and long-range planning, legislative initiatives, budget administration, safety strategies and telecommunications planning.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ 7,746,869	$ 7,736,225	$ 3,587,278	$ -	$ 3,587,278	$ -	$ 3,587,278
PURCHASED SERVICES	1,611,548	1,755,258	1,478,040	(500,000)	978,040	(500,000)	978,040
SUPPLIES	93,426	54,911	21,443	-	21,443	-	21,443
PROPERTY, PLANT & EQUIPMENT	71,134	89,196	52,369	-	52,369	-	52,369
OTHER EXPENSES AND ADJUSTMENTS	1,271	32,456	31,250	-	31,250	-	31,250
INTRA-GOVERNMENTAL TRANSFERS	134,061	-	-	-	-	-	-
Total Requirements	**$ 9,658,309**	**$ 9,668,046**	**$ 5,170,380**	**$(500,000)**	**$ 4,670,380**	**$ (500,000)**	**$ 4,670,380**
SALES,SERVICE & RENTALS	$ 1,280	$ 1,000	$ 1,000	$ -	$ 1,000	$ -	$ 1,000
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	10,000	10,000	-	10,000	-	10,000
INTRAGOVERNMENTAL TRANSACTION	23,352	-	-	-	-	-	-
Total Receipts	**$ 24,632**	**$ 11,000**	**$ 11,000**	**$ -**	**$ 11,000**	**$ -**	**$ 11,000**
Net Appropriation	**$ 9,633,677**	**$ 9,657,046**	**$ 5,159,380**	**$(500,000)**	**$ 4,659,380**	**$ (500,000)**	**$ 4,659,380**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	49	123	49	0	49	0	49
Total FTE		**49**	**123**	**49**	**0**	**49**	**0**	**49**

Department of Transportation

DMV Field Services

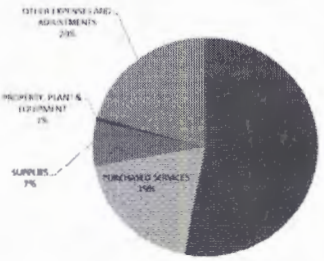
Fund Code: 7055

Purpose: The Field Services Section delivers motor vehicle licensing services that provide timely and accurate information to law enforcement and the public, maintains the integrity of official vehicle registration records, and ensures customer service by contracting and operating titling offices as well as providing on-line services. In addition the Field Services Section delivers license and identification services, protect the integrity of DMV and customer records, promote highway safety, and furnish timely and accurate information to authorized users by ensuring that driver licenses and identification cards are issued and records are maintained in accordance with State and federal law.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$25,064,524	$23,681,476	$51,728,114	$ -	$51,728,114	$ -	$51,728,114
PURCHASED SERVICES	7,572,650	7,980,789	18,789,951	-	18,789,951	-	18,789,951
SUPPLIES	5,347,394	4,430,057	6,398,316	-	6,398,316	-	6,398,316
PROPERTY, PLANT & EQUIPMENT	219,556	308,934	668,590	-	668,590	-	668,590
OTHER EXPENSES AND ADJUSTMENTS	21,869,622	22,602,166	19,990,946	-	19,990,946	-	19,990,946
INTRA-GOVERNMENTAL TRANSFERS	1,896,775	-	-	-	-	-	-
Total Requirements	**$61,970,521**	**$59,003,422**	**$97,575,917**	**$ -**	**$97,575,917**	**$ -**	**$97,575,917**
SALES,SERVICE & RENTALS	$ 1,712,453	$ 1,274,796	$ 225,000	$ -	$ 225,000	$ -	$ 225,000
FEES,LICENSES & FINES	7,684,832	9,200,066	7,562,293	-	7,562,293	-	7,562,293
MISCELLANEOUS	6,067,474	4,237,165	6,346,741	-	6,346,741	-	6,346,741
INTRAGOVERNMENTAL TRANSACTION	5,097,519	4,606,662	4,082,613	-	4,082,613	-	4,082,613
Total Receipts	**$20,562,278**	**$19,318,689**	**$18,216,647**	**$ -**	**$18,216,647**	**$ -**	**$18,216,647**
Net Appropriation	**$41,408,243**	**$39,684,733**	**$79,359,270**	**$ -**	**$79,359,270**	**$ -**	**$79,359,270**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	955	458	951	0	951	0	951
Total FTE		**955**	**458**	**951**	**0**	**951**	**0**	**951**

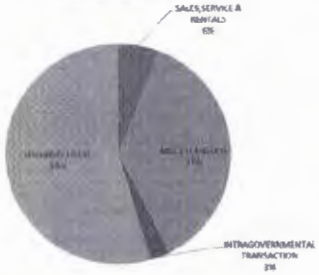
Department of Transportation

DMV Processing Services

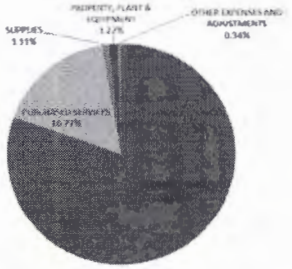
Fund Code: 7056

Purpose: The Processing Services Section provides timely, accurate, and comprehensive motor vehicle support services by enforcing motor vehicle laws and maintain the integrity of official public records. The program provides hearing services, crash services and quality assurance for the registration services.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ 2,030,876	$ 272,565	$14,524,260	$ -	$14,524,260	$ -	$14,524,260
PURCHASED SERVICES	3,186	1,312,636	3,023,224	-	3,023,224	-	3,023,224
SUPPLIES	352	-	200,765	-	200,765	-	200,765
PROPERTY, PLANT & EQUIPMENT	-	-	219,393	-	219,393	-	219,393
OTHER EXPENSES AND ADJUSTMENTS	-	-	61,206	-	61,206	-	61,206
INTRA-GOVERNMENTAL TRANSFERS	4,100	-	-	-	-	-	-
Total Requirements	**$ 2,038,514**	**$1,585,201**	**$18,028,848**	**$ -**	**$18,028,848**	**$ -**	**$18,028,848**
SALES,SERVICE & RENTALS	$ -	$ -	$ 1,049,796	$ -	$ 1,049,796	$ -	$ 1,049,796
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	70,000	6,551,657	6,621,657	6,551,657	6,621,657
INTRAGOVERNMENTAL TRANSACTION	53,077	5,848	515,566	-	515,566	-	515,566
Total Receipts	**$ 53,077**	**$ 5,848**	**$ 1,635,362**	**$ 6,551,657**	**$ 8,187,019**	**$ 6,551,657**	**$ 8,187,019**
Net Appropriation	**$ 1,985,437**	**$1,579,353**	**$16,393,486**	**$(6,551,657)**	**$ 9,841,829**	**$(6,551,657)**	**$ 9,841,829**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	274	0	274	0	274	0	274
Total FTE		**274**	**0**	**274**	**0**	**274**	**0**	**274**

Department of Transportation

License and Theft Bureau

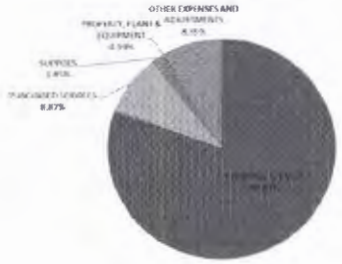
Fund Code: 7060

Purpose: The purpose of the License ond Theft Bureau is to enforce, through DMV Law Enforcement Officers, all State and federal laws that regulate motor vehicle operations, sales, and auto theft, and to conduct investigations that prevent fraud upon the citizens of North Carolina.

Source of Funds



Expenditure of Funds



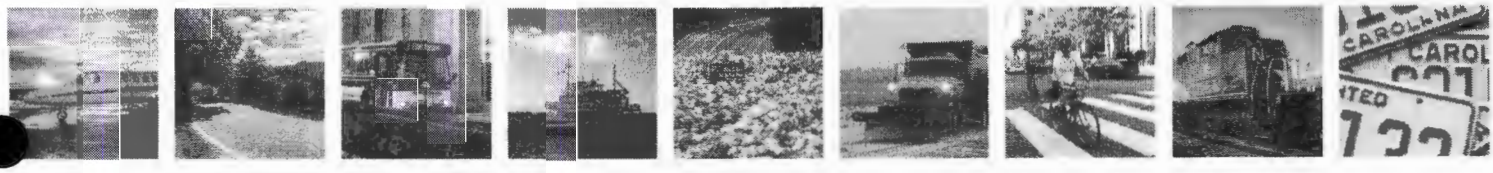
BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$11,788,387	$11,119,962	$12,821,867	$ -	$12,821,867	$ -	$12,821,867
PURCHASED SERVICES	1,479,336	1,409,380	1,409,380	-	1,409,380	-	1,409,380
SUPPLIES	452,720	293,279	293,279	-	293,279	-	293,279
PROPERTY, PLANT & EQUIPMENT	88,853	30,685	30,685	-	30,685	-	30,685
OTHER EXPENSES AND ADJUSTMENTS	912,842	1,332,458	1,332,458	-	1,332,458	-	1,332,458
INTRA-GOVERNMENTAL TRANSFERS	144,890	-	-	-	-	-	-
Total Requirements	**$14,867,028**	**$14,185,764**	**$15,887,669**	**$ -**	**$15,887,669**	**$ -**	**$15,887,669**
SALES,SERVICE & RENTALS	$ 1,074	$ -	$ -	$ -	$ -	$ -	$ -
FEES,LICENSES & FINES	20,000	-	-	-	-	-	-
MISCELLANEOUS	885	5,693	5,693	-	5,693	-	5,693
INTRAGOVERNMENTAL TRANSACTION	763,685	750,381	754,055	-	754,055	-	754,055
Total Receipts	**$ 785,644**	**$ 756,074**	**$ 759,748**	**$ -**	**$ 759,748**	**$ -**	**$ 759,748**
Net Appropriation	**$14,081,384**	**$13,429,690**	**$15,127,921**	**$ -**	**$15,127,921**	**$ -**	**$15,127,921**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	175	147	175	0	175	0	175
Total FTE		**175**	**147**	**175**	**0**	**175**	**0**	**175**

Attachment 7

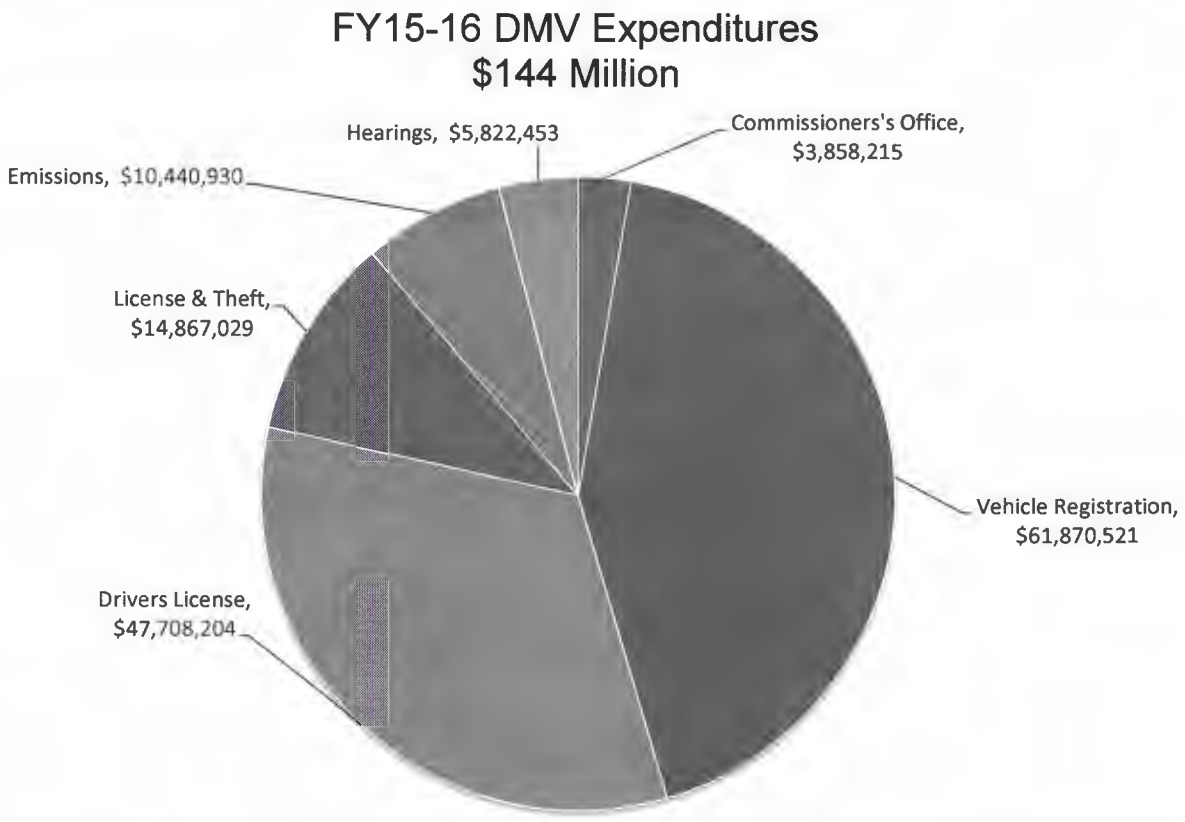
NORTH CAROLINA
Department of Transportation



Division of Motor Vehicles

Eric Boyette, Acting Commissioner

March 2017



***DMV Expenditures Include:** Personnel/Salary/Temp Hires, Initial & Advanced Training, Travel, Operations, Compensation, Facilities/Leases*

DMV Five Point Reform Plan



Strategic Goals

Customer Service
- Become a customer-centric organization

Workforce Development
- Develop a more capable & engaged workforce

Business Improvement
- Modernize business practices

Modernization
- Modernize systems & processes

Capital Improvement
- Develop a more resilient infrastructure

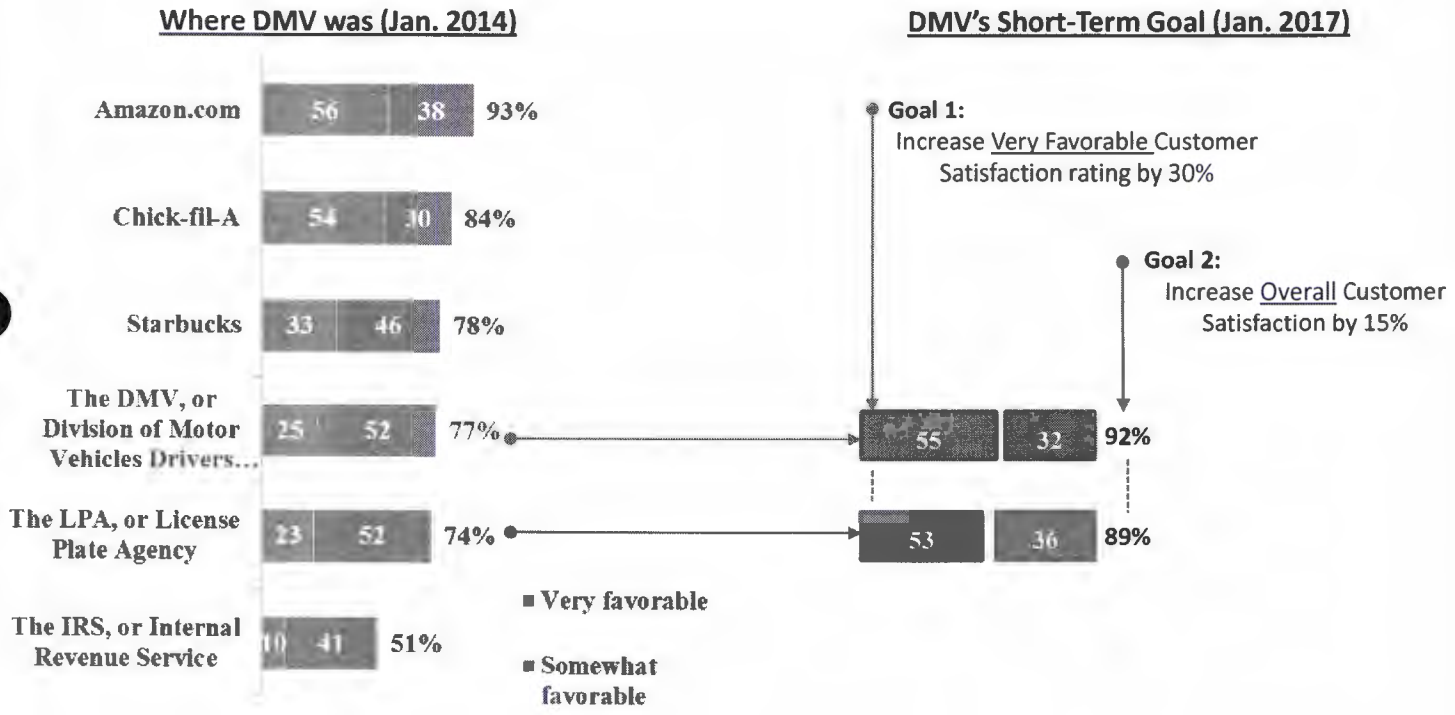
Customer Service

- Voice of the Customer Survey **Part 1**
  - Completed 2013
- Voice of the Customer Recommendations
  - 16 out of 18 items implemented
- Voice of the Customer Survey **Part 2**
  - Results provided February 2017
- Wait Times
  - Average 22 minutes
- Online Services
  - Driver License Renewals
  - Vehicle Registration Renewals
  - Vehicle Property Tax
- Extended Operating Hours in 20 Driver License Offices

Development of DMV "Driving Change"

"Voice of the Customer"

Customer Service Survey Results Jan. 2014



Voice of the Customer Final Report, Pg., 17, GFK Jan 2014

Customer Survey Recommendations

#	Finished or In-Process	DMV of the Future
1	✓	**Ability to pay with credit cards at all DMV branch locations** – Jan. 2016
2	✓	**Ability to conduct online transactions** (DL Renewal 2015/ ID Renewal 2016)
3	IP	"Virtual" DMV offering same services as in-person branch
4	✓	Ability to schedule a set appointment time
5	✓	**Retraining of employees to emphasize better customer service** (1st ever division-wide training)
6	IP	DMV-related reminders sent via email or social media
7	✓	**Longer hours of operation** (85% of NC citizens within 30-mile radius of extended hour office)
8	✓	Expanded consolidated services
9	✓	Re-designed, more user-friendly website
10	✓	More proficient/helpful call centers
11	Researching	Live online help via the DMV website
12	Researching	Biometric identity verification (e.g. fingerprint/ optics)
13	IP	DMV kiosks in libraries, banks, malls, etc.
14	✓	Customer satisfaction surveys
15	✓	**More DMV mobile units** – 2017
16	Researching	DMV electronic ID (Smartphone)
17	✓	Remodeled DMV branch offices
18	✓	DMV app for Smartphones (Web page-myDMVPortal)

Customer Service Survey 2016-*Results*

Preliminary Results from the 2016 Customer Service Survey *(Part 2)*

- Ease of Customer Payment 71% (+9%)
- Helpfulness of Employees 52% (+2%)
- Timeliness of Transactions 41% (+5%)
- Available Employees 24% (+3%)
- Ease of Website Search 35% (+3%)

Improvements Experienced by Those Surveyed:

- Online Transactions 61%
- Paid with Credit Card 56%
- Re-Designed Website 54%

Workforce Development

- Driver License Examiner Basic School Curriculum
  - Improved examiner curriculum
- Continuous Driver License Examiner Training
- Manuals Developed:
  - Driver License Examiner Manual
  - Vehicle Registration Guide (print and electronic copy)

Business Improvement

- Improved Mobile Unit Program
- Extended Hours for Driver License Offices
- Placed 77 Part-time Driver License Examiners to augment driver license issuance staff
- Placed 35 Customer Service Representatives

DMV Mobile Unit Program

- Mobile Unit Program
  - Currently Deployed in 5 of 7 Districts
  - Deployed in District 2
    - Ft. Bragg returned Sept. 2016
  - 25 Permanent Mobile Stops — 25 sites
    - More sites with deployment across the state
    - Visiting 2 assisted living facilities in District 7 — 2 sites

- DPS Re-Integration Program Pilot — 7 sites
  - Began Sept. 2016
  - 137 inmates served to date

- Federal Bureau of Prisons Re-Integration
  - MOU under development with Butner Federal Correctional — 1 site
  - Deployment in early 2017

- Community Outreach
  - Azalea Festival: April 7-9, Wilmington — 3 events
  - Apple Festival: September 1-4, Hendersonville
  - NC State Fair: October 12-22 Raleigh

38 Mobile Stops

Modernization/IT Projects

- NCDMV Office Optimization *pictures*
  - 50 offices complete
- Ignition Interlock Management System
- eCrash Replacement
- myDMV Portal
- Motor Vehicle Inspection and Law Enforcement System (MILES)
- Kiosk (35)
- DMV Queuing
- REAL ID Compliance





Capital Improvement

- Morehead City office expansion
  - Driver License, License & Theft, Hearings, and SHP
  - Completed February 2017
- DMV HQ Replacement
  - Lease option, RFP ongoing
- Future Capital Initiatives:
  - Greenville District HQ
  - Charlotte Driver License Office

DMV Public Information/Marketing

DMV Marketing Budget-$561K

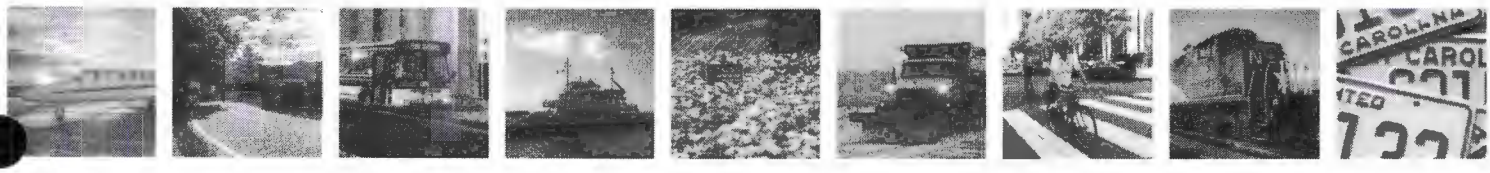
DMV Marketing Plan

- Campaigns
  Targeted Mecklenburg, Durham and Wake Counties
  - *Avoid the Line, Do it Online*: March - December
  - *Save Time. DMV Online*: August – December
- Strategy
  - 11 traditional & digital billboards
  - Front page print ads in major newspapers
  - 9 mobile billboard trucks
  - Advertisements at 50 gas stations
  - Pandora (online streaming radio platform)
  - Digital displays & keyword search
  - Radio ads
- DMV Office Signage
  - A-frame sign-holders
  - 2'x3' poster frames





NORTH CAROLINA
Department of Transportation



DMV Modernization

Eric Boyette, CIO, DMV Commissioner

March 2017

Current DMV IT Systems

- State Automated Driver License System utilized in issuance of NC driver licenses and identification cards. System is made up of Capture solution implemented in Next Generation Secure Driver Licenses and mainframe legacy system.
- State Titling and Registration System utilized in titling and registration of NC motor vehicles. Mainframe legacy system which includes the collection of county vehicle property taxes for registered vehicles at the time of registration.
- Liability Insurance Tracking and Enforcement System utilized to assure registered vehicles in NC maintain proper level of liability insurance coverage, manages correspondence between customers and DMV, hearings and supports collection of penalties.
- International Registration Plans//Motor Carrier system registers fleets of vehicles that travel in two of members jurisdictions, motor carrier liability insurance and collection of Unified Carrier Registration fees.
- Motor Vehicle Inspection and Law Enforcement System utilized for vehicle safety and emissions inspection program and enforcement of licensed stations and inspectors and provides results to vehicle registration system prior to allowing vehicle registrations or renewals.
- MyDMV Portal is online applications allowing customers to access their records for DMV driver licenses, vehicles and vehicle property tax paid in prior years. It provides access to all the DMV online services from a single entry.
- Crash Reporting System is utilized to gather NC law enforcement agencies accident reports for which the data is then used for local, state and federal reporting and interfacing with Highway systems.
- Fuel Tax Compliance System is a collaborative effort between NCDOT, Department of Revenue and State Highway Patrol to detect motor carrier evasion of taxes due to the state.

DMV IT Projects

The following IT Projects are currently in progress or currently scheduled for FY 2017 & 2018:

- SADLS Modernization
- Crash Reporting Replacement
- Virtual Hearings & Hearing Fees
- Ignition Interlock Management System
- State Titling and Registration System Modernization
- National Motor Vehicle Title Information System
- Real Time Insurance Verification

SADLS Modernization

The SADLS Modernization has implemented the front end solution (Capture) with NGSDL project. This provided a new interface to the driver license agents for processing credentials and provided new secure driver and identification cards. It will also enable NC to be fully Real ID compliant in 2nd Quarter of 2017.

The next phase will be to conduct a gap analysis of the Morpho Trust Driver 360 product against NCDMV requirements followed by Go/No Go decision. This effort is currently awaiting procurement approval.

Financials	Issues/Risks	Vendor
Total Budget $40,338,683		Morpho Trust
Estimated vendor costs - $3,274,000 (not committed until award)	Issue – Procurement Approval, this is a nine month effort once awarded. Risk – If proves the Driver 360 product will not meet needs, alternative approach will be implemented for remaining SADLS functions.	Morpho Trust
NGSDL Cost -$13,198,835	Completed	Morpho Trust
Actual costs through January 2017 = $13,634,994		

Crash Reporting Replacement

In accordance with S.L. 2016-94 35.35.25.d; we will replace the legacy Crash Reporting System with vendor supported and maintained Crash Reporting Solution. The Request For Proposal was issued on August 31, 2016 and four vendors responded. One was disqualified by procurement. Two were disqualified during the evaluation phase and one remains under evaluation.

Financials	Issues/Risks	Vendor
Total Budget $1,932,725	Responses to RFP do not meet requirements	To Be Determined
Actual costs through January 2017 = $101,063	Issue – Remaining vendor's proposal included changes to State contract terms and conditions. Awaiting response from vendor on acceptance of State Terms and Conditions. Risk – If sole remaining vendor under evaluation will not agree to State statutory terms and conditions RFP will be cancelled.	

Virtual Hearings & Hearing Fees

Allow option for DMV Hearings to be performed remotely between petitioners and DMV Hearing Officer to reduce travel expense and increase efficiencies in scheduling. Also to implement new hearing fees by July 1, 2017 requirement.

Financials	Issues/Risks	Vendor
Total Budget $1,650,992	Resource contention and final requirements	
Hearing Fees	Issue – Resource contention with other mandates and projects. Risk – Meet legislative dates. Will implement in phased approach to mitigate risk.	N/A
Virtual Hearings Actual costs through January 2017 = $101,063	RFP resulted in no acceptable solutions. Administrative Office of the Courts (AOC) solution revisited and pilot to conducted in 2nd quarter 2017.	AOC Vendor - Cisco

Ignition Interlock Management System

Project to replace manual receipt and updating of Ignition Interlock device data from vendors to drivers' records. As devices are installed, deactivated, customer move from one vendor to another, drivers' records must be updated and recalculate required dates driver must have device.

Financials	Issues/Risks	Vendor
Total Budget $1,308,089	Vendor compliance and ability to provide electronic records	N/A Developed in house
Actual costs through January 2017 = $1,484,763	Issue – Vendors struggling with providing electronic data in required format. Risk – Quality of vendor data and format causing delays in delivery of solution. Due to vendor data issues, implementation delayed until March 2017.	N/A

State Titling and Registration System Modernization

Project to modernize the legacy system has been prioritized and is dependent on resource availability and completion of Strategy and Modernization Roadmap which is currently being reviewed by procurement. This will determine the best way to continue to provide DMV services while replacing and/or modernizing the legacy DMV applications which share common database and processes.

Financials	Issues/Risks	Vendor
Total Budget $1,435,000 (initial development of strategy and roadmap)	Procurement of qualified vendor	TBD
Actual costs through January 2017 = $862,944	Issue – Resource contention with other DMV projects and mandates.	N/A
	Risk – Without proper strategy and roadmap, risk disruption of DMV services to customers.	
	Risk – Legacy applications utilization of a common database and multiple methods data is being entered/updated, presents unique challenges in data quality as well as data integrity.	

National Motor Vehicle Title Information System

Proposed project to integrate the American Association of Motor Vehicle Admistrators (AAMVA) utility to validate title application data. This will allow titling system to validate titles presented to DMV for transfer to new owner or new resident of NC at the time of request. Validation will include confirmation vehicle is not stolen, salvaged or reported as flood damaged.

Financials	Issues/Risks	Vendor
Total Budget TBD		AAMVA
Actual costs through January 2017 = $0	Issue – Number of out of state vehicles being transferred into NC and inappropriately identified as not stolen, salvaged or flood damaged vehicles. Risk – Dependency on AAMVA resources to establish timeline for integration and testing.	

Real Time Insurance Verification

Proposed project to integrate with national database for insurance carriers to provide real time verification of liability insurance at the time of registration and renewals. This will allow registration system to validate insurance presented to DMV for registration of new vehicle or renewal of registrations at the time of request.

Financials	Issues/Risks	Vendor
Total Budget TBD		N/A
Actual costs through January 2017 = $0	Issue – Insurance verification is misrepresented or lacking at time of registration. Risk – Resource constraints due to other projects and mandates.	

DMV Initiatives and Legislative Directives

There are several other DMV efforts within the DMV Portfolio that impact resource availability and capacity. Currently, IT has fifteen (15) DMV projects in progress, four (4) new projects being requested, and 225 Change Requests in progress with 365 requested but not started. Major efforts are listed:

DMV Initiatives	Legislative Directives
Motor Vehicle Inspection and Law Enforcement System Project	Virtual Hearings and Hearing Fees Project
Ignition Interlock Management System Project	FY15-16 Legislative Changes Project
MyDMV Portal Project	Driver 360 Project (SADLS Replacement)
DMV Data Management and Governance Project	Crash Replacement Project
Interactive Voice Recognition Phase II Project	HB 621 Registration Renewal Notice via email
DMV Vehicle Services Queuing Project	HB 97 Enforcing Penalties for Lapse in Financial Responsibility
DMV Office Optimization Project	HB 870 Certification of Title Manufactured Home
Service Oriented Architecture & Business Process Management Project	HB 661 CDL & Hazard Material Endorsement
	SB 791 License Plate Agency study

Completed DMV Legislative Mandates

- Implementation of FMCSA CDLIS 5.3.2 upgrade
  - Federal Motor Carrier Safety Administration (FMCSA)
  - Commercial Driver's License Information System (CSLIS)
- STARS Registration of Mopeds
- SBOE (State Board of Elections Software Upgrade)
- HB 529 NC Driver's License Restoration Act
- Single Sticker (HB 272)
- First in Freedom (SB 744)
- Expunge Suspension and Revocations for High School Drivers (HB 611)
- Restoration of DL (HB 529)
- HB 97 – Increase DMV Fees
- Autocycle Definition and Regulations (HB 6)
- Restore Driving Privileges/Competency (HB 350)
- Regulate Transportation Network Companies (SB 541)
- Dealership Loaner Vehicles (SB 446)
- Next Generation Secure Drivers License

Completed DMV Initiatives

- Commercial Skills Test Information Management System (CSTIMS) Rollout
- Replacement of Common Payment Services (Credit Card Gateway)
- DMV Interactive Voice Recognition (IVR) Phase I
- Lites penalties processes
- Kiosk Implementation
- Mobile Units
- VINA (Vehicle Identification Number Analysis) Upgrade
- ACF Queuing solution for Driver License Offices
- Online Remote DL Renewals
- MyDMV Iteration I
- Card payment capabilities across all of DMV

Senate Committee on Appropriations on Department of Transportation
Tuesday, March 7, 2017 at 8:30 AM
Room 1027/1128 of the Legislative Building

MINUTES

The Senate Committee on Appropriations on Department of Transportation met at 8:30 AM on March 7, 2017 in Room 1027/1128 of the Legislative Building. Four Senate members and eight House members were present.

Brandon M. Hanes from New London, Isaiah McIe from New London, Christopher Irvin and Mahlaysia Thomas served as pages.

Senator Wesley Meredith, Chair, presided.

Daniel Palmeter the Budget Analyst from the Office of State Budget and Management was recognized for a presentation from his department. Mr. Palmeter responded to the members questions.

Sterling Baker, P.E., Acting Director from the Facilities Management Unit for the North Carolina Department of Transportation, was recognized for a presentation from his department. Questions from members were answered Mr. Baker and Amna Cameron the Principal Fiscal Analyst from the Fiscal Research Division. Mike Holder from the Department of Transportation was recognized for comment.

Amna Cameron provided the final presentation.

The meeting adjourned at 9:25 AM.

Senator Wesley Meredith, Chair
Presiding

Debbie Lown, Committee Clerk

Joint Appropriations Committees on Transportation

March 7, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis
Senator Wesley Meredith, Chairing

Representative Frank Iler
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. Governor's Transportation Budget

    - Daniel Palmeter, Budget Analyst
      Office of State Budget and Management

    - Sterling Baker, P.E., Acting Director, Facilities Management Unit
      North Carolina Department of Transportation

3. Highway Base Budget Review

    - Amna Cameron, Principal Fiscal Analyst, Fiscal Research Division
      North Carolina General Assembly

Next meeting: Maintenance and Construction - Wednesday, March 8, 8:30 a.m.

Highway Trust Fund					
Department of Transportation **Budget Code 84290**		**WS1 FY2017-18**		**WS1 FY2017-18**	
Fund Code	**Fund Name**	**Requirements**	**Net Appropriation**	**Requirements**	**Net Appropriation**
6002	Program Administration	$ 35,156,560	$ 35,156,560	$ 35,156,560	$ 35,156,560
6005	Bond Redemption	$ 51,785,964	$ 51,785,964	$ 51,785,964	$ 51,785,964
6006	Bond Interest	$ 9,226,265	$ 9,226,265	$ 9,226,265	$ 9,226,265
6008	Turnpike Authority	$ 49,000,000	$ 49,000,000	$ 49,000,000	$ 49,000,000
6012	Transfer to Visitor Center	$ 400,000	$ 400,000	$ 400,000	$ 400,000
9071	FHWA State Match - Highway Trust Fund	$ 4,640,000	$ 9,280,000	$ 4,640,000	$ 9,280,000
9075	Strategic Prioritization	$ 1,221,071,211	$ 1,216,431,211	$ 1,221,071,211	$ 1,216,431,211
Total		**$ 1,371,280,000**	**$ 1,371,280,000**	**$ 1,371,280,000**	**$ 1,371,280,000**

Table 7

Highway Fund and Highway Trust Fund Budget
2017-18

Function	2017-18 Base Appropriation	Reductions		Appropriation Supported Positions	Other Continuation/Expansion		Appropriation Supported Positions	Net Change	2017-18 Recommended Appropriation	Net Position Change
		Recurring	Nonrecurring		Recurring	Nonrecurring				
DOT Administration	90,519,795	-	-	-			-	-	90,519,795	-
Division of Highways										
Administration	34,032,224	-	-	-	25,657	1,483,327	2.00	1,508,984	35,541,208	2.00
Construction	45,054,878	(695,000)	-	-			-	(695,000)	44,359,878	-
Maintenance	1,298,579,114	(9,040,000)	-	-	82,905,036		-	73,865,036	1,372,444,150	-
Planning and Research	-	-	-	-			-	-	-	-
OSHA Program	358,030	-	-	-			-	-	358,030	-
State Aid to Municipalities	147,500,000	-	-	-			-	-	147,500,000	-
Multi-Modal										
Airports	48,612,773	-	-	-			-	-	48,612,773	-
Bicycle	724,032	-	-	-			-	-	724,032	-
Ferry	50,983,375	(6,000,000)	-	-	1,750,000	5,792,000	-	1,542,000	52,525,375	
Public Transportation	92,277,592	-	-	-	1,500,000		-	1,500,000	93,777,592	-
Railroads	37,419,162	-	-	-	5,307,500	3,443,000	-	8,750,500	46,169,662	-
Governor's Highway Safety Program	255,745	(378)	-	-			-	(378)	255,367	-
Division of Motor Vehicles	127,168,598	(7,051,657)	-	-	14,319,476	318,320	24.00	7,586,139	134,754,737	24.00
Other State Agencies	48,895,730	-	-	-	158,000		-	158,000	49,053,730	-
Transfer to General Fund	-	-	-	-				-	-	
Other Reserves	19,343,252	(10,142,663)	-	-	6,716,894	5,346,245		1,920,476	21,263,728	-
Capital Improvements	6,965,700	(6,965,700)				17,239,600	-	10,273,900	17,239,600	
Total Highway Fund	**2,048,690,000**	**(39,895,398)**	**-**	**-**	**112,682,563**	**33,622,492**	**26.00**	**106,409,657**	**2,155,099,657**	26.00
Administration	34,343,366	-	-	-	1,280,414	-	-	1,280,414	35,623,780	-
Construction										
Strategic Prioritization Program	1,225,711,211	-	-	-	153,690,947	-	-	153,690,947	1,379,402,158	
Bonds										
Bond Redemption	51,785,964	-		-	(8,851,361)	-	-	(8,851,361)	42,934,603	-
Bond Interest	9,226,265	-		-	-	-	-	-	9,226,265	-
NC Turnpike Authority (GAP Funds)	49,813,194	-	-	-	-	-	-	-	49,813,194	-
Reserve for Visitor's Centers	400,000	-	-	-	-	-	-	-	400,000	-
Total Highway Trust Fund	**1,371,280,000**	**-**	**-**	**-**	**146,120,000**	**-**	**-**	**146,120,000**	**1,517,400,000**	**-**

Table 8

Highway Fund and Highway Trust Fund Budget
2018-19

Function	Base Appropriation	Reductions			Other Continuation/Expansion			Net Change	2018-19 Recommended Appropriation	Net Position Change
		Recurring	Nonrecurring	Appropriation Supported Positions	Recurring	Nonrecurring	Appropriation Supported Positions			
DOT Administration	90,519,795	-	-	-	-	-	-	-	90,519,795	-
Division of Highways										
Administration	34,032,224	-	-	-	50,615		2.00	50,615	34,082,839	2.00
Construction	45,054,878	(695,000)	-	-			-	(695,000)	44,359,878	-
Maintenance	1,298,579,114	(9,040,000)	-	-	120,505,446		-	111,465,446	1,410,044,560	-
Planning and Research	-	-	-	-				-	-	-
OSHA Program	358,030	-						-	358,030	-
State Aid to Municipalities	147,500,000	-	-	-				-	147,500,000	-
Mult-Modal										
Airports	48,612,773	-	-	-			-	-	48,612,773	-
Bicycle	724,032	-	-	-			-	-	724,032	-
Ferry	50,983,375	(6,000,000)	-	-	1,750,000		-	(4,250,000)	46,733,375	-
Public Transportation	92,277,592	-	-	-	2,000,000		-	2,000,000	94,277,592	-
Railroads	37,419,162	-			5,697,300	3,634,000		9,331,300	46,750,462	
Governor's Highway 5afety Program	255,745	(378)	-	-			-	(378)	255,367	-
Division of Motor Vehicles	127,168,598	(7,051,657)	-	-	14,319,476		24.00	7,267,819	134,436,417	24.00
Other State Agencies	48,895,730	-	-	-	158,000		-	158,000	49,053,730	-
Transfer to General Fund	-	-	-	-	-		-	-	-	
Other Reserves	19,343,252	(10,142,663)	-	-	10,653,218		-	510,555	19,853,807	-
Capital Improvements	6,965,700	(6,965,700)	-	-	16,737,000		-	9,771,300	16,737,000	
Total Highway Fund	**2,048,690,000**	**(39,895,398)**	**-**	**-**	**171,871,055**	**3,634,000**	**26.00**	**135,609,657**	**2,184,299,657**	26.00
Administration	34,343,366	-	-	-	1,194,944	-	-	1,194,944	35,538,310	-
Construction										
Strategic Prioritization Program	1,225,711,211	-	-	-	181,300,833	-	-	181,300,833	1,407,012,044	
Bands										
Bond Redemption	51,785,964	-	-	-	(10,975,777)	-	-	(10,975,777)	40,810,187	-
Bond Interest	9,226,265	-	-	-		-	-	-	9,226,265	-
NC Turnpike Authority	49,813,194	-	-	-	-	-	-	-	49,813,194	-
Reserve for Visitor's Centers	400,000	-	-	-	-	-	-	-	400,000	-
Total Highway Trust Fund	**1,371,280,000**	**-**	**-**	**-**	**171,520,000**	**-**	**-**	**171,520,000**	**1,542,800,000**	-

Highway Fund Revenue Forecast

The Highway Fund receives support from three revenue sources. The primary source is the excise tax on motor fuels, of which the Highway Fund receives 71%. The second source is from the cost of licenses and fees collected by the Division of Motor Vehicles. The third source is interest earned on investments of Highway Fund cash balances held by the State Treasurer. Table 15 shows revised projections for the Highway Fund revenue collections for FY 2016-17 and projections for the 2017-19 biennium.

Current Fiscal Year Update

The revised consensus forecast for FY 2016-17 anticipates Highway Fund revenues finishing the year 2.9% above last year's revenue collections and $75.7 million over budget. The higher revised forecast is driven almost entirely by better-than-expected motor fuel consumption, which is projected to end the year 4.7% over forecast. Consumption has been boosted by a stronger economy, solid wage growth, and statewide vehicle ownership that has been leaning more towards higher consumption vehicles as a result of lower gas prices in recent years. Despite this, motor fuel tax revenues are still expected to end the year below FY 2015-16 levels due to a lower tax rate. However, the revenue from licenses and fees is counterbalancing this year-over-year decrease, and is expected to finish the year 14.8% higher than FY 2015-16 due to the 30% increase in most DMV fees that took effect on January 1, 2016.

Fiscal Year 2017-19 Revenue Projections

Total Highway Fund revenue collections are expected to increase at about 1.4% in each year of the biennium. Motor fuel revenue is expected to register increases of 1.1% and 1.9% for the next two fiscal years, respectively, due to increases in the motor fuel tax rate. After a few years of increases due to low gas prices, motor fuel consumption is projected to resume a downward trend, dropping by 0.4% in FY 2017-18 and by 0.8% in FY 2018-19. This projection is based on forecasts of higher gas prices, higher fuel efficiency, and slower car sales. Reflecting a growing state population and growing economy, the revenue from licenses and fees is anticipated to grow 1.3% in FY 2017-18 and 0.5% in FY 2018-19.

Table 15

Highway Fund Revenue by Fiscal Year: Recent History and Forecast
(In Millions)

Source	2015-16 Actual	2016-17 Budget	2016-17 Revised	2017-18 Forecast	Yr-over-Yr Change	2018-19 Forecast	Yr-over-Yr Change
Motor Fuels Tax							
Motor Fuels	1,359.7	1,251.4	1,317.9	1,332.1	1.1%	1,357.3	1.9%
Gasoline Inspection	15.0	13.8	14.5	14.4	-0.4%	14.3	-0.8%
Highway Use Reg.	0.3	0.3	0.3	0.3	0.0%	0.4	2.9%
Aviation Fuel	-	-	2.1	6.0	186.0%	6.0	-1.3%
Total Motor Fuel Taxes	1,375.1	1,265.6	1,334.8	1,352.9	1.4%	1,377.9	1.9%
Licenses and Fees							
Staggered Registration	244.1	271.8	278.6	282.2	1.3%	282.7	0.2%
International Registration Plan	133.2	162.5	134.7	137.9	2.4%	138.2	0.2%
Driver Licenses	169.0	187.8	199.7	201.6	0.9%	203.7	1.0%
Truck Licenses	84.9	84.8	118.9	120.0	0.9%	120.7	0.6%
Other Licenses and Fees	52.3	71.4	52.8	53.5	1.3%	53.7	0.5%
Total Licenses and Fees	683.4	778.3	784.7	795.1	1.3%	799.1	0.5%
Investment Income	6.0	5.0	5.0	5.6	12.0%	5.8	3.6%
Total Highway Fund Availability	2,064.4	2,048.9	2,124.6	2,153.6	1.4%	2,182.8	1.4%

Totals may differ from the sum of their parts due to rounding.

Highway Trust Fund Revenue

The Highway Trust Fund, established in 1989, receives support from four sources. The primary source is the highway use tax (i.e., sales tax) on vehicle sales. The second source is 29% of the excise tax on motor fuels. The third source is fees on title registrations. The final source is the interest earned from investments of the Highway Trust Fund cash balances held by the State Treasurer. Table 16 shows revised projections for the Highway Trust Fund revenue collections for FY 2016-17 and projections for the 2017-19 biennium.

Current Fiscal Year Update

FY 2016-17 revenues are expected to exceed last year's levels by 3.9%, and finish the year close to 8% above the official forecast ($109 million). More than two thirds of the increase is due to better-than-anticipated highway use tax revenue as sales of new light vehicles and trucks have held steady. The revenue from this source is anticipated to finish 7.3% over FY 2015-16 and $76 million above forecast. Motor fuel tax revenue is projected to decrease 3.0% from the prior year level, but still perform better than previously anticipated due to a stronger economy and solid wage growth. While fee revenues are expected to perform worse than originally anticipated, they are still positioned to finish the year 13.7% over FY 2015-16 due to the 30% increase in most DMV fees that took effect on January 1, 2016.

Fiscal Year 2017-19 Revenue Projections

Total Highway Trust Fund revenue is expected to increase 2.6% in FY 2017-18 and 1.7% in FY 2018-19. Motor fuel tax revenue is expected to see modest increases of 1.1% and 1.9% over the next two years, respectively, due to tax rate increases and despite a lower fuel consumption. Highway use tax revenue is anticipated to continue growing in FY 2017-18 (increasing 4.0%) and then slow in FY 2018-19, increasing only 2.0% as the economic expansion continues to mature. Combined, title registrations, miscellaneous fees, and lien recordings are projected to grow 3.5% in the first year of the biennium and 1.9% in the second.

Table 16

Highway Trust Fund Revenue by Fiscal Year: Recent History and Forecast
(In Millions)

Source	2015-16 Actual	2016-17 Budget	2016-17 Revised	2017-18 Forecast	Yr-over-Yr Change	2018-19 Forecast	Yr-over-Yr Change
Fuel Taxes and Fees							
Motor Fuel Tax	561.6	517.2	544.7	550.5	1.1%	560.9	1.9%
Highway Use	729.1	706.6	782.6	814.1	4.0%	830.3	2.0%
Certificate of Title Fees	105.9	122.0	121.6	126.5	4.0%	129.0	2.0%
Miscellaneous Title Fees	14.1	16.2	15.2	15.0	-0.8%	15.1	0.2%
Lien Recording	3.9	6.0	4.1	4.3	3.4%	4.5	4.8%
Subtotal	1,414.6	1,368.1	1,468.1	1,510.4	2.9%	1,539.8	1.9%
Interest on Investments	9.0	2.0	11.4	7.0	-38.4%	3.0	-57.1%
Total Highway Trust Fund Availability	1,423.6	1,370.1	1,479.5	1,517.4	2.6%	1,542.8	1.7%

Totals may differ from the sum of their parts due to rounding.



TRANSPORTATION

Common Ground Solutions for NORTH CAROLINA

Reliable roads, bridges, and transit infrastructure are critical to North Carolina's economic success.

Building New Roads for Tomorrow
Increases funding to the Highway Trust Fund's Strategic Investment Program by $153.4 million in FY 2017-18 and $181.3 million in FY 2018-19. The increase allows the NC Department of Transportation to continue its mission to enhance the state's transportation infrastructure, spurring economic growth and job creation across the state. The total investment in new construction will rise to $1.38 billion in FY 2017-18 and another $1.41 billion the year after.

Strengthening NC Roads and Infrastructure
Provides over $185 million in additional state support during 2017-19 for highway maintenance, system preservation, and contract resurfacing. The increased spending results in $1.38 billion in FY 2017-18 and $1.41 billion in FY 2018-19 of Highway Fund availability that will be directed to maintaining and enhancing the state's highway infrastructure.

Navigating The State By Rail and The Coast
Invests an extra $7.5 million for upgrades and equipment at the Ferry Division facilities and $3.7 million to maintain rail service.

Improving Customer Service
Provides an extra $3 million to the Division of Motor Vehicles (DMV) to meet customer needs. Enhanced online services will direct customers to quick and dependable online options so they can skip in-person visits and improve customer service. Items also include a new license office to reduce customer wait times and more support staff to alleviate department backlogs.

Securing Personal Data
Invests more than $1 million to replace outdated credit card devices and strengthen consumer protections for people who use credit cards for payment.

Recommended Change Budget for Highway Fund (84210)

Year 1 FY 2017-18	Recommended Base Budget	Net Recurring	Net Nonrecurring	Recommended Change	Recommended Budget	% Δ from Base Budget
Requirements	$ 7,245,197,068	$ 112,737,406	$ 33,622,492	$ 146,359,898	$ 7,391,556,966	2.0%
Receipts	$ 5,236,376,809	$ 80,500	$ -	$ 80,500	$ 5,236,457,309	0.0%
Net Appropriation	$ 2,008,820,259	$ 112,656,906	$ 33,622,492	$ 146,279,398	$ 2,155,099,657	7.3%
Positions (FTE)	12,316.000	27.000	0.000	27.000	12,343.000	0.2%

Year 2 FY 2018-19	Recommended Base Budget	Net Recurring	Net Nonrecurring	Recommended Change	Recommended Budget	% Δ from Base Budget
Requirements	$ 7,237,942,131	$ 155,763,529	$ 20,371,000	$ 176,134,529	$ 7,414,076,660	2.4%
Receipts	$ 5,229,096,914	$ 680,089	$ -	$ 680,089	$ 5,229,777,003	0.0%
Net Appropriation	$ 2,008,845,217	$ 155,083,440	$ 20,371,000	$ 175,454,440	$ 2,184,299,657	8.7%
Positions (FTE)	12,316.000	35.000	0.000	35.000	12,351.000	0.3%

		FY 2017-18		FY 2018-19	
		Recurring Changes	Nonrecurring Changes	Recurring Changes	Nonrecurring Changes
1 - Compensation Increase for State Employees					
Provides funds for a 2% recurring salary increase or an $800 recurring salary increase, whichever is greater, and a $500 nonrecurring bonus for permanent full-time State employees.	Req	$ 7,490,859	$ 3,397,703	$ 7,490,859	$ -
	Rec	$ -	$ -	$ -	$ -
	CFB	$ 7,490,859	$ 3,397,703	$ 7,490,859	$ -
	FTE	0.000	0.000	0.000	0.000
2 - Minimum of Market Adjustment Reserve					
Provides funding to increase salaries of employees below the minimum of the Office of State Human Resources' market based position classification structure.	Req	$ 3,600,000	$ -	$ 3,600,000	$ -
	Rec	$ -	$ -	$ -	$ -
	CFB	$ 3,600,000	$ -	$ 3,600,000	$ -
	FTE	0.000	0.000	0.000	0.000
3 - State Health Plan					
Provides additional funding to continue health benefit coverage for enrolled active and retired employees supported by the Highway Fund for the 2017-19 biennium.	Req	$ 2,123,726	$ -	$ 4,247,453	$ -
	Rec	$ -	$ -	$ -	$ -
	CFB	$ 2,123,726	$ -	$ 4,247,453	$ -
	FTE	0.000	0.000	0.000	0.000
4 - State Retirement Contributions					
Increases the State's contribution for members of the Teachers' and State Employees' Retirement System (TSERS) to fund the actuarially determined contribution and provide a 1.5% one-time cost-of-living supplement to retirees.	Req	$ 332,309	$ 1,948,542	$ 2,144,906	$ -
	Rec	$ -	$ -	$ -	$ -
	CFB	$ 332,309	$ 1,948,542	$ 2,144,906	$ -
	FTE	0.000	0.000	0.000	0.000
5 - Adjustment to the Bridge Program					
Increases the Bridge Program budget due to the revised revenue forecast per GS 119-18.	Req	$ 115,417	$ -	$ 115,417	$ -
	Rec	$ -	$ -	$ -	$ -
	CFB	$ 115,417	$ -	$ 115,417	$ -
	FTE	0.000	0.000	0.000	0.000
6 - Adjustment from the NC Rail Road Dividend					
Increases funds going to the Rail Division based on revised revenue estimate per GS 124-5.1.	Req	$ 100,000	$ -	$ 300,000	$ -
	Rec	$ -	$ -	$ -	$ -
	CFB	$ 100,000	$ -	$ 300,000	$ -
	FTE	0.000	0.000	0.000	0.000

7 - Aviation Division - Funds Due to Aviation Fuel Tax - Revised Revenue Estimate

Redirects a portion of Aviation Fuel Tax to the Aviation Division per GS 105-164.44M.

Req	$ 6,000,000	$ -	$ 6,000,000	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 6,000,000	$ -	$ 6,000,000	$ -
FTE	0.000	0.000	0.000	0.000

8 - Division of Rail - Contractual Obligations

Covers inflationary contract increases and funds the Cooperative Agreements for Trains 77 and 78.

Req	$ 2,510,300	$ -	$ 2,900,100	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 2,510,300	$ -	$ 2,900,100	$ -
FTE	0.000	0.000	0.000	0.000

9 - Division of Rail - Federal Funds Match Replacement

Replaces Congestion Mitigation and Air Quality Improvement (CMAQ) Federal funds for Trains 74 and 75, State Planning and Research (SP&R) funds for grade crossing inventories, and Piedmont marketing

Req	$ 1,597,200	$ -	$ 1,597,200	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 1,597,200	$ -	$ 1,597,200	$ -
FTE	0.000	0.000	0.000	0.000

10 - Division of Rail - Efficiency and Reliability Improvement Program

Provides funds to overhaul and improve rail equipment owned by the Rail Division.

Req	$ 1,200,000	$ 3,443,000	$ 1,200,000	$ 3,634,000
Rec	$ -	$ -	$ -	$ -
CFB	$ 1,200,000	$ 3,443,000	$ 1,200,000	$ 3,634,000
FTE	0.000	0.000	0.000	0.000

11 - Division of Motor Vehicles - License Plate Agency Compensation

Budgets additional funds to cover required reimbursement to the state's License Plate Agencies.

Req	$ 4,210,000	$ -	$ 4,210,000	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 4,210,000	$ -	$ 4,210,000	$ -
FTE	0.000	0.000	0.000	0.000

12 - Division of Motor Vehicles - Communication: Increase use of online and enhanced services

Funds the promotion of (1) NCDMV Online Services and New MyDMV Portal, (2) New Credentials - REAL ID, and (3) Mobile Units and Kiosks deployment. The objective is to direct customers, with transactions that can be done without going to a motor vehicle office, toward platforms that can provide quick and dependable alternatives and improve customer service.

Req	$ 1,211,024	$ -	$ 1,211,024	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 1,211,024	$ -	$ 1,211,024	$ -
FTE	0.000	0.000	0.000	0.000

13 - Division of Motor Vehicles - New Driver's License Office in Charlotte

Recommends adding a new drivers' license office due to growth in the Charlotte area. The funding will cover leasing a facility, plus salary and support costs for 16 employees.

Req	$ 1,119,936	$ 318,320	$ 1,119,936	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 1,119,936	$ 318,320	$ 1,119,936	$ -
FTE	16.000	0.000	16.000	0.000

14 - Division of Motor Vehicles - Work Force Development

Provides funds to create several new job classifications within the division to allow for employees' career advancement opportunities.

Req	$ 588,199	$ -	$ 588,199	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 588,199	$ -	$ 588,199	$ -
FTE	0.000	0.000	0.000	0.000

15 - Division of Motor Vehicles - Positions for Registration, Title and Plates (RTP)

Adds three administrative support positions to provide higher standards of customer service to North Carolina citizens.

Req	$ 153,700	$ -	$ 153,700	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 153,700	$ -	$ 153,700	$ -
FTE	3.000	0.000	3.000	0.000

16 - Division of Motor Vehicles - Medical Review Unit Administrative Support

Adds five positions to ensure all medical personnel are evaluating customer needs.

Req	$ 240,158	$ -	$ 240,158	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 240,158	$ -	$ 240,158	$ -
FTE	5.000	0.000	5.000	0.000

17 - Division of Motor Vehicles - Restore Highway Fund Support to the Hearings Unit

Recommends that the Hearings unit continue to be fully supported by the Highway Fund (as in the 2015-17 biennium) and that any revenue generated by the new statutorily required fee structure go directly to Highway Fund availability. Estimated receipt amounts are published in Item 30.

Req	$ 6,551,657	$ -	$ 6,551,657	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 6,551,657	$ -	$ 6,551,657	$ -
FTE	0.000	0.000	0.000	0.000

18 - Ferry Division - NC Shipyard Expansion (platen)

Funds the construction of a new platen at the NC Shipyard at Manns Harbor.

Req	$ -	$ 5,000,000	$ -	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ -	$ 5,000,000	$ -	$ -
FTE	0.000	0.000	0.000	0.000

19 - Ferry Division - Ramps, Gantries, Repairs and Replacement

Provides recurring support for the repair and/or replacement of division ramps and gantries at 15 terminals. Funds would address seven permanent routes and the emergency route.

Req	$ 1,750,000	$ -	$ 1,750,000	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 1,750,000	$ -	$ 1,750,000	$ -
FTE	0.000	0.000	0.000	0.000

20 - Ferry Division - Management Improvements - Division 1 and 3

Provides for customer service improvements at the Southport, Fort Fisher, and Outer Banks ferry terminals.

Req	$ -	$ 792,000	$ -	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ -	$ 792,000	$ -	$ -
FTE	0.000	0.000	0.000	0.000

21 - Ferry Division - Shipyard Third Shift Additional Personnel

Provides eight receipt-supported positions in order to begin a third shift at the shipyard. The additional staff is in response to increasing maintenance requirements on an aging fleet and to incorporate the vessel rehabilitation project.

Req	$ -	$ -	$ 599,589	$ -
Rec	$ -	$ -	$ 599,589	$ -
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	8.000	0.000

22 - DOT Information Technology - Card Payment Replacement

Replaces older credit card units with units that meet new security standards to protect citizens' private transactional information.

Req	$ -	$ 1,483,327	$ -	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ -	$ 1,483,327	$ -	$ -
FTE	0.000	0.000	0.000	0.000

23 - DOT Information Technology - Support for Motor Vehicle Division

Adds resources for information technology operational support, other projects, and initiatives to meet growing customer demands on the Division of Motor Vehicles.

Req	$ 244,802	$ -	$ 244,802	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 244,802	$ -	$ 244,802	$ -
FTE	2.000	0.000	2.000	0.000

24 - Public Transportation Division - Local Public Transportation Operating Support

Encourages the use of more regional organizations and provides matching funds to federal grants, allowing for more transportation services to be offered in counties.

Req	$ 1,500,000	$ -	$ 2,000,000	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 1,500,000	$ -	$ 2,000,000	$ -
FTE	0.000	0.000	0.000	0.000

25 - New Toll Revenue Accountant Position

Adds a Highway Trust Fund-supported position to perform various financial functions and provide additional assistance for routine and non-routine requests for information from various parties.

Req	$ 80,500	$ -	$ 80,500	$ -
Rec	$ 80,500	$ -	$ 80,500	$ -
CFB	$ -	$ -	$ -	$ -
FTE	1.000	0.000	1.000	0.000

26 - Local Fire Protection Funds - DOT Facilities

Restores nonrecurring funds to support local fire departments that provide fire protection to Department of Transportation owned facilities.

Req	$ 158,000	$ -	$ 158,000	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 158,000	$ -	$ 158,000	$ -
FTE	0.000	0.000	0.000	0.000

27 - General Maintenance Reserve

Increases maintenance funding based on the revised Highway Fund forecast.

Req	$ 76,689,619	$ -	$ 114,090,029	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ 76,689,619	$ -	$ 114,090,029	$ -
FTE	0.000	0.000	0.000	0.000

28 - Workers' Compensation Adjustment Reserve

Eliminates an unnecessary appropriation reserve for workers' compensation due to the fact that the department already has a workers' compensation reserve through their payroll process.

Req	$ (6,830,000)	$ -	$ (6,830,000)	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ (6,830,000)	$ -	$ (6,830,000)	$ -
FTE	0.000	0.000	0.000	0.000

29 - Capital, Repairs, and Renovations

Funds capital improvements, repairs, and renovation projects at the Department of Transportation. The individual projects are listed in the Capital Section of the budget document.

Req	$ -	$ 17,239,600	$ -	$ 16,737,000
Rec	$ -	$ -	$ -	$ -
CFB	$ -	$ 17,239,600	$ -	$ 16,737,000
FTE	0.000	0.000	0.000	0.000

30 - Division of Motor Vehicles (DMV) - Hearings Division Fees

Recommends that all revenue generated by the implementation of the new Hearings Division fee go directly to overall Highway Fund availability instead of directly supporting the Hearings Division. Legislation requires new fees to go into effect July 1, 2017. The operation of the Hearings Division would remain appropriated out of the Highway Fund for the FY 2017-19 biennium. The estimated revenue in FY 2017-18 is $1,499,657. This item is an informational entry linked to Item 17.

Req	$ -	$ -	$ -	$ -
Rec	$ -	$ -	$ -	$ -
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

Total Change to Requirements	**$ 112,737,406**	**$ 33,622,492**	**$ 155,763,529**	**$ 20,371,000**
Total Change to Receipts	**$ 80,500**	**$ -**	**$ 680,089**	**$ -**
Total Change to Net Appropriation	**$ 112,656,906**	**$ 33,622,492**	**$ 155,083,440**	**$ 20,371,000**
Total Change to Full-Time Equivalent (FTE)	**27.000**	**0.000**	**35.000**	**0.000**

Change in Fund Balance	**$ 146,279,398**	**$ 175,454,440**
Recommended Total FTE Changes	**27.000**	**35.000**

[1] The Governor's Recommended Budget includes duplicate receipt-supported fund codes for field operations, grant programs, and equipment established pursuant to S.L. 2011-145, Section 28.2. The revised FY 2017-18 budget without the inclusion of these duplicate fund codes is $3,320,279,590 in requirements, $1,165,179,933 in receipts, and $2,155,099,657 in net appropriation. The FY 2018-19 budget net of duplicate receipts is $3,342,199,694 in requirements, $1,157,900,037 in receipts, and $2,184,299,657 in net appropriation.

Table 7

Highway Fund and Highway Trust Fund Budget

2017-18

Function	2017-18 Base Appropriation	Reductions			Other Continuation/Expansion			Net Change	2017-18 Recommended Appropriation	Net Position Change
		Recurring	Nonrecurring	Appropriation Supported Positions	Recurring	Nonrecurring	Appropriation Supported Positions			
DOT Administration	90,519,795	-	-	-			-	-	90,519,795	-
Division of Highways										
Administration	34,032,224	-	-	-	25,657	1,483,327	2.00	1,508,984	35,541,208	2.00
Construction	45,054,878	(695,000)	-	-			-	(695,000)	44,359,878	-
Maintenance	1,298,579,114	(9,040,000)	-	-	82,905,036		-	73,865,036	1,372,444,150	-
Planning and Research	-	-	-	-			-	-	-	-
OSHA Program	358,030	-	-	-			-	-	358,030	-
State Aid to Municipalities	147,500,000	-	-	-			-	-	147,500,000	-
Multi-Modal										
Airports	48,612,773	-	-	-			-	-	48,612,773	-
Bicycle	724,032	-	-	-			-	-	724,032	-
Ferry	50,983,375	(6,000,000)	-	-	1,750,000	5,792,000	-	1,542,000	52,525,375	
Public Transportation	92,277,592	-	-	-	1,500,000		-	1,500,000	93,777,592	-
Railroads	37,419,162	-	-	-	5,307,500	3,443,000	-	8,750,500	46,169,662	-
Governor's Highway Safety Program	255,745	(378)	-	-			-	(378)	255,367	-
Division of Motor Vehicles	127,168,598	(7,051,657)	-	-	14,319,476	318,320	24.00	7,586,139	134,754,737	24.00
Other State Agencies	48,895,730	-	-	-	158,000		-	158,000	49,053,730	-
Transfer to General Fund	-	-	-	-				-	-	
Other Reserves	19,343,252	(10,142,663)	-	-	6,716,894	5,346,245		1,920,476	21,263,728	-
Capital Improvements	6,965,700	(6,965,700)				17,239,600	-	10,273,900	17,239,600	
Total Highway Fund	2,048,690,000	(39,895,398)	-	-	112,682,563	33,622,492	26.00	106,409,657	2,155,099,657	26.00
Administration	34,343,366	-	-	-	1,280,414	-	-	1,280,414	35,623,780	-
Construction										
Strategic Prioritization Program	1,225,711,211	-	-	-	153,690,947	-	-	153,690,947	1,379,402,158	
Bonds										
Bond Redemption	51,785,964	-		-	(8,851,361)	-	-	(8,851,361)	42,934,603	-
Bond Interest	9,226,265	-		-	-	-	-	-	9,226,265	-
NC Turnpike Authority (GAP Funds)	49,813,194	-	-	-	-	-	-	-	49,813,194	-
Reserve for Visitor's Centers	400,000	-	-	-	-	-	-	-	400,000	-
Total Highway Trust Fund	1,371,280,000	-	-	-	146,120,000	-	-	146,120,000	1,517,400,000	-

Table 8

Highway Fund and Highway Trust Fund Budget
2018-19

		Reductions			Other Continuation/Expansion					
Function	Base Appropriation	Recurring	Nonrecurring	Appropriation Supported Positions	Recurring	Nonrecurring	Appropriation Supported Positions	Net Change	2018-19 Recommended Appropriation	Net Position Change
DOT Administration	90,519,795	-	-	-	-	-	-	-	90,519,795	-
Division of Highways										
Administration	34,032,224	-	-	-	50,615		2.00	50,615	34,082,839	2.00
Construction	45,054,878	(695,000)	-	-			-	(695,000)	44,359,878	-
Maintenance	1,298,579,114	(9,040,000)	-	-	120,505,446		-	111,465,446	1,410,044,560	-
Planning and Research	-	-	-	-				-	-	-
OSHA Program	358,030	-						-	358,030	-
State Aid to Municipalities	147,500,000	-	-	-				-	147,500,000	-
Mult-Modal										
Airports	48,612,773	-	-	-			-	-	48,612,773	-
Bicycle	724,032	-	-	-			-	-	724,032	-
Ferry	50,983,375	(6,000,000)	-	-	1,750,000		-	(4,250,000)	46,733,375	-
Public Transportation	92,277,592	-	-	-	2,000,000		-	2,000,000	94,277,592	-
Railroads	37,419,162	-			5,697,300	3,634,000		9,331,300	46,750,462	
Governor's Highway Safety Program	255,745	(378)	-	-			-	(378)	255,367	-
Division of Motor Vehicles	127,168,598	(7,051,657)	-	-	14,319,476		24.00	7,267,819	134,436,417	24.00
Other State Agencies	48,895,730	-	-	-	158,000		-	158,000	49,053,730	-
Transfer to General Fund	-	-	-	-	-		-	-	-	
Other Reserves	19,343,252	(10,142,663)	-	-	10,653,218		-	510,555	19,853,807	-
Capital Improvements	6,965,700	(6,965,700)	-	-	16,737,000		-	9,771,300	16,737,000	
Total Highway Fund	2,048,690,000	(39,895,398)	-	-	171,871,055	3,634,000	26.00	135,609,657	2,184,299,657	26.00
Administration	34,343,366	-	-	-	1,194,944	-	-	1,194,944	35,538,310	-
Construction										
Strategic Prioritization Program	1,225,711,211	-	-	-	181,300,833	-	-	181,300,833	1,407,012,044	
Bonds										
Bond Redemption	51,785,964	-	-	-	(10,975,777)	-	-	(10,975,777)	40,810,187	-
Bond Interest	9,226,265	-	-	-		-	-	-	9,226,265	-
NC Turnpike Authority	49,813,194	-	-	-	-	-	-	-	49,813,194	-
Reserve for Visitor's Centers	400,000	-	-	-	-	-	-	-	400,000	-
Total Highway Trust Fund	1,371,280,000	-	-	-	171,520,000	-	-	171,520,000	1,542,800,000	-

Highway Fund Revenue Forecast

The Highway Fund receives support from three revenue sources. The primary source is the excise tax on motor fuels, of which the Highway Fund receives 71%. The second source is from the cost of licenses and fees collected by the Division of Motor Vehicles. The third source is interest earned on investments of Highway Fund cash balances held by the State Treasurer. Table 15 shows revised projections for the Highway Fund revenue collections for FY 2016-17 and projections for the 2017-19 biennium.

Current Fiscal Year Update

The revised consensus forecast for FY 2016-17 anticipates Highway Fund revenues finishing the year 2.9% above last year's revenue collections and $75.7 million over budget. The higher revised forecast is driven almost entirely by better-than-expected motor fuel consumption, which is projected to end the year 4.7% over forecast. Consumption has been boosted by a stronger economy, solid wage growth, and statewide vehicle ownership that has been leaning more towards higher consumption vehicles as a result of lower gas prices in recent years. Despite this, motor fuel tax revenues are still expected to end the year below FY 2015-16 levels due to a lower tax rate. However, the revenue from licenses and fees is counterbalancing this year-over-year decrease, and is expected to finish the year 14.8% higher than FY 2015-16 due to the 30% increase in most DMV fees that took effect on January 1, 2016.

Fiscal Year 2017-19 Revenue Projections

Total Highway Fund revenue collections are expected to increase at about 1.4% in each year of the biennium. Motor fuel revenue is expected to register increases of 1.1% and 1.9% for the next two fiscal years, respectively, due to increases in the motor fuel tax rate. After a few years of increases due to low gas prices, motor fuel consumption is projected to resume a downward trend, dropping by 0.4% in FY 2017-18 and by 0.8% in FY 2018-19. This projection is based on forecasts of higher gas prices, higher fuel efficiency, and slower car sales. Reflecting a growing state population and growing economy, the revenue from licenses and fees is anticipated to grow 1.3% in FY 2017-18 and 0.5% in FY 2018-19.

Table 15

Highway Fund Revenue by Fiscal Year: Recent History and Forecast

(In Millions)

Source	2015-16 Actual	2016-17 Budget	2016-17 Revised	2017-18 Forecast	Yr-over-Yr Change	2018-19 Forecast	Yr-over-Yr Change
Motor Fuels Tax							
Motor Fuels	1,359.7	1,251.4	1,317.9	1,332.1	1.1%	1,357.3	1.9%
Gasoline Inspection	15.0	13.8	14.5	14.4	-0.4%	14.3	-0.8%
Highway Use Reg.	0.3	0.3	0.3	0.3	0.0%	0.4	2.9%
Aviation Fuel	-	-	2.1	6.0	186.0%	6.0	-1.3%
Total Motor Fuel Taxes	1,375.1	1,265.6	1,334.8	1,352.9	1.4%	1,377.9	1.9%
Licenses and Fees							
Staggered Registration	244.1	271.8	278.6	282.2	1.3%	282.7	0.2%
International Registration Plan	133.2	162.5	134.7	137.9	2.4%	138.2	0.2%
Driver Licenses	169.0	187.8	199.7	201.6	0.9%	203.7	1.0%
Truck Licenses	84.9	84.8	118.9	120.0	0.9%	120.7	0.6%
Other Licenses and Fees	52.3	71.4	52.8	53.5	1.3%	53.7	0.5%
Total Licenses and Fees	683.4	778.3	784.7	795.1	1.3%	799.1	0.5%
Investment Income	6.0	5.0	5.0	5.6	12.0%	5.8	3.6%
Total Highway Fund Availability	2,064.4	2,048.9	2,124.6	2,153.6	1.4%	2,182.8	1.4%

Totals may differ from the sum of their parts due to rounding.

Total Change to Requirements	$ 145,818,347	$ 301,653	$ 171,520,000	$ -
Total Change to Receipts	$ -	$ -	$ -	$ -
Total Change to Net Appropriation	$ 145,818,347	$ 301,653	$ 171,520,000	$ -
Total Change to Full-Time Equivalent (FTE)	0.000	0.000	0.000	0.000
Change in Fund Balance	$ 146,120,000		$ 171,520,000	
Recommended Total FTE Changes	0.000		0.000	

Recommended Change Budget for Turnpike Authority (64208)

Year 1 FY 2017-18	Recommended Base Budget	Net Recurring	Net Nonrecurring	Recommended Change	Recommended Budget	% Δ from Base Budget
Requirements	$ 107,913,848	$ 3,452,000	$ -	$ 3,452,000	$ 111,365,848	3.2%
Receipts	$ 107,913,848	$ 3,452,000	$ -	$ 3,452,000	$ 111,365,848	3.2%
CFB	$ -	$ -	$ -	$ -	$ -	0.0%
Positions (FTE)	13.000	0.000	0.000	0.000	13.000	0.0%

Year 2 FY 2018-19	Recommended Base Budget	Net Recurring	Net Nonrecurring	Recommended Change	Recommended Budget	% Δ from Base Budget
Requirements	$ 107,913,848	$ 7,375,000	$ -	$ 7,375,000	$ 115,288,848	6.8%
Receipts	$ 107,913,848	$ 7,375,000	$ -	$ 7,375,000	$ 115,288,848	6.8%
CFB	$ -	$ -	$ -	$ -	$ -	0.0%
Positions (FTE)	13.000	0.000	0.000	0.000	13.000	0.0%

		FY 2017-18 Recurring Changes	FY 2017-18 Nonrecurring Changes	FY 2018-19 Recurring Changes	FY 2018-19 Nonrecurring Changes
1 - Debt Service Adjustment					
Adjusts required funds to meet the upcoming biennium's debt service payment.	Req	$ 3,452,000	$ -	$ 7,375,000	$ -
	Rec	$ 3,452,000	$ -	$ 7,375,000	$ -
	CFB	$ -	$ -	$ -	$ -
	FTE	0.000	0.000	0.000	0.000
Total Change to Requirements		**$ 3,452,000**	**$ -**	**$ 7,375,000**	**$ -**
Total Change to Receipts		**$ 3,452,000**	**$ -**	**$ 7,375,000**	**$ -**
Change in Fund Balance (CFB)		**$ -**	**$ -**	**$ -**	**$ -**
Total Change to Full-Time Equivalent (FTE)		**0.000**	**0.000**	**0.000**	**0.000**
Change in Fund Balance		**$ -**		**$ -**	
Recommended Total FTE Changes		**0.000**		**0.000**	

Recommended Change Budget for Capital - Non-General Fund (40000)

Year 1 FY 2017-18	Recommended Base Budget	Net Recurring	Net Nonrecurring	Recommended Change	Recommended Budget	% Δ from Base Budget
Requirements	$ -	$ -	$ 35,554,900	$ 35,554,900	$ 35,554,900	0.0%
Receipts	$ -	$ -	$ 35,554,900	$ 35,554,900	$ 35,554,900	0.0%
CFB	$ -	$ -	$ -	$ -	$ -	0.0%
Positions (FTE)	0.000	0.000	0.000	0.000	0.000	0.0%

Year 2 FY 2018-19	Recommended Base Budget	Net Recurring	Net Nonrecurring	Recommended Change	Recommended Budget	% Δ from Base Budget
Requirements	$ -	$ -	$ 21,937,000	$ 21,937,000	$ 21,937,000	0.0%
Receipts	$ -	$ -	$ 21,937,000	$ 21,937,000	$ 21,937,000	0.0%
CFB	$ -	$ -	$ -	$ -	$ -	0.0%
Positions (FTE)	0.000	0.000	0.000	0.000	0.000	0.0%

		FY 2017-18		FY 2018-19	
		Recurring Changes	Nonrecurring Changes	Recurring Changes	Nonrecurring Changes
1 - Department of Natural and Cultural Resources - Museum of Art New Park Pavillion Building					
Authorizes funds to construct a new restroom, visitor's center, informational kiosk, food services, and related support facilities at the Museum of Art in Raleigh.	Req	$ -	$ 915,300	$ -	$ -
	Rec	$ -	$ 915,300	$ -	$ -
	CFB	$ -	$ -	$ -	$ -
	FTE	0.000	0.000	0.000	0.000
2 - Department of Transportation - Repairs and Renovations					
Provides funds to renovate Department of Transportation Facilities throughout the State. (Highway Fund)	Req	$ -	$ 5,112,700	$ -	$ 5,350,000
	Rec	$ -	$ 5,112,700	$ -	$ 5,350,000
	CFB	$ -	$ -	$ -	$ -
	FTE	0.000	0.000	0.000	0.000
3 - Department of Transportation - Greenville DMV/SHP Office and SHP Garage					
Provides funding for design and construction of the Department of Motor Vehicles and State Highway Patrol office building and garage in Pitt County. (Highway Fund)	Req	$ -	$ 5,344,700	$ -	$ 2,190,000
	Rec	$ -	$ 5,344,700	$ -	$ 2,190,000
	CFB	$ -	$ -	$ -	$ -
	FTE	0.000	0.000	0.000	0.000
4 - Department of Transportation - Camp Burton QMS /Resident Engineer's Office					
Provides funds for the design and construction of Quality Management System Lab and Resident Engineer's office in Guilford County. (Highway Fund)	Req	$ -	$ 1,254,000	$ -	$ -
	Rec	$ -	$ 1,254,000	$ -	$ -
	CFB	$ -	$ -	$ -	$ -
	FTE	0.000	0.000	0.000	0.000
5 - Department of Transportation - Local Truck Storage Sheds - Statewide					
Provides funds to replace several local truck storage sheds throughout the State. (Highway Fund)	Req	$ -	$ 2,674,200	$ -	$ 2,869,000
	Rec	$ -	$ 2,674,200	$ -	$ 2,869,000
	CFB	$ -	$ -	$ -	$ -
	FTE	0.000	0.000	0.000	0.000

6 - Department of Transportation - Anson County Blacksmith Shop

Provides funding for the design and construction of a blacksmith shop on existing site in Anson County. (Highway Fund)

Req	$ -	$ 195,000	$ -	$ -
Rec	$ -	$ 195,000	$ -	$ -
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

7 - Department of Transportation - Gaston County Equipment Sub-Shop

Provides funding for the construction equipment sub-shop in Gaston County. (Highway Fund)

Req	$ -	$ 2,409,000	$ -	$ -
Rec	$ -	$ 2,409,000	$ -	$ -
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

8 - Department of Transportation - Chatham County Eight-Bay Truck Shed

Provides funding for the design and construction of an eight-bay truck shed in Chatham County. (Highway Fund)

Req	$ -	$ -	$ -	$ 1,494,000
Rec	$ -	$ -	$ -	$ 1,494,000
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

9 - Department of Transportation - Lee County Resident Engineer's Office

Provides funding for the design and construction of a Resident Engineer's office in Sanford. (Highway Fund)

Req	$ -	$ -	$ -	$ 1,198,000
Rec	$ -	$ -	$ -	$ 1,198,000
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

10 - Department of Transportation - Watauga County District Engineer's Office

Provides funding for the design and construction of a District Engineer's Office in Watauga County. (Highway Fund)

Req	$ -	$ -	$ -	$ 1,165,000
Rec	$ -	$ -	$ -	$ 1,165,000
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

11 - Department of Transportation - Surry County District Engineer's Office

Provides funding for the design and construction of a new District Engineer's Office in Surry County. (Highway Fund)

Req	$ -	$ -	$ -	$ 1,197,000
Rec	$ -	$ -	$ -	$ 1,197,000
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

12 - Department of Transportation - Guilford County Bridge/Bridge Maintenance Assembly

Provides funding for the design and construction of a bridge and bridge maintenance in Guilford County. (Highway Fund)

Req	$ -	$ -	$ -	$ 1,024,000
Rec	$ -	$ -	$ -	$ 1,024,000
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

13 - Department of Transportation - Asset Management Long Range Facility Planning

Authorizes funds for long range site planning across the State at larger DOT facilities. (Highway Fund)

Req	$ -	$ 250,000	$ -	$ 250,000
Rec	$ -	$ 250,000	$ -	$ 250,000
CFB	$ -	$ -	$ -	$ -
FTE	0.000	0.000	0.000	0.000

Highway Fund							
Department of Transportation Budget Code 84210		WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
0001	Board of Transportation	79,834	-	79,834	79,834	-	79,834
0002	Communications	1,792,975	-	1,792,975	1,792,975	-	1,792,975
0006	Legal - Attorney General Staff	1,425,655	-	1,425,655	1,425,655	-	1,425,655
0007	Administration - Secretary	3,081,458	139,700	2,941,758	3,081,458	139,700	2,941,758
0177	Computer Systems	386,728	386,728	-	386,728	386,728	-
1096	Strategic Prioritization - Office of Transportation - Adr	179,446	-	179,446	179,446	-	179,446
1104	Governance Office - Admin	645,574	-	645,574	645,574	-	645,574
1262	Performance Energy Contract Debt Service	-	-	-	-	-	-
7011	Inspector General	2,539,045	697,922	1,841,123	2,539,045	697,922	1,841,123
7015	Human Resources	4,527,752	-	4,527,752	4,527,752	-	4,527,752
7020	Financial	9,794,920	4,226,752	5,568,168	9,794,920	4,226,752	5,568,168
7025	Information Technology	58,389,153	6,569,209	51,819,944	58,414,111	6,569,209	51,844,902
7030	Administrative Support Services	12,718,196	-	12,718,196	12,718,196	-	12,718,196
	DOT ADMINISTRATION	**95,560,736**	**12,020,311**	**83,540,425**	**95,585,694**	**12,020,311**	**83,565,383**
0055	Chief Engineer	823,334	-	823,334	823,334	-	823,334
0056	Deputy Chief Engineer of Operations	847,085	-	847,085	847,085	-	847,085
0064	Director of Preconstruction	-	-	-	-	-	-
0149	Transportation Mobility and Safety	5,476,639	5,476,639	-	5,476,639	5,476,639	-
0178	Project Development and Environmental Analysis	901,876	901,876	-	901,876	901,876	-
0179	PDE Engineer Trainee Program	-	-	-	-	-	-
1018	Chief Engineer DOH Special Projects	364,066	364,066	-	364,066	364,066	-
1065	Utilities Unit - Administration	307,055	307,055	-	307,055	307,055	-
1067	Materials and Tests Unit	1,074,979	1,074,979	-	1,074,979	1,074,979	-
1069	Roadside Environmental Unit	2,452,868	-	2,452,868	2,452,868	-	2,452,868
1070	Construction Unit	634,892	634,892	-	634,892	634,892	-
1078	Office of Civil Rights Admin	334,373	334,373	-	334,373	334,373	-
1129	Office of Civil Rights	378,698	378,698	-	378,698	378,698	-
1130	Office of Civil Rights	787,724	-	787,724	787,724	-	787,724
1186	Structure Management	335,069	335,069	-	335,069	335,069	-
1201	Division 1 - Right of Way Administration	49,286	49,286	-	49,286	49,286	-
1202	Division 2 - Right of Way Administration	50,137	50,137	-	50,137	50,137	-
1203	Division 3 - Right of Way Administration	60,685	60,685	-	60,685	60,685	-
1204	Division 4 - Right of Way Administration	51,774	51,774	-	51,774	51,774	-

Department of Transportation Budget Code 84210		WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
1205	Division 5 - Right of Way Administration	62,781	62,781	-	62,781	62,781	-
1206	Division 6 - Right of Way Administration	52,884	52,884	-	52,884	52,884	-
1207	Division 7 - Right of Way Administration	-	-	-	-	-	-
1208	Division 8 - Right of Way Administration	47,596	47,596	-	47,596	47,596	-
1209	Division 9 - Right of Way Administration	109,227	109,227	-	109,227	109,227	-
1210	Division 10 - Right of Way Administration	46,765	46,765	-	46,765	46,765	-
1211	Division 11 - Right of Way Administration	52,593	52,593	-	52,593	52,593	-
1212	Division 12 - Right of Way Administration	41,667	41,667	-	41,667	41,667	-
1213	Division 13 - Right of Way Administration	45,491	45,491	-	45,491	45,491	-
1214	Division 14 - Right of Way Administration	52,133	52,133	-	52,133	52,133	-
1256	Program Development - Administration	1,561,390	1,561,390	-	1,561,390	1,561,390	-
1272	Program Development - HF Admin	69,715	-	69,715	69,715	-	69,715
7031	Facilities Management	8,328,625	1,323,598	7,005,027	8,328,625	1,323,598	7,005,027
7070	Transportation Planning Program	168,244	168,244	-	168,244	168,244	-
7080	Division 1	1,567,705	-	1,567,705	1,567,705	-	1,567,705
7085	Division 2	1,709,170	-	1,709,170	1,709,170	-	1,709,170
7090	Division 3	1,738,523	-	1,738,523	1,738,523	-	1,738,523
7095	Division 4	1,643,843	-	1,643,843	1,643,843	-	1,643,843
7100	Division 5	1,835,321	-	1,835,321	1,835,321	-	1,835,321
7105	Division 6	1,720,353	-	1,720,353	1,720,353	-	1,720,353
7110	Division 7	1,818,700	-	1,818,700	1,818,700	-	1,818,700
7115	Division 8	1,533,563	-	1,533,563	1,533,563	-	1,533,563
7120	Division 9	1,599,278	-	1,599,278	1,599,278	-	1,599,278
7125	Division 10	2,130,501	-	2,130,501	2,130,501	-	2,130,501
7130	Division 11	1,451,895	-	1,451,895	1,451,895	-	1,451,895
7135	Division 12	1,450,420	-	1,450,420	1,450,420	-	1,450,420
7140	Division 13	1,396,517	-	1,396,517	1,396,517	-	1,396,517
7145	Division 14	1,753,918	-	1,753,918	1,753,918	-	1,753,918
7150	Preconstruction Design Administration	1,560,490	1,560,490	-	1,560,490	1,560,490	-
7152	OCR - On-the-Job Training Grant	-	-	-	-	-	-
7153	Technical Services - Administration	5,227,881	4,830,782	397,099	5,227,881	4,830,782	397,099
7175	Field Operations Support	1,059,855	-	1,059,855	1,059,855	-	1,059,855
7176	State Asset Management	1,591,588	40,000	1,551,588	1,591,588	40,000	1,551,588
7185	Safety	3,274,193	580,944	2,693,249	3,274,193	580,944	2,693,249
7190	Right of Way - Administration	2,619,608	2,619,608	-	2,619,608	2,619,608	-

Department of Transportation Budget Code 84210		WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
	DOH ADMINISTRATION	**64,252,973**	**23,215,722**	**41,037,251**	**64,252,973**	**23,215,722**	**41,037,251**
7811	Construction - Primary	-	-	-	-	-	-
7812	Construction - Secondary	12,000,000	-	12,000,000	12,000,000	-	12,000,000
7814	Construction - Public Service Roads	1,723,707	-	1,723,707	1,723,707	-	1,723,707
7817	Spot Safety	12,100,000	-	12,100,000	12,100,000	-	12,100,000
7818	Construction - Contingency	12,000,000	-	12,000,000	12,000,000	-	12,000,000
7837	Division of Small Urban Construction	2,500,000	-	2,500,000	2,500,000	-	2,500,000
7838	Economic Development	4,036,171	-	4,036,171	4,036,171	-	4,036,171
	CONSTRUCTION	**44,359,878**	**-**	**44,359,878**	**44,359,878**	**-**	**44,359,878**
0934	Reserve - General Maintenance	463,365,911	-	463,365,911	463,365,911	-	463,365,911
7813	Construction - Urban	-	-	-	-	-	-
7821	Maintenance - Primary	-	-	-	-	-	-
7822	Maintenance - Secondary	-	-	-	-	-	-
7824	Contract Resurfacing	498,432,709	-	498,432,709	498,432,709	-	498,432,709
7833	Non-System Streets	-	-	-	-	-	-
7839	Bridge Program	242,578,738	-	242,578,738	242,578,738	-	242,578,738
7841	Pavement Preservation	85,161,756	-	85,161,756	85,161,756	-	85,161,756
	MAINTENANCE	**1,289,539,114**	**-**	**1,289,539,114**	**1,289,539,114**	**-**	**1,289,539,114**
7827	FHWA Construction	886,489,400	886,489,400	-	883,056,800	883,056,800	-
	PLANNING & RESEARCH	**886,489,400**	**886,489,400**	**-**	**883,056,800**	**883,056,800**	**-**
7832	OSHA Program	358,030	-	358,030	358,030	-	358,030
	OSHA	**358,030**	**-**	**358,030**	**358,030**	**-**	**358,030**
7836	State Aid - Highway Fund for WBS	147,500,000	-	147,500,000	147,500,000	-	147,500,000
	STATE AID TO MUNICIPALITIES	**147,500,000**	**-**	**147,500,000**	**147,500,000**	**-**	**147,500,000**
0035	Bicycle Program	724,032	-	724,032	724,032	-	724,032
0036	Public Transportation	434,523	-	434,523	434,523	-	434,523
0037	Rail Division	621,357	-	621,357	621,357	-	621,357
0041	Aeronautics	2,299,073	203,717	2,095,356	2,299,073	203,717	2,095,356
7040	Ferry Administration	1,302,269	-	1,302,269	1,302,269	-	1,302,269

Department of Transportation Budget Code 84210		WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
7825	Ferry Operations	46,181,106	2,500,000	43,681,106	46,181,106	2,500,000	43,681,106
7829	Railroad Program	41,045,621	4,247,816	36,797,805	36,797,805	-	36,797,805
7830	Airports Program	66,517,417	20,000,000	46,517,417	66,517,417	20,000,000	46,517,417
7831	Public Transportation - Highway Fund	129,869,100	38,026,031	91,843,069	130,629,621	38,786,552	91,843,069
7790	Aviation Equipment Center	-	-	-	-	-	-
	MULTI-MODAL	**288,994,498**	**64,977,564**	**224,016,934**	**285,507,203**	**61,490,269**	**224,016,934**
0042	Governor's Highway Safety Program	510,734	255,367	255,367	510,734	255,367	255,367
7828	Governor's Highway Safety Program	13,500,000	13,500,000	-	13,500,000	13,500,000	-
	GOVERNOR'S HIGHWAY SAFETY PROGRAM	**14,010,734**	**13,755,367**	**255,367**	**14,010,734**	**13,755,367**	**255,367**
0049	Driver Licensing	-	-	-	-	-	-
0054	Motor Vehicle Exhaust Emissions	11,128,541	-	11,128,541	11,128,541	-	11,128,541
7050	DMV - Commissioner's Office	4,670,380	11,000	4,659,380	4,670,380	11,000	4,659,380
7055	DMV Field Services	97,575,917	18,216,647	79,359,270	97,575,917	18,216,647	79,359,270
7056	DMV Processing Services	18,028,848	8,187,019	9,841,829	18,028,848	8,187,019	9,841,829
7060	License and Theft Bureau	15,887,669	759,748	15,127,921	15,887,669	759,748	15,127,921
	DIVISION OF MOTOR VEHICLES	**147,291,355**	**27,174,414**	**120,116,941**	**147,291,355**	**27,174,414**	**120,116,941**
0852	Department of Revenue - International Registration P	232,060	-	232,060	232,060	-	232,060
0862	Department of Agriculture - Gasoline Inspection Fee	5,351,999	-	5,351,999	5,351,999	-	5,351,999
0864	Department of Revenue - Gasoline Tax Collections	5,056,503	-	5,056,503	5,056,503	-	5,056,503
0865	DHHS - Chemical Testing	569,753	-	569,753	569,753	-	569,753
0889	Office of State Budget and Management -Civil Penalt	59,025,029	59,025,029	-	59,025,029	59,025,029	-
0893	Office of State Controller - Best Shared Services	505,399	-	505,399	505,399	-	505,399
1260	State Ethics Commission	56,816	-	56,816	56,816	-	56,816
7834	Motor Carrier Safety	2,123,200	-	2,123,200	2,123,200	-	2,123,200
7835	NC Emergency Management - FEMA	-	-	-	-	-	-
	OTHER STATE AGENCIES	**72,920,759**	**59,025,029**	**13,895,730**	**72,920,759**	59,025,029	13,895,730
0868	General Fund - Sales Tax Exemption	-	-	-	-	-	-
1165	General Fund - Highway Patrol	-	-	-	-	-	-
	TRANSFER TO GENERAL FUND	**-**	**-**	**-**	**-**	**-**	**-**
0869	Reserve - Global TransPark	750,000	-	750,000	750,000	-	750,000

Department of Transportation Budget Code 84210		WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
1288	North Carolina State Ports Authority	35,000,000	-	35,000,000	35,000,000	-	35,000,000
	TRANSFER TO AUTHORITIES	**35,750,000**	**-**	**35,750,000**	**35,750,000**	**-**	35,750,000
0871	Employer's Contribution - Retirement	266,525	-	266,525	266,525	-	266,525
0873	Legislative Salary Increases	1,327,923	-	1,327,923	1,327,923	-	1,327,923
0875	Legislative Salary Increases-Compensation Bonus	-	-	-	-	-	-
0877	Stormwater Management	500,000	-	500,000	500,000	-	500,000
0878	State Fire Protection Grant Fund	-	-	-	-	-	-
0881	Consolidated Call Center	556,074	-	556,074	556,074	-	556,074
0882	Reserve - Visitor Center	400,000	400,000	-	400,000	400,000	-
0885	Reserve - State Employee Medical Plan	884,311	-	884,311	884,311	-	884,311
0933	Reserve - Minority Contractor Development	150,000	-	150,000	150,000	-	150,000
0937	Reserve - Administration Reduction	(2,064,244)	-	(2,064,244)	(2,064,244)	-	(2,064,244)
1164	Severance Reserve	-	-	-	-	-	-
1289	Workers' Compensation Adjustment Reserve	6,830,000	-	6,830,000	6,830,000	-	6,830,000
	OTHER RESERVES	8,850,589	400,000	8,450,589	**8,850,589**	**400,000**	**8,450,589**
0892	GARVEE Bond Redemption	70,805,000	70,805,000	-	70,445,000	70,445,000	-
	DEBT SERVICE	70,805,000	70,805,000	-	**70,445,000**	70,445,000	-
7826	Capital Improvements	-	-	-	-	-	-
	CAPITAL IMPROVEMENTS	**-**	-	-	-	-	-
0704	Legal - Field	8,236,182	8,236,182	-	8,236,182	8,236,182	-
0714	Engineer Trainee Program	4,138,739	4,138,739	-	4,138,739	4,138,739	-
0720	Governor's Highway Safety Program	21,424,686	21,424,686	-	21,424,686	21,424,686	-
1017	Director of Preconstruction - Field	-	-	-	-	-	-
1020	Utilities Unit - Engineering and Encroachments	4,292,549	4,292,549	-	4,292,549	4,292,549	-
1066	Utilities Unit - Field	63,661,088	63,661,088	-	63,661,088	63,661,088	-
1068	Materials and Tests - Field	28,672,182	28,672,182	-	28,672,182	28,672,182	-
1071	Construction Unit - Field	3,840,643	3,840,643	-	3,840,643	3,840,643	-
1080	Roadside Environmental Unit - SW Field	7,257,152	7,257,152	-	7,257,152	7,257,152	-
1081	Office of Civil Rights - Field	3,029,089	3,029,089	-	3,029,089	3,029,089	-
1087	Safe Routes to School - Field	2,322,449	2,322,449	-	2,322,449	2,322,449	-
1088	Public Information - Field	745,717	745,717	-	745,717	745,717	-

Department of Transportation Budget Code 84210		WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name	Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
1097	Strategic Prioritization - Office of Transportation - Fie	1,661,922	1,661,922	-	1,661,922	1,661,922	-
1098	HR Talent Management - Field	357,756	357,756	-	357,756	357,756	-
1099	Governance Office - Field	672,680	672,680	-	672,680	672,680	-
1111	Inspector General - Field	-	-	-	-	-	-
1112	State Road Maintenance - Field	6,623,093	6,623,093	-	6,623,093	6,623,093	-
1136	State Road Maintenance - Field	1,847,198	1,847,198	-	1,847,198	1,847,198	-
1255	Performance Metrics Management	175,264	175,264	-	175,264	175,264	-
1258	Program Development - Field	9,050,749	9,050,749	-	9,050,749	9,050,749	-
7200	01 Field	62,729,829	62,729,829	-	62,729,829	62,729,829	-
7235	02 Field	66,745,541	66,745,541	-	66,745,541	66,745,541	-
7265	03 Field	106,820,091	106,820,091	-	106,820,091	106,820,091	-
7295	04 Field	67,274,000	67,274,000	-	67,274,000	67,274,000	-
7325	05 Field	93,102,008	93,102,008	-	93,102,008	93,102,008	-
7355	06 Field	74,468,457	74,468,457	-	74,468,457	74,468,457	-
7385	07 Field	95,941,616	95,941,616	-	95,941,616	95,941,616	-
7415	08 Field	73,995,420	73,995,420	-	73,995,420	73,995,420	-
7445	09 Field	128,469,813	128,469,813	-	128,469,813	128,469,813	-
7470	10 Field	124,994,869	124,994,869	-	124,994,869	124,994,869	-
7500	11 Field	103,246,606	103,246,606	-	103,246,606	103,246,606	-
7530	12 Field	79,712,234	79,712,234	-	79,712,234	79,712,234	-
7555	13 Field	72,147,258	72,147,258	-	72,147,258	72,147,258	-
7580	14 Field	75,729,519	75,729,519	-	75,729,519	75,729,519	-
7610	IT - Field	43,838,553	43,838,553	-	43,838,553	43,838,553	-
7615	Ferry	52,415,641	52,415,641	-	52,415,641	52,415,641	-
7620	Facilities Management and Operations Support	17,087,736	17,087,736	-	17,087,736	17,087,736	-
7625	Preconstruction Design - Field	55,894,338	55,894,338	-	55,894,338	55,894,338	-
7626	Technical Services - Field	98,542,690	98,542,690	-	98,542,690	98,542,690	-
7627	Structure Management - Field	41,420,694	41,420,694	-	41,420,694	41,420,694	-
7665	Construction Materials - Field	1,665,268	1,665,268	-	1,665,268	1,665,268	-
7671	Traffic Mobility and Safety	40,701,592	40,701,592	-	40,701,592	40,701,592	-
7675	Right of Way - Field	22,513,596	22,513,596	-	22,513,596	22,513,596	-
7685	Transportation Planning Program - Field	27,746,288	27,746,288	-	27,746,288	27,746,288	-
7690	IT Group	26,288,315	26,288,315	-	26,288,315	26,288,315	-
7695	Project Development and Environmental Analysis - F	67,153,485	67,153,485	-	67,153,485	67,153,485	-
7700	Construction and Maintenance - Field	1,686,802,651	1,686,802,651	-	1,686,802,651	1,686,802,651	-

Department of Transportation Budget Code 84210			WS1 FY2017-18			WS1 FY2018-19		
Fund Code	Fund Name		Requirements	Receipts	Net Appropriation	Requirements	Receipts	Net Appropriation
7705	Grants - Field		339,572,512	339,572,512	-	339,572,512	339,572,512	-
7710	Equipment and Inventory Unit		163,484,244	163,484,244	-	163,484,244	163,484,244	-
	FIELD OPERATIONS		**4,078,514,002**	**4,078,514,002**	**-**	**4,078,514,002**	**4,078,514,002**	**-**
Department-wide Items								
N/A	N/A		-	-	-	-	-	-
	DEPARTMENT-WIDE ITEMS		**-**	**-**	**-**	**-**	**-**	**-**
Total		0	**7,245,197,068**	**5,236,376,809**	**2,008,820,259**	**7,237,942,131**	**5,229,096,914**	**2,008,845,217**

Joint Appropriations Subcommittee on Transportation

Highway Base Budget Overview

March 7, 2017

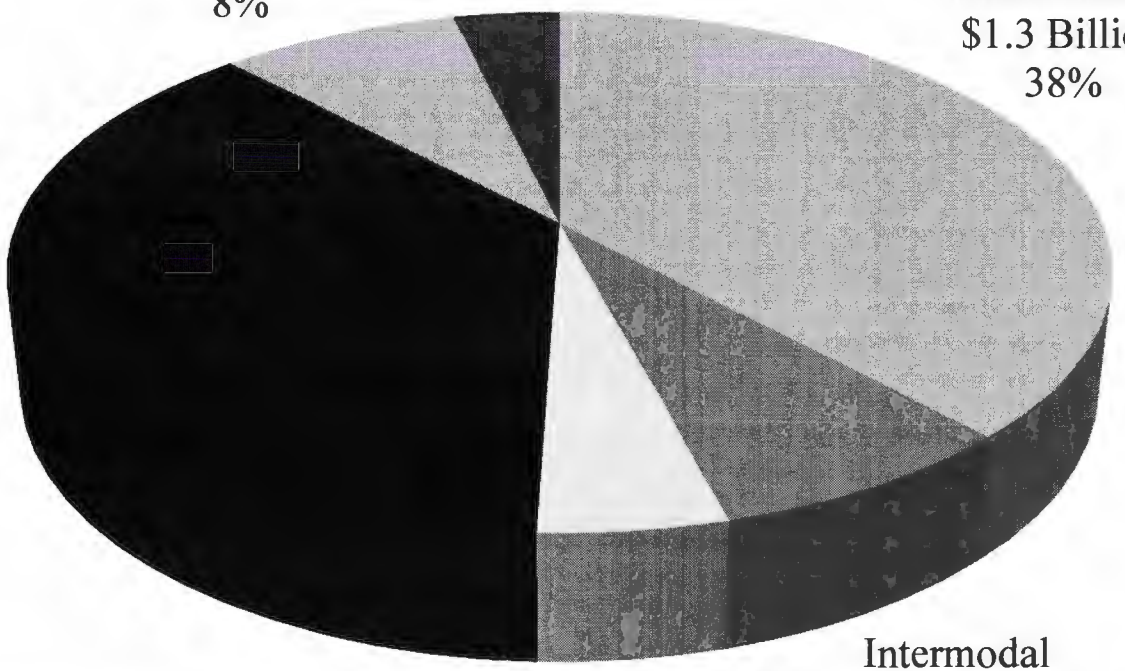


FISCAL RESEARCH DIVISION
A Staff Agency of the North Carolina General Assembly

Outline

- Highway Budget Overview
- Project Based Accounting
- Base Budget Review
- Mechanisms Developed by NCGA to Oversee Spending

HF/HTF Appropriations
FY 2016-17

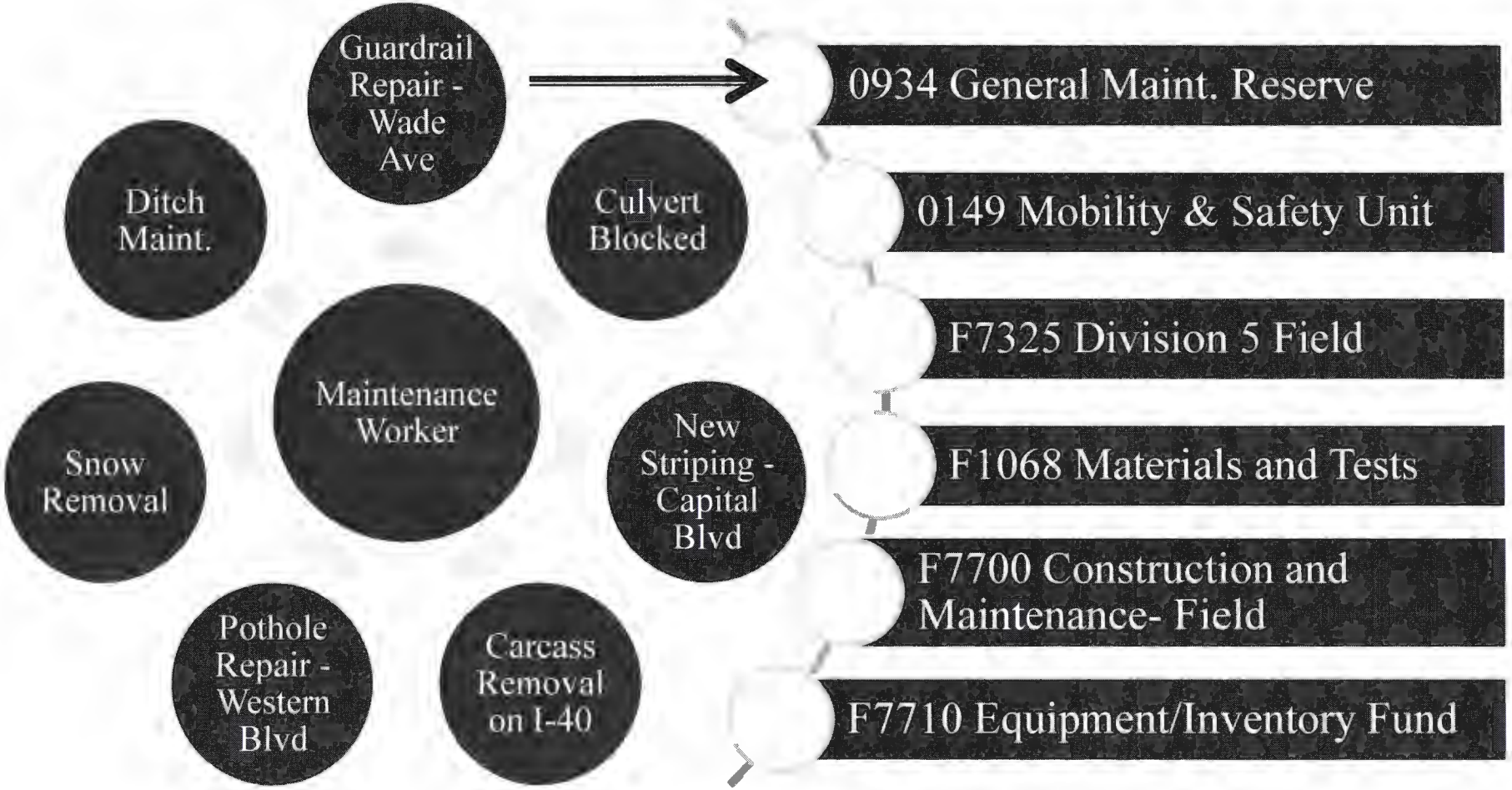


Total: $3.4 Billion

Accounting Process

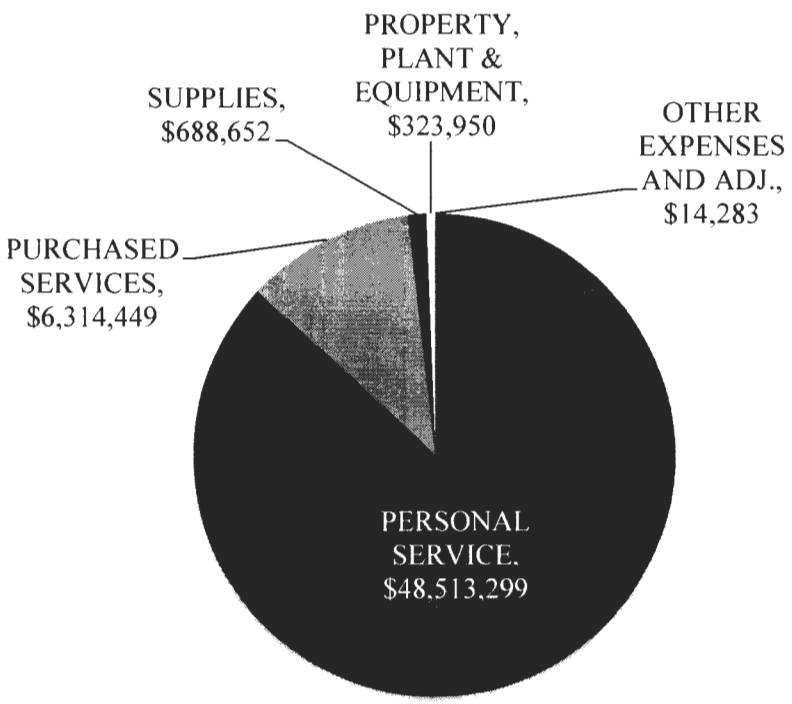
Management	• Charged to Administration Fund Codes
Field Employee	• Charged to Projects
Material Costs	• Charged to Projects
Industry Costs	• Charged to Projects
ROW Costs	• Charged to Projects

Accounting Process



Highway Administration Budget

Total: $41 Million

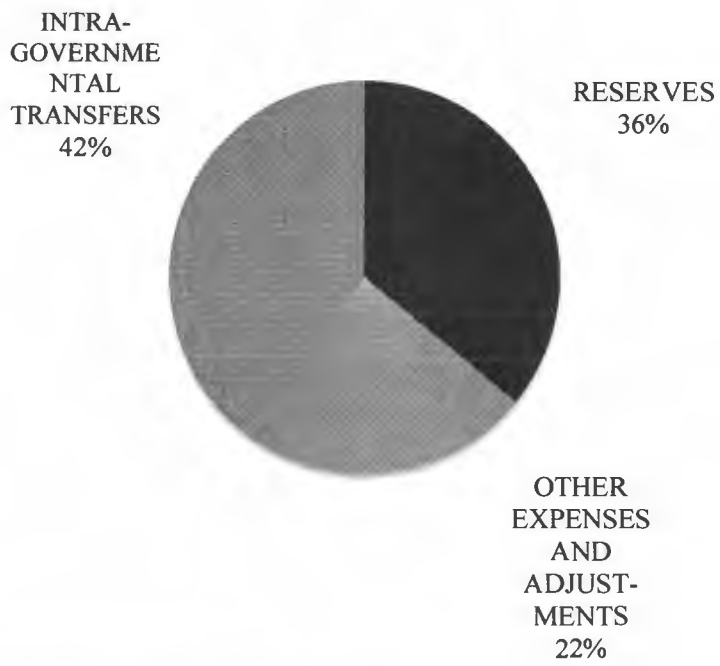


Expenditure of Funds

- 54 Fund Codes
- Management Personnel and Associated Costs
  - Highway Division Engineers and key staff
  - ROW lead staff
  - Raleigh central staff
- 581 Positions
- Roughly 10% of highway staff

Maintenance Base Budgets

Total: $1.3 Billion



Expenditure of Funds

Fund Codes

- No Employees in Funds
- 0934 - Reserve for General Maintenance
  - $463 Million
- 7824 - Contract Resurfacing
  - $498 Million
- 7841 - Pavement Preservation
  - $85 Million
- 7839 - Bridge Program
  - $243 Million

Pavement Preservation Report

- 2014 Budget
  - What does it cost to perform preservation activities?
  - Directive to increase outsourcing

- Findings
  - DOT data was very inaccurate

- Action Item: Send report to Appropriations

Pavement Preservation Report

Statewide Treatment Costs, Fiscal Year 2015-2016				
Treatment Type	Treated Lane Miles	Average Cost Per Lane Mile	Average Cost Per Lane Mile Performed by NCDOT	Average Cost Per Lane Mile Performed by Contract
Chip Seals	4,335.57	$ 13,029.63	$ 10,160.50	$ 15,041.48
Crack Seal	1,921.22	$ 3,726.85	$ 5,165.08	$ 2,522.03
Slurry Seal	9.60	$ 18,018.87	$ -	$ 18,018.87
Fog Seal	16.96	$ 12,922.26	$ -	$ 12,922.26
Sand Seal	0.32	$ 28,012.53	$ -	$ 28,012.53
Scrub Seal	-	$ -	$ -	$ -
Cape Seal	48.64	$ 29,599.40	$ -	$ 29,599.40
Microsurfacing	20.37	$ 20,869.60	$ -	$ 20,869.60
Profile Milling	-	$ -	$ -	$ -
Asphalt rejuvenators	-	$ -	$ -	$ -
Open Graded Asphalt Friction Course	-	$ -	$ -	$ -
Overlay Less Than 1,000 ft in Length	-	$ -	$ -	$ -
Diamond Grinding	-	$ -	$ -	$ -
Joint Sealing	-	$ -	$ -	$ -
Dowel Bar Retrofit	-	$ -	$ -	$ -
Partial/Full-Depth repairs and reclamations	147.69	$ 16,946.49	$ 3,161.42	$ 43,174.41
Ultra-Thin Whitetopping	-	$ -	$ -	$ -
Thin Lift and Sand Asphalt Overlays	126.11	$ 21,248.49	$ 52,927.41	$ 20,492.31
TOTALS:	6,626.47	$ 10,729.56	$ 8,377.13	$ 12,411.48

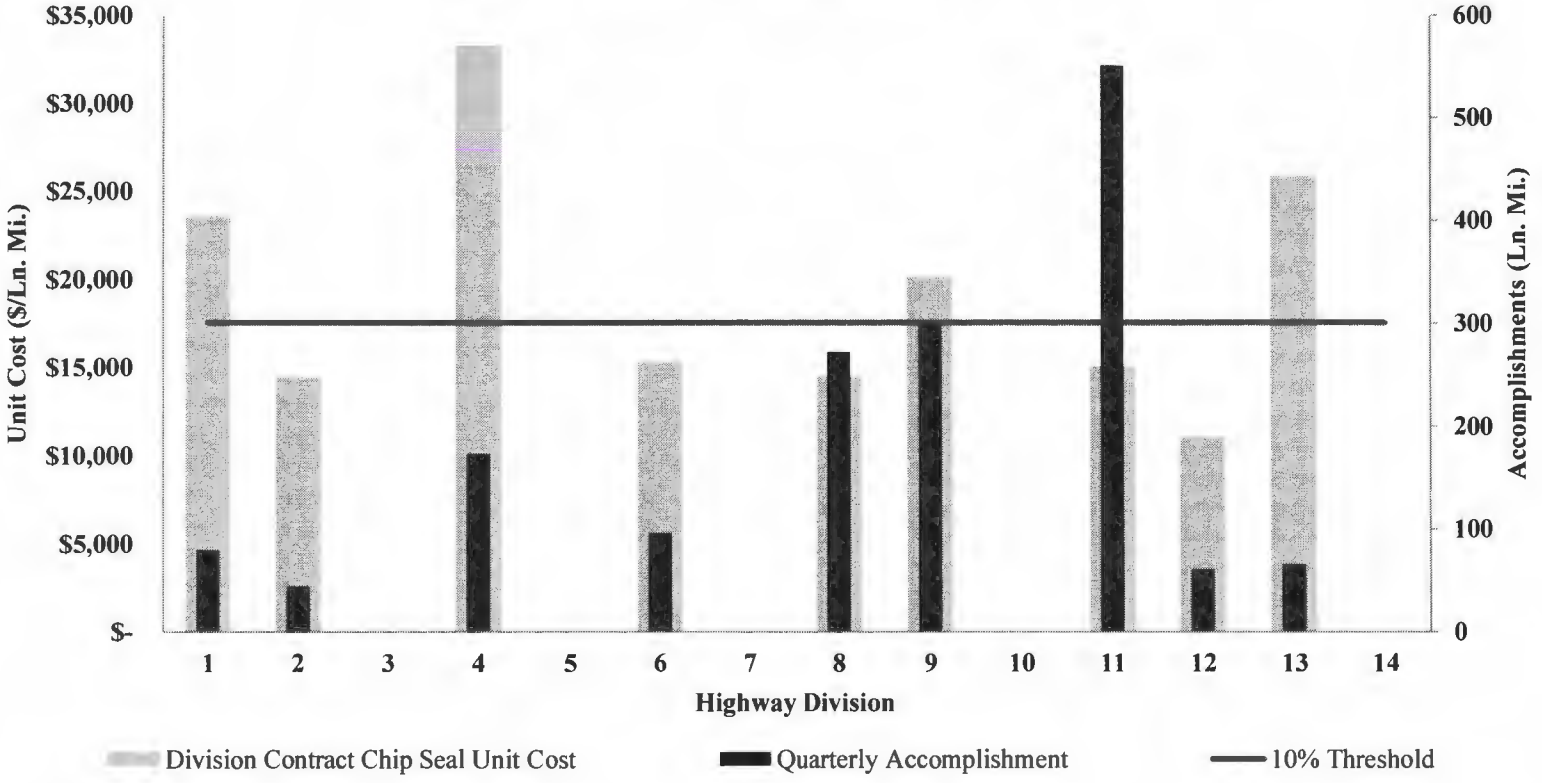
DOT REPORT (Efficiency)

- 2015 Budget: Requires DOT to set baseline per unit costs by Highway Division
- Requires explanation when 10% over baseline
- Report Quarterly
- Ex. Commodities/sealants/litter/markers

- Action Item: Send report to Appropriations Committees

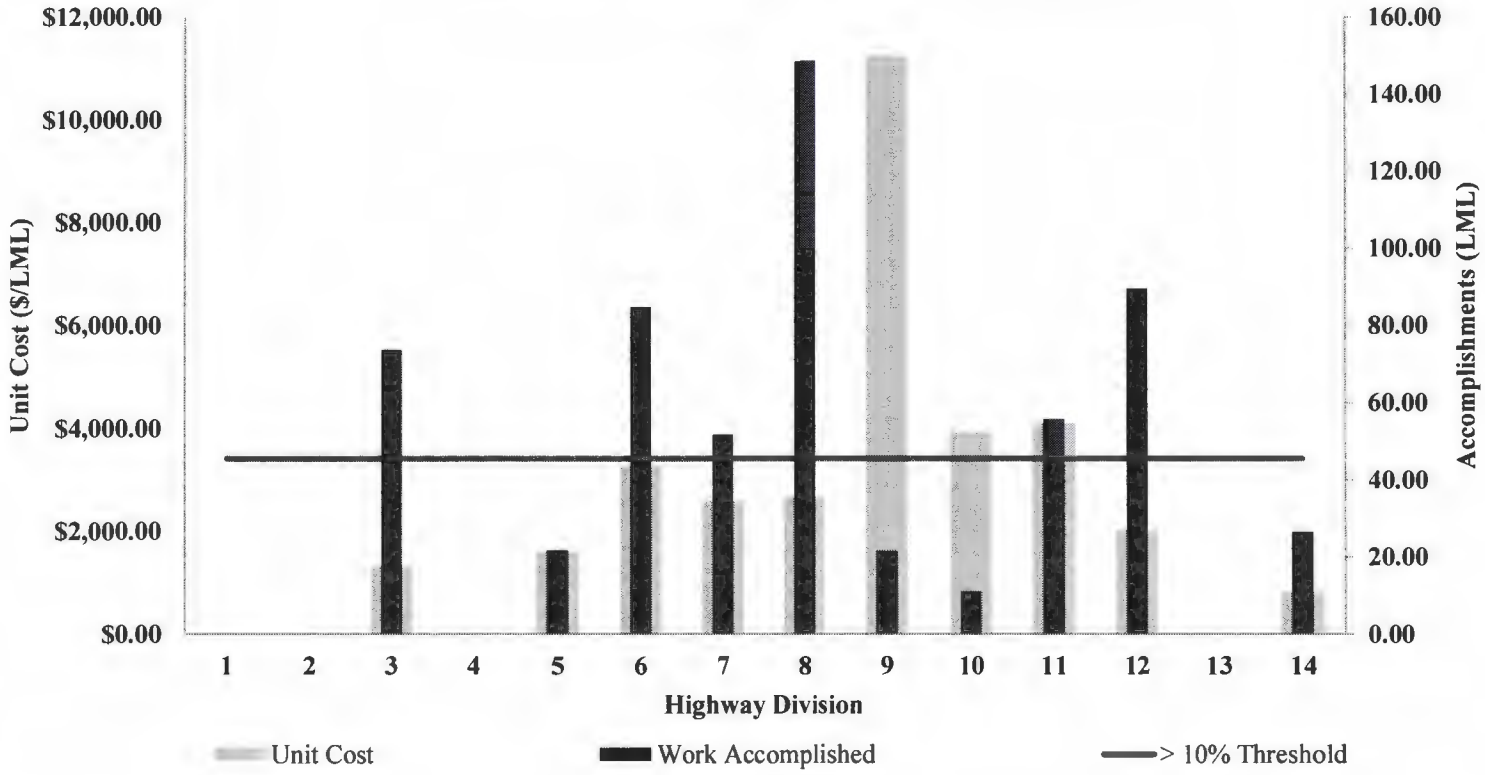
DOT REPORT (Efficiency)

Figure 4: FY 2017 Q2 Unit Costs for Contract Chip Seals



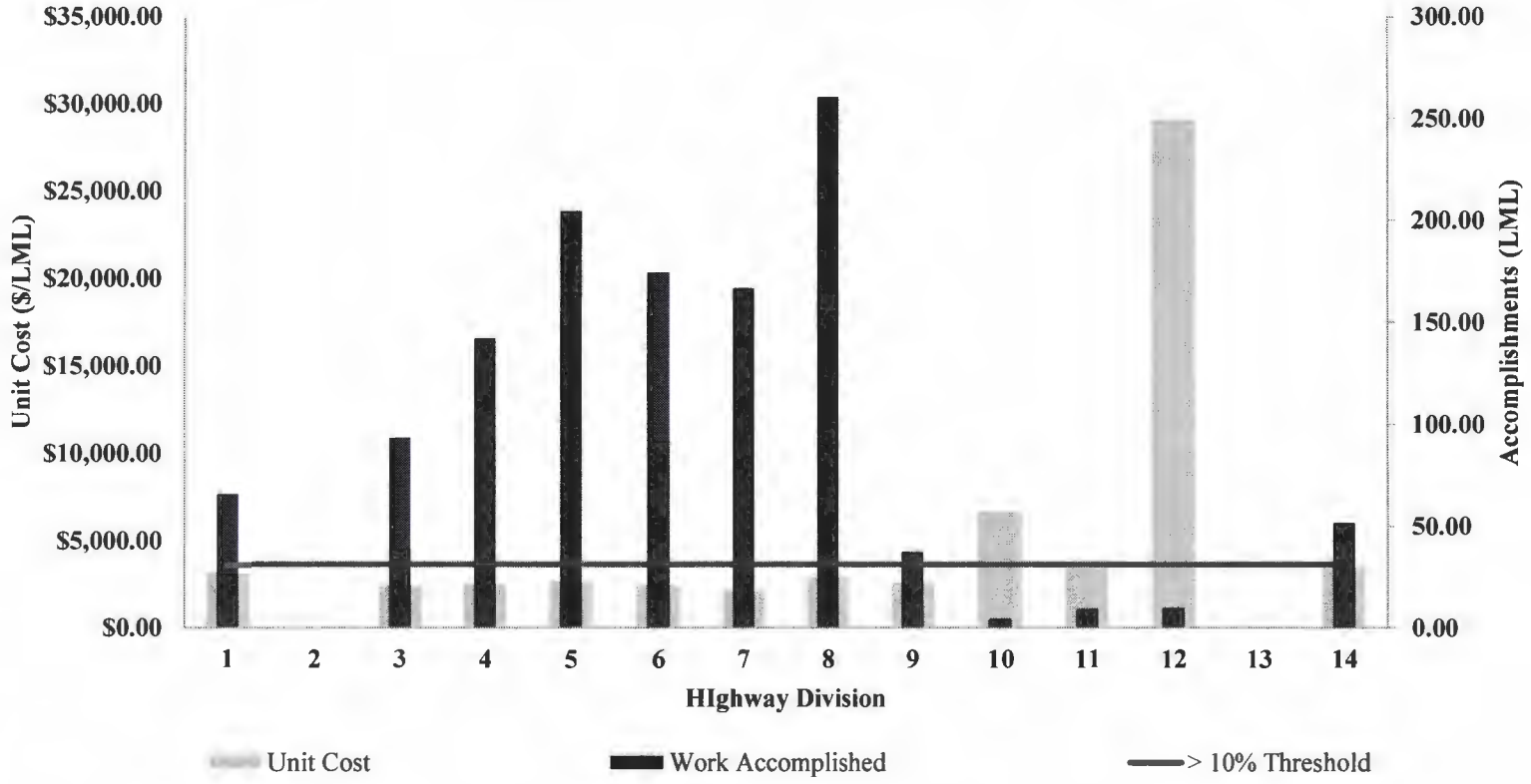
DOT REPORT (Efficiency)

Figure 6: FY 2017 Q2 Unit Costs for Crack Sealing – Primary System



DOT REPORT (Efficiency)

Figure 7: FY 2017 Q2 Unit Costs for Crack Sealing – Secondary System



DOT REPORT (Efficiency)

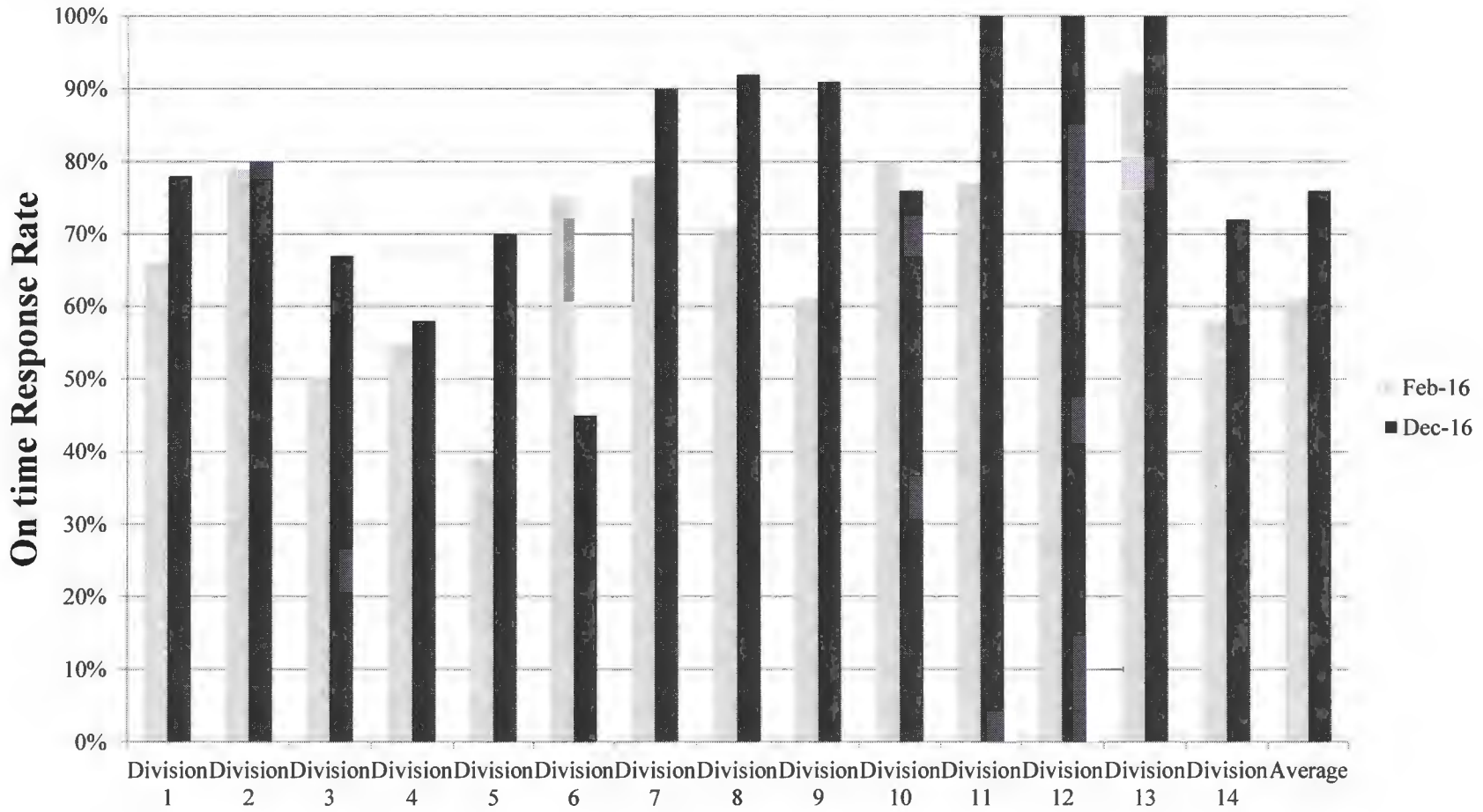
Maintenance Work Functions - Division 7

Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
7	Primary	2817	Mechanical Asphalt Patching	TON	1,076.72	$185,117.20	171.93	$250.32	
7	Secondary	2817	Mechanical Asphalt Patching	TON	14,989.05	$2,078,270.88	$138.65	$222.53	
7	Primary	2900	Grass Mowing	SHM	3,700.09	$509,805.44	137.78	$63.34	Over 10%
7	Secondary	2900	Grass Mowing	SHM	30,474.34	$1,481,758.75	48.62	$39.41	Over 10%
7	Primary	2912	Mechanical Brush And Tree	SHM	919.27	$194,468.45	211.55	$698.81	
7	Secondary	2912	Mechanical Brush And Tree	SHM	3,982.81	$949,552.40	$238.41	$684.19	
7	Primary	3104	Litter Removal	SHM	698.10	$54,355.64	$77.86	$279.65	
7	Secondary	3104	Litter Removal	SHM	1,476.69	$168,079.61	$113.82	$334.91	
7	Primary	3108	Drainage Ditch Maintenance	SHM	0.30	$4,180.41	$13,934.70	$12,934.22	
7	Secondary	3108	Drainage Ditch Maintenance	SHM	0.20	$4,185.51	$20,927.55	$10,153.76	Over 10%
7	Primary	3112	Shoulder Maint/ Reconstruct	SHM	6.57	$15,380.61	$2,341.04	$5,672.95	
7	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	238.49	$141,961.39	$595.25	$4,114.58	
7	Primary	3126	Install Pipes (48" or Less)	LF	161.00	$48,384.31	$300.52	$194.92	Over 10%
7	Secondary	3126	Install Pipes (48" or Less)	LF	3,662.35	$673,788.22	183.98	$155.14	Over 10%
7	Primary	3222	LongLine Paint Pvmt Marking	LF	29,909.20	$5,369.43	$0.18	$0.16	Over 10%
7	Secondary	3222	LongLine Paint Pvmt Marking	LF	5,642,601.70	$372,586.10	$0.07	$0.07	
7	Primary	3232	Install/Replace Pvmt Markers	EA	0.00	$3,649.53	null	$20.37	
7	Secondary	3232	Install/Replace Pvmt Markers	EA	0.00	$4.50	null	$15.79	
7	Primary	3300	Install Non-NBIS >48"	LF	60.00	$94,214.99	$1,570.25	$1,084.13	Over 10%
7	Secondary	3300	Install Non-NBIS >48"	LF	424.42	$624,275.90	$1,470.89	$1,781.52	

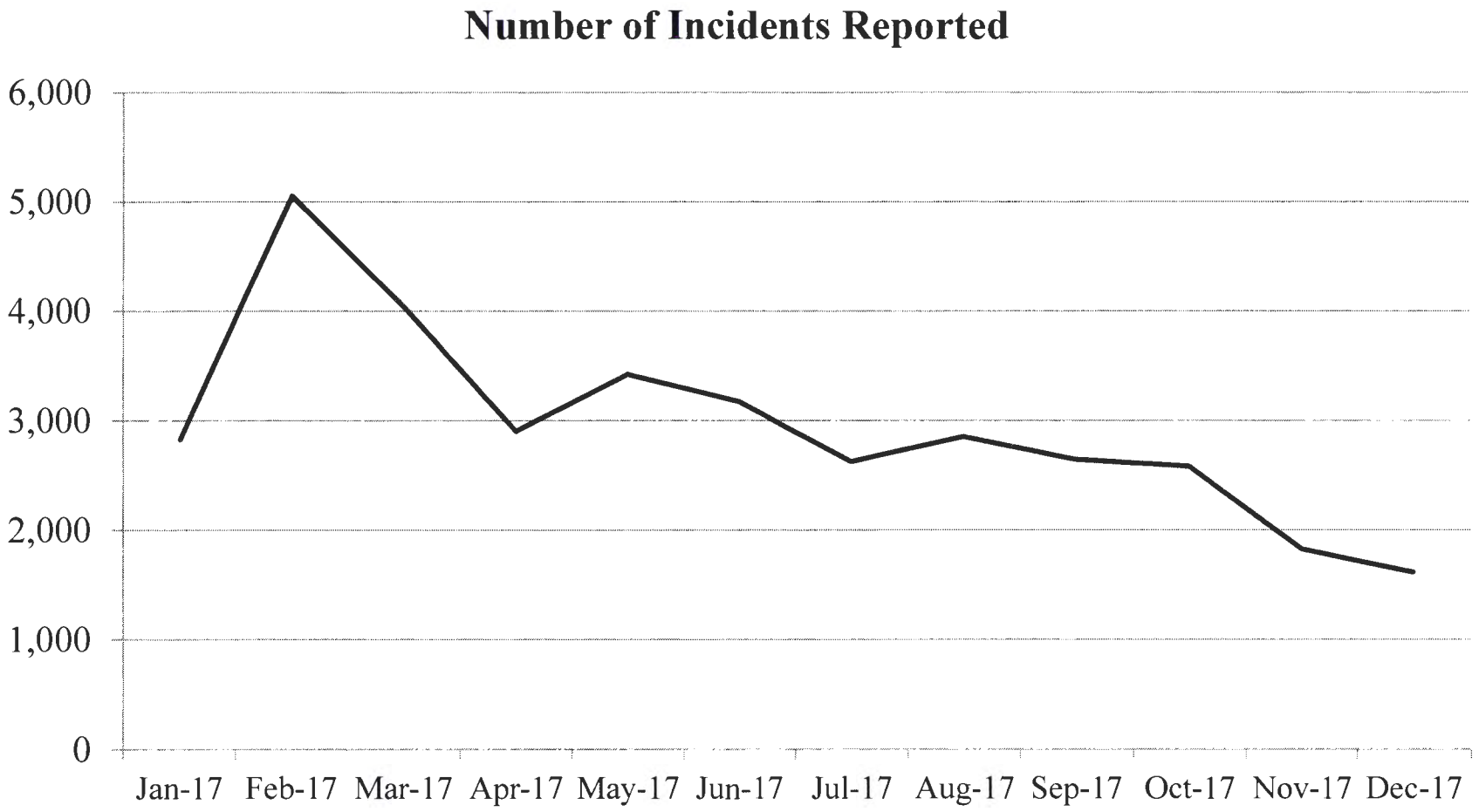
DOT REPORT (Responsiveness)

- DOT Action Requests – Monthly Report
  - Drainage
  - Guardrail Damage
  - Pothole
  - Shoulder Repair
  - Signal Malfunction
  - Signing
- Action Item: Send report to Appropriations
- Increase Marketing

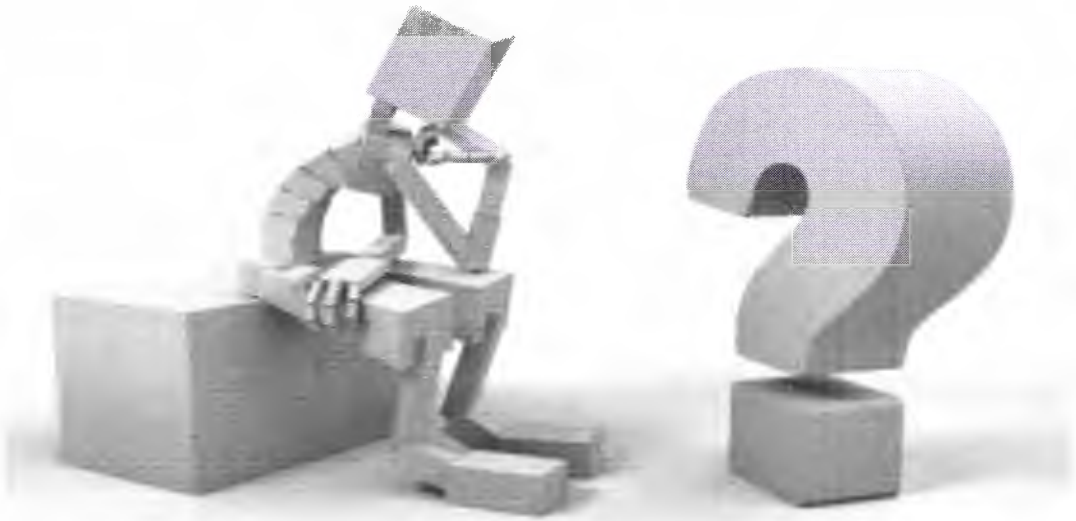
DOT REPORT (Responsiveness)



DOT REPORT (Responsiveness)



Questions?



Amna Cameron, Fiscal Research

919-733-4910

North Carolina
Department of Transportation

Quarterly Tracking Report
Report #4 – SFY 2017 Q2

Efficiency – Establishing Baseline Unit Pricing & Streamlining Project Delivery

Report to the Joint Legislative Transportation Oversight Committee and the Fiscal Research Division

January 13, 2017

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Executive Summary

Baseline unit costs for principal work activities and transportation goods were established in the December 1, 2015, report titled *Efficiency – Establishing Baseline Unit Pricing & Streamlining Project Delivery*. These include the following:

- Contract resurfacing
- Pavement preservation
- Bridge replacement
- 10 planned maintenance work functions
- FOB goods most commonly used by maintenance forces

In accordance with Session Law 2015-241, section 29.14.(b), this report is being submitted to the Joint Legislative Transportation Oversight Committee and the Fiscal Research Division to identify quarterly unit cost results for each Highway Division for the period beginning January 1, 2016, and ending December 31, 2016, and to offer explanations as to why certain Highway Divisions exceeded the established baseline unit prices and what actions they are taking to address any noncompliance.

Division unit costs have been calculated for each of the work activities and transportation goods previously mentioned and are contained in the body of this report. Justifications for any that exceeded the 10% threshold can be found in the appendices.

The SFY 2017 Q2 report is the first report in which results are representative of a full 12 months of data for the Department's work activities and transportation goods, and more specifically, it is representative of the time period of January 1, 2016 – December 31, 2016. Moving forward, it is the intent of the Department to begin reporting on a rolling year at the conclusion of each quarter; that is, data from the previous 3 quarters will be included as well as that of the quarter that just ended. This approach will assist in limiting variability in data and data inaccuracies caused by timing of contractor and material payments, timing of cost expenditures, timing as it relates to capturing work accomplished, projects and work activities with low amounts of work accomplished, projects with unique circumstances and requirements, work performed by contract, and goods purchased under contract.

Since this quarterly report is the first report that contains an entire year's worth of data, it is in itself a type of baseline measurement for the Department that can be used for comparison purposes moving forward to determine trends, etc. over time. Trying to compare one quarter to another with less than an entire year's worth of work and accomplishments represented would not be a true and accurate representation of the Department's activities. The Department believes that this rolling quarter approach will provide the most benefit for monitoring, tracking, and reestablishing baseline unit costs; however, additional analysis approaches may also be utilized in the future.

The Department had planned to reevaluate the established baseline unit costs during the fall of 2016, but the decision was made to delay this reevaluation for at least another year to allow more time for reliable data to be captured for statistical analysis and to allow the opportunity to start evaluating and comparing annual data each quarter as previously described.

As stated in previous quarterly reports, timing of contractor and material payments, timing of cost expenditures, and timing as it relates to capturing work accomplished remain to be issues that can lead to inaccurate results. Other issues that continue to create isolated cases of noncompliance in the Divisions include projects with low quantities of work accomplished, projects with unique circumstances and requirements, work performed by contract, and goods purchased under contract. Lastly, the quality of data capture and reporting efforts within the Highway Divisions continue to improve, and managers continue to emphasize and monitor proper work coding and data entry/capture, but they do remain issues to contend with. As such, the Department and its managers must remain vigilant in keeping errors resulting from these items to a minimum.

The Department continues to make positive progress in regards to Highway Divisions conducting their operations within 10% of established statewide baseline costs. These efforts will continue moving forward, and in conjunction with the new Road Maintenance Improvement Plans (RMIPs), the Department will expand and increase its ability to make data driven decisions to effectively and efficiently maintain its network.

Contract Resurfacing

Contract Resurfacing unit costs through the second quarter of fiscal year 2017 were calculated for the 14 Highway Divisions based upon contracts that had final estimates paid during the reporting period. Unit Costs are broken down between primary and secondary road systems. A summary of these unit costs, as well as the number of lane miles paved in each Division, can be seen in Figures 1 & 2 on the following page, which represent primary and secondary system contract resurfacing, respectively. In addition, a table of these results can be found in Appendix A.

Contract Resurfacing, by nature, is highly variable. Variability can result from differences in the types and thicknesses of the asphalt layers, patching amounts, milling vs. no milling along a road section, the amount of utility and drainage structure adjustments that are required, work location and traffic control requirements (i.e. urban vs. rural), etc. Commodity prices for liquid asphalt and fuel also have a significant impact on the cost of contract resurfacing. In addition, with resurfacing being a contract activity, prices are obviously impacted by market factors and competition, which varies across the 100 counties.

Results for contract resurfacing performance remained unchanged from last quarter. A total of 4 Highway Divisions continued to exceed the 10% threshold above the established baseline unit cost for the primary system contract resurfacing, while the number of Divisions that exceeded the threshold for secondary system resurfacing fell to 7. Detailed justifications concerning noncompliance can be found in the appropriate appendix for each of the 14 Highway Divisions.

Figure 1: FY 2017 Q2 Unit Costs for Contract Resurfacing – Primary System

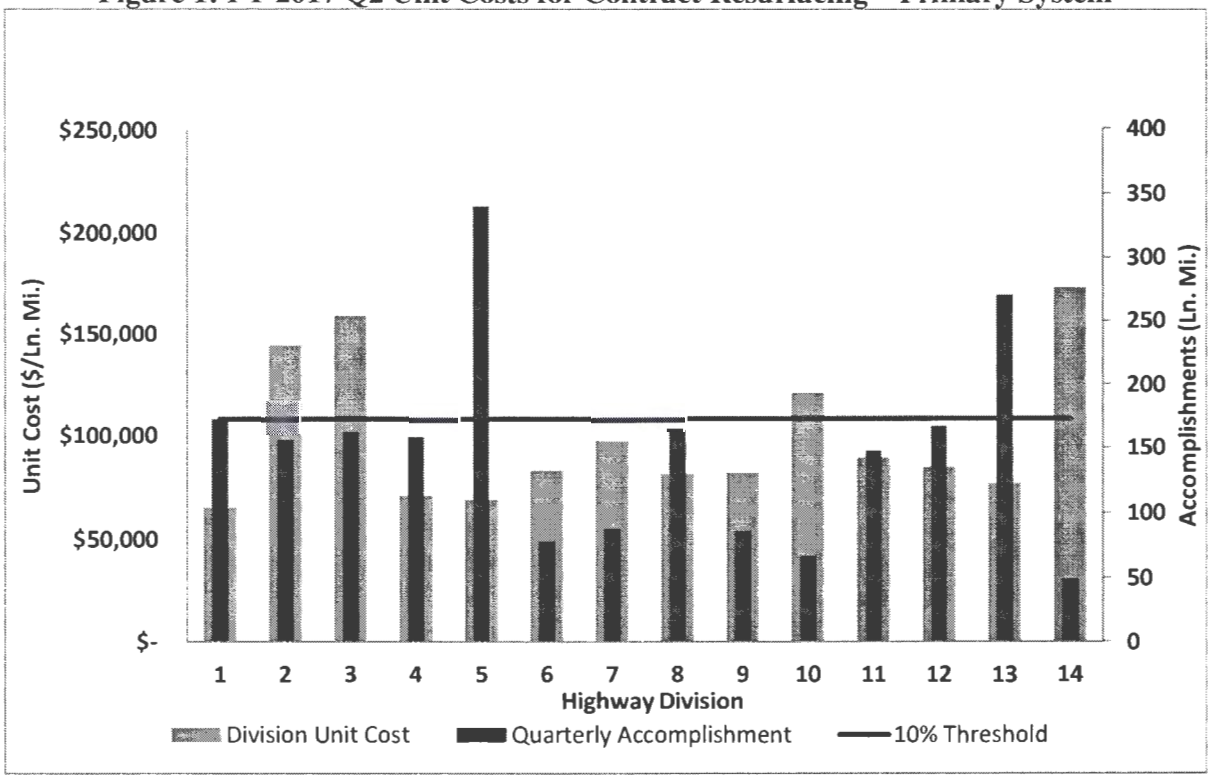
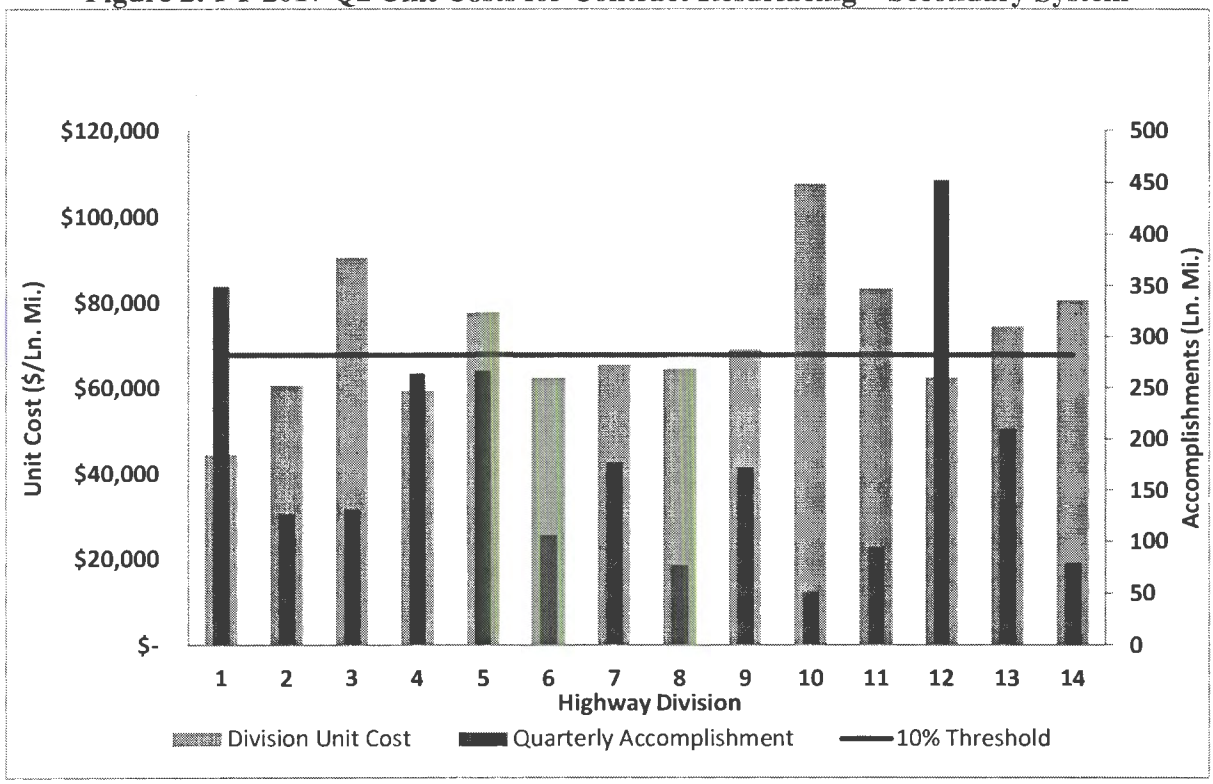


Figure 2: FY 2017 Q2 Unit Costs for Contract Resurfacing – Secondary System



Figures 1 & 2 generally illustrate that unit costs for Divisions with higher amounts of accomplishments are typically under the 10% threshold. As detailed in the appendices, cases of noncompliance for contract resurfacing are commonly the result of the inclusion additional asphalt layers, pavement widening, significant patching quantities, and/or significant milling quantities; all of which were deemed necessary by the respective Divisions to properly address the specific roadway pavement distresses they were dealing with which, in turn, ensured a sound investment of taxpayer funds. Moving forward, as these reports contain annual data and new data, future quarterly reports will show how much impact isolated cases of work variability have on contract resurfacing unit costs over time.

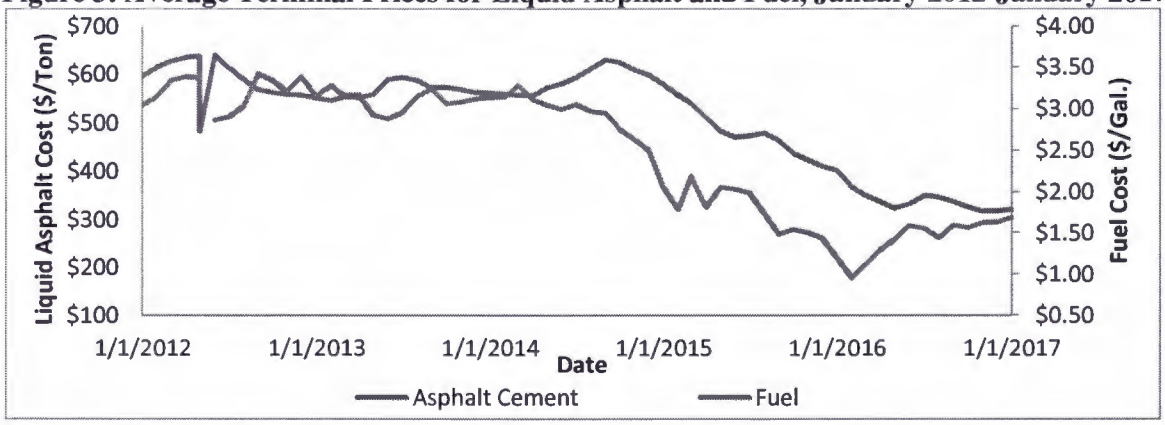
Based on the contracts included in the contract resurfacing unit cost evaluations, unit costs were also evaluated for contract resurfacing commodities. These can be observed in Table 1.

Table 1: FY 2017 Q2 Contract Resurfacing Commodities

Asphalt Plant Mixes and Liquid Binder												
Div	Surface Course S9.5A ($/ton)	SW BUC	Status	Surface Course S9.5B ($/ton)	SW BUC	Status	Surface Course S9.5C ($/ton)	SW BUC	Status	Liquid Binder ($ / ton)	SW BUC	Status
1	$36.56	$36.85		$35.35	$37.78		$32.82	$35.42		$593.90	$574.53	
2	$43.07	$36.85	Over 10%	$38.39	$37.78			$35.42		$503.14	$574.53	
3	$44.53	$36.85	Over 10%	$46.42	$37.78	Over 10%	$47.33	$35.42	Over 10%	$519.19	$574.53	
4	$33.07	$36.85		$32.31	$37.78			$35.42		$561.22	$574.53	
5	$34.06	$36.85		$38.61	$37.78		$28.30	$35.42		$549.27	$574.53	
6	$32.04	$36.85		$28.81	$37.78		$26.47	$35.42		$628.80	$574.53	
7	$33.22	$36.85		$32.50	$37.78		$32.35	$35.42		$576.26	$574.53	
8	$32.54	$36.85		$31.46	$37.78		$31.14	$35.42		$555.19	$574.53	
9	$34.50	$36.85		$37.47	$37.78		$31.79	$35.42		$494.72	$574.53	
10		$36.85		$34.43	$37.78		$33.49	$35.42		$562.75	$574.53	
11	$43.07	$36.85	Over 10%	$41.06	$37.78		$41.27	$35.42	Over 10%	$680.35	$574.53	Over 10%
12	$35.80	$36.85		$33.21	$37.78		$32.85	$35.42		$622.31	$574.53	
13	$39.37	$36.85		$41.59	$37.78	Over 10%		$35.42		$593.11	$574.53	
14	$58.88	$36.85	Over 10%	$50.09	$37.78	Over 10%	$75.40	$35.42	Over 10%	$582.79	$574.53	

The Department has little control over the cost of these commodities. As stated previously, the data analyzed for this reporting period is reflective of those contract resurfacing contracts which had final estimates paid during the reporting period. Therefore, the commodity prices associated with the costs of those contracts could vary greatly depending on when that particular contract was let for bid and performed. Figure 3 on the following page indicates this point as it illustrates the dramatic changes in both liquid asphalt and fuel costs over the past five years.

Figure 3: Average Terminal Prices for Liquid Asphalt and Fuel, January 2012-January 2017



Pavement Preservation

Pavement Preservation consists of both chip seal and crack seal work. Currently, chips seals are performed by both state forces and contractors. Contract chip seal unit costs were calculated for the 14 Highway Divisions based upon contracts that had final estimates paid during the reporting period resulting in 9 Divisions with costs and accomplishments to report. Force Account chip seal unit costs on the other hand are calculated based upon work performed during the actual reporting period since complete cost data is more readily available on a current basis.

A summary of the contract chip seal costs as well as the number of lane miles paved in each Division can be seen in Figure 4 on the next page. Over a third of all Divisions performed force account chip seals during the reporting period, the results of which are identified in Figure 5, also on the following page. In addition, a table of all of these results can be found in Appendix B, and justifications concerning any noncompliance can be found in the appropriate appendix for each of the 14 Highway Divisions.

For contract chip seals, 4 Divisions exceeded the 10% threshold above the statewide baseline unit cost. Unit costs are driven by competitive bidding results and this is work that, until recently, was primarily performed by state forces. As the Department grows this industry and continues to contract more of this work, there is an expectation that increased competition will result which will help drive unit costs lower towards the statewide baseline. In addition, the inclusion of pretreatment pavement patching in some of these contracts resulted in unit costs higher than the statewide baseline.

5 of the 14 Highway Divisions performed force account chip seals during this reporting period, all of which have unit costs below the statewide baseline. Most of the other Divisions no longer perform this operation using state forces as efforts continue to outsource pavement preservation activities.

Chip Seal operations, both contract and force account, are both annual programs. Therefore, it is important to mention that changes in a Division's unit costs are unlikely to be reflected on a quarterly basis, but rather they are more likely to be reflected annually.

Figure 4: FY 2017 Q2 Unit Costs for Contract Chip Seals

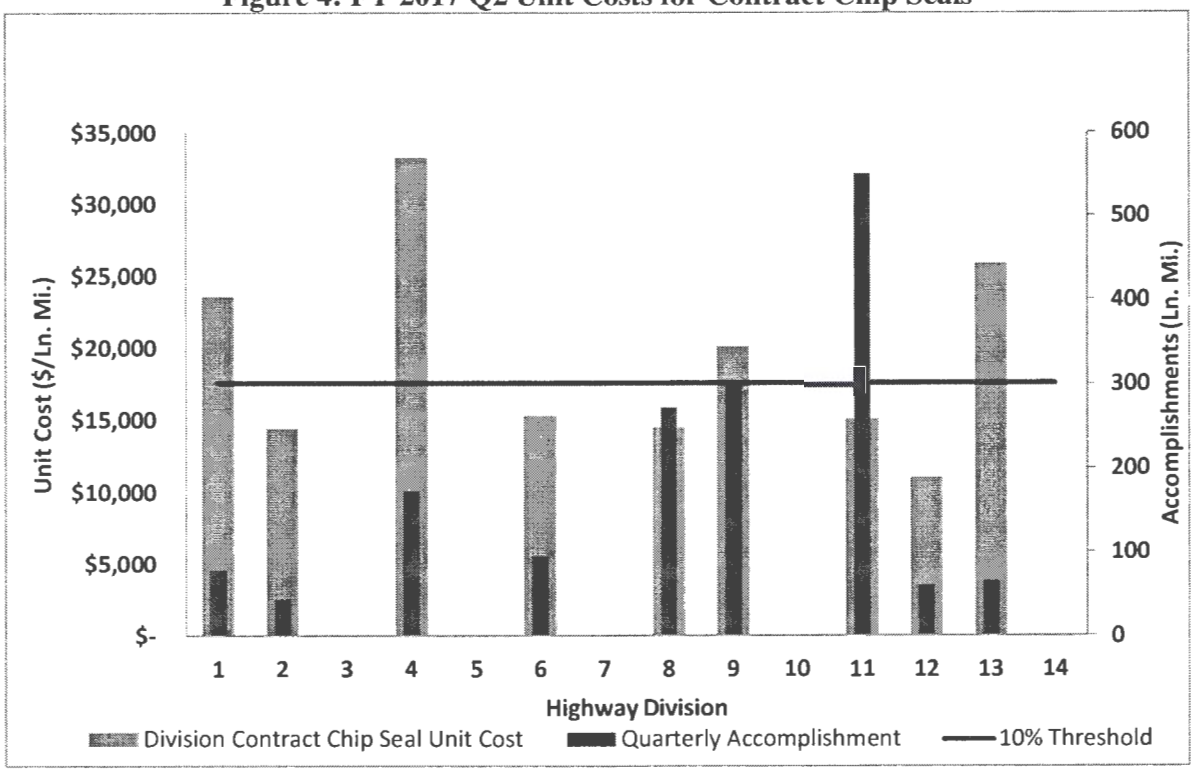
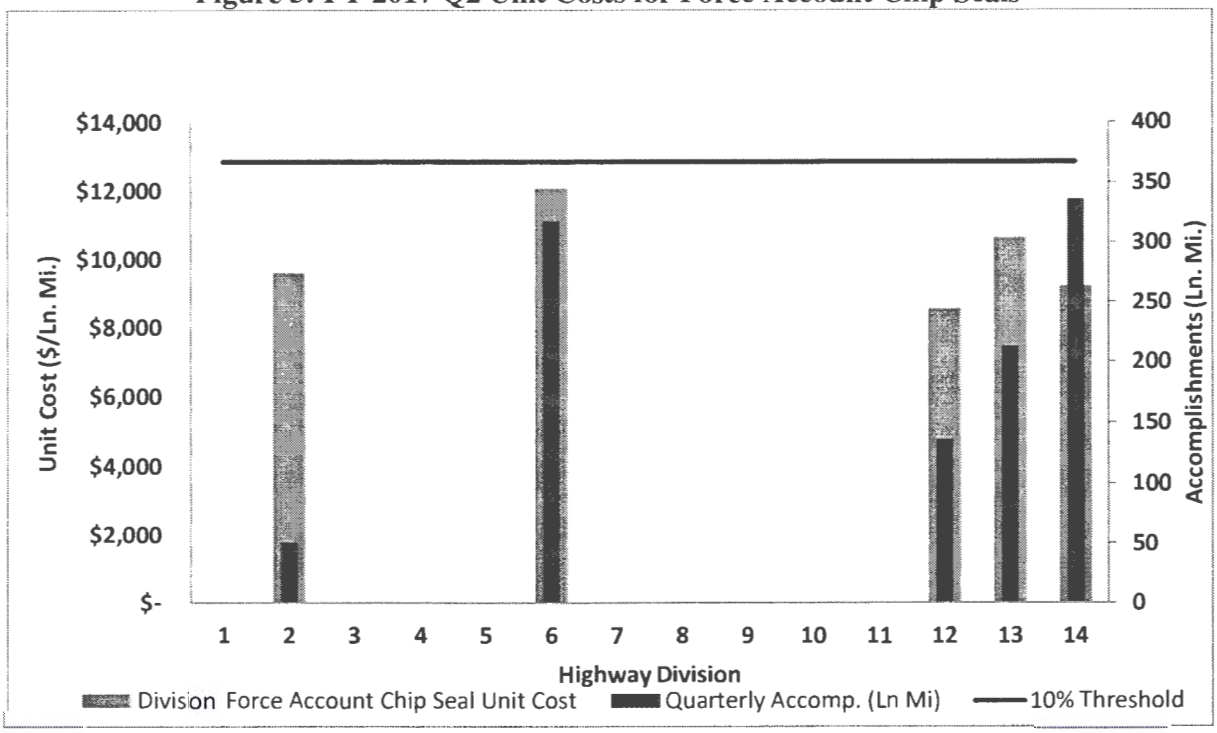


Figure 5: FY 2017 Q2 Unit Costs for Force Account Chip Seals



In regards to crack sealing, as shown in Figures 6 & 7, a total of 3 Divisions exceeded the 10% limit above the established baseline unit costs for crack sealing on the primary system, and 2 exceeded the baseline for the secondary system. A table with all of the crack sealing results can be found in Appendix B, and justifications concerning any noncompliance can be found in the appropriate appendix for each of the 14 Highway Divisions.

For both the primary and secondary systems, Figures 6 & 7 illustrate the recurring observation that reveals where higher amounts of work accomplishments are present, unit costs are more likely to meet the established baseline threshold.

Figure 6: FY 2017 Q2 Unit Costs for Crack Sealing – Primary System

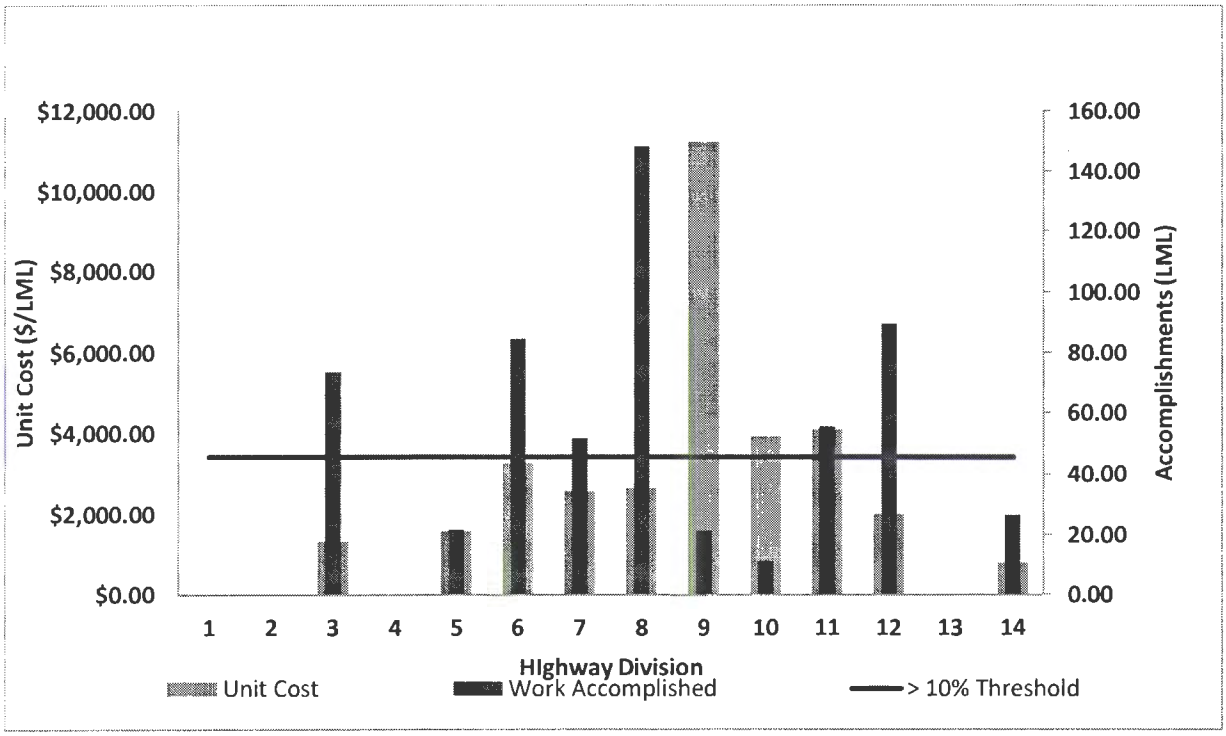
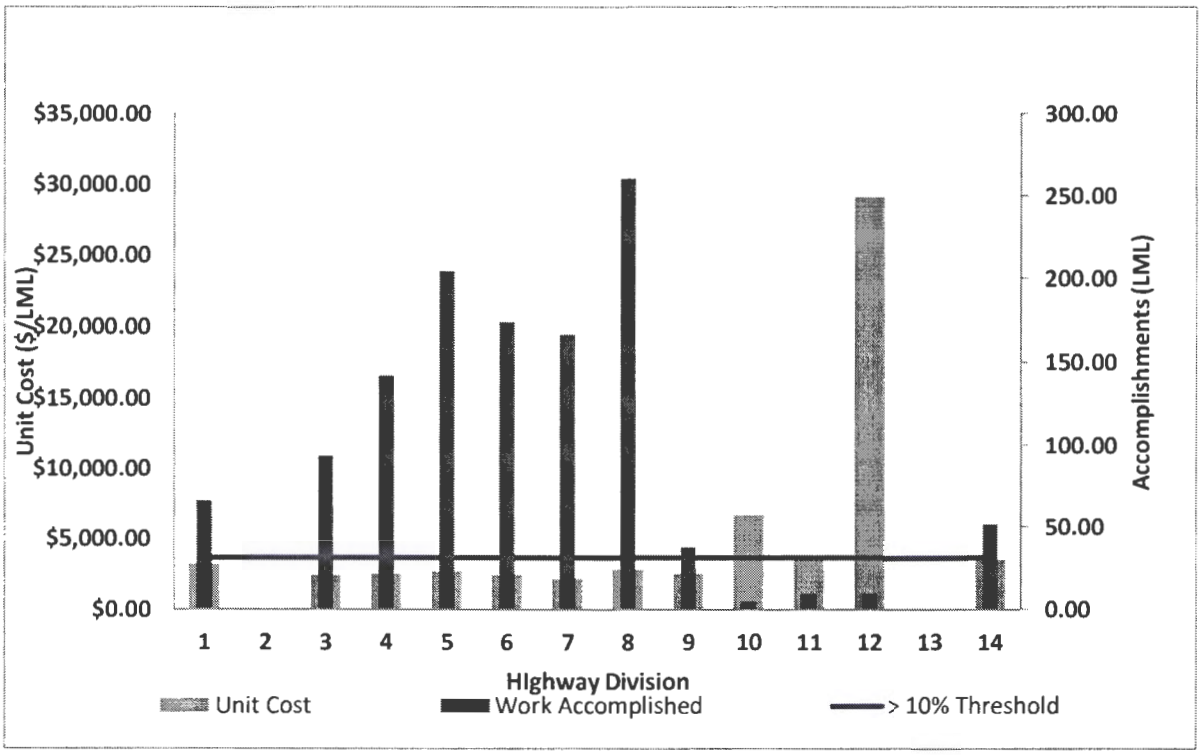


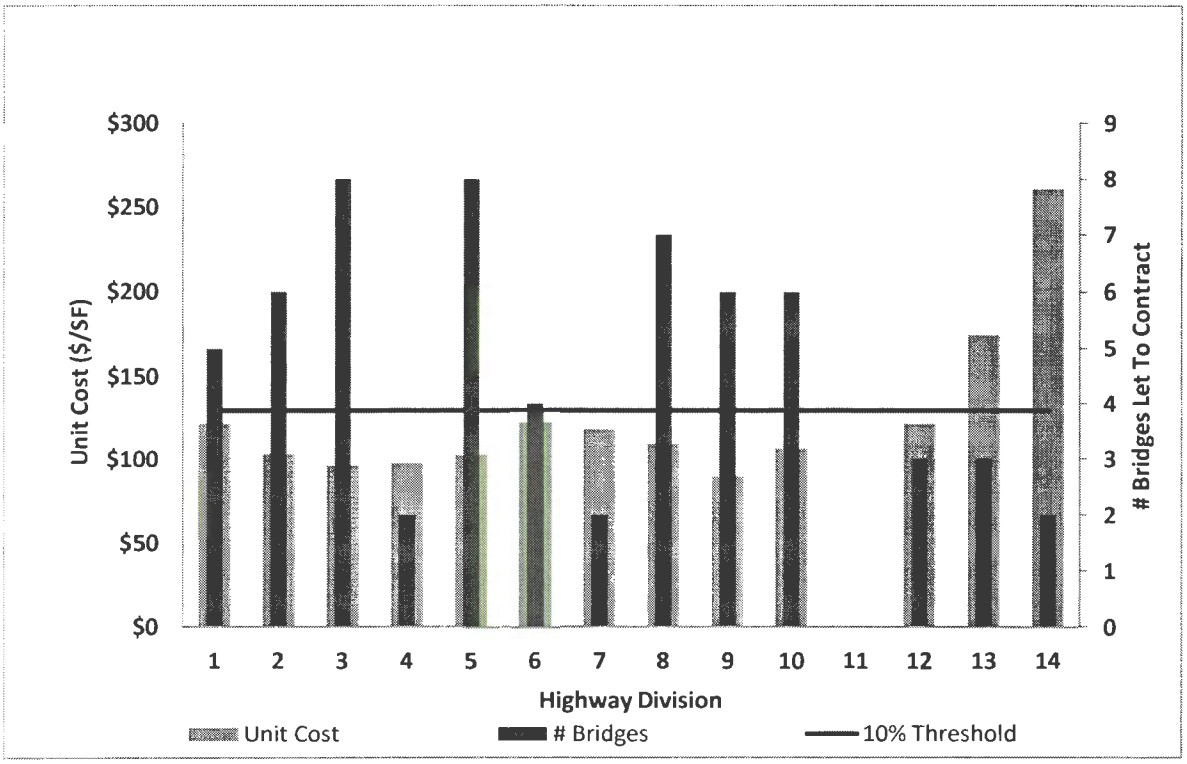
Figure 7: FY 2017 Q2 Unit Costs for Crack Sealing – Secondary System



Bridge Replacement

Bridge replacements summarized in this analysis include both Division Managed and Express Design Build Projects on the secondary system. As stated in the *Efficiency – Establishing Baseline Unit Pricing & Streamlining Project Delivery* report, unit costs for these bridge replacements are shown on a "dollars per square foot" basis which is a common calculation in the bridge industry. Unit costs were calculated for this reporting period by comparing line item bid results for all major bridge components. Only 3 Divisions have Express Design Build bridge replacement projects included in this reporting period and only Division 11exceeded the 10% threshold, the justification for which can be found in the Appendix O. Unit cost results for Division Managed Bridge Replacements are shown below in Figure 8 and results for both types of bridge replacements are located in Appendix C.

Figure 8: FY 2017 Q2 Division Managed Bridge Replacement Unit Costs



Highway Divisions 13 & 14 have unit costs that exceed the 10% threshold above the established statewide baseline unit costs. As stated in earlier reports, these are the result of projects with unique circumstances such as specialized line items, distinct traffic situations, and remote project locations. Detailed justifications for these overages are included with the respective Division's justification table in the appendices. These results were not unpredictable as in-place bridge costs can vary significantly due to regional differences such as distance to concrete batch plants, shipping costs for prefabricated bridge components and foundation types, all of which can lead to variances in excess of 10%.

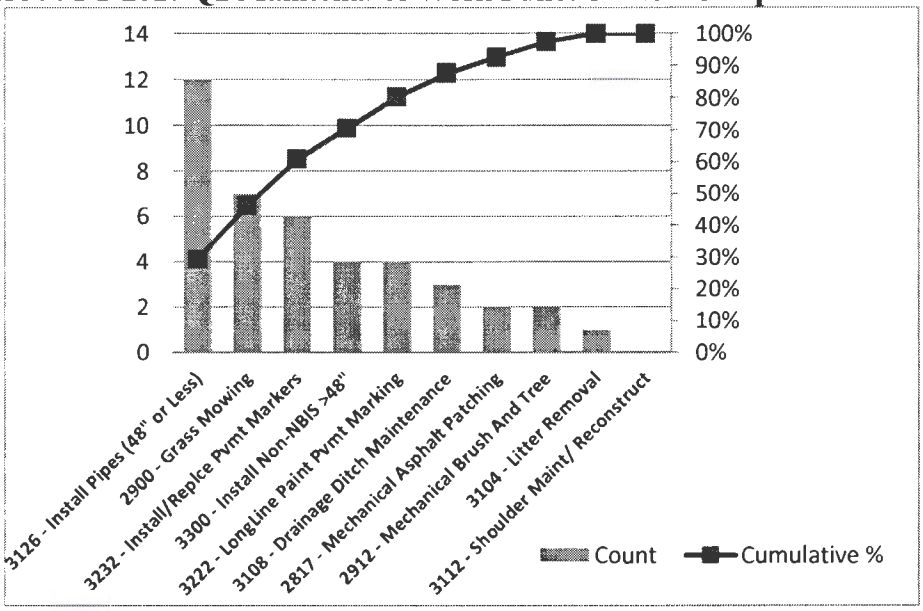
Maintenance Work Activities

Unit costs were calculated for the 10 identified maintenance work functions based on charges made during the reporting period. Due to the size of the data table, these unit costs are only reported in Appendix D. There were instances where Division unit costs exceeded the 10% threshold above the established statewide baseline unit cost. Justifications for these instances are included in the appendix that corresponds to the applicable Highway Division.

In previous reports, there were concerns about data sensitivity due to the shorter reporting periods because of the timing of when different cost elements associated with maintenance work functions post to the accounting system. For example, if a maintenance project overlaps a reporting period start or end date, then all charges for that particular work function may not have posted or work accomplished for that project may not have been recorded. When this happens, the result is erroneous and not representative of actual results. Now that data from a full year of maintenance work function data is included for analysis, the Department can begin making more useful observations from the results.

For this reporting period, there were 41 instances of non-compliance out of 275 work function totals across the 14 Highway Divisions. Figure 9 below illustrates the 10 different work functions and the number of instances of non-compliance of each for SFY 2017 Q2. One important observation to note is that 39% of the total instances where the Divisions' unit cost exceeded the statewide baseline unit cost were related to pipe replacements (work functions 3126 and 3300). Both work functions for pipe replacements are ones that are easily susceptible cost variability due to varying material costs for pipe type and size, as well as working conditions such as depth, length, soil conditions, traffic conditions, etc. Therefore, it is not surprising that these particular work functions account for such a large portion of the instances of non-compliance.

Figure 9: FY 2017 Q2 Maintenance Work Function Non-Compliance Instances



Other than project variability as described for the pipe replacement work functions, common justifications for exceeding the baseline unit costs include costs resulting from competively bid projects, specialized working conditions, and instances where low quantities of work hindered production efficiency. In addition, while Highway Divisions continue to make progress with proper data capture, which involves ensuring that work is charged to the appropriate work function, ensuring the correct recording of work accomplished, and ensuring that no data entry errors are made, this remains something that the Divisions are combatting and continues to result in inaccurate baseline unit costs in some cases.

Free on Board (FOB) Goods

Unit costs for the identified FOB goods were calculated for this quarter based on what goods were received and paid for during the reporting period. Results for FOB Goods can be seen below.

Tables 3 & 4: FY 2017 Q2 Unit Prices for CRS-2L & 78M Stone

CRS-2L			
Division	Division Unit Cost	Baseline Unit Cost	Status
1		$2.18	
2	$1.15	$2.18	
3		$2.18	
4		$2.18	
5		$2.18	
6	$1.16	$2.18	
7		$2.18	
8		$2.18	
9	$1.40	$2.18	
10	$1.23	$2.18	
11		$2.18	
12		$2.18	
13	$1.11	$2.18	
14	$1.20	$2.18	

78M Stone			
Division	Division Unit Cost	Baseline Unit Cost	Status
1	$24.67	$22.00	
2		$22.00	
3	$23.72	$22.00	
4	$21.47	$22.00	
5	$21.17	$22.00	
6		$22.00	
7	$19.77	$22.00	
8	$23.97	$22.00	
9	$24.33	$22.00	Over 10%
10	$18.73	$22.00	
11	$16.85	$22.00	
12	$20.49	$22.00	
13	$17.22	$22.00	
14	$21.14	$22.00	

Tables 5 & 6: FY 2017 Q2 Unit Prices for S9.5A&B & ABC Stone

S9.5 A & S9.5B			
Division	Division Unit Cost	Baseline Unit Cost	Status
1	$70.80	$74.10	
2	$60.53	$74.10	
3	$61.95	$74.10	
4	$59.81	$74.10	
5	$53.07	$74.10	
6	$63.54	$74.10	
7	$55.36	$74.10	
8	$55.63	$74.10	
9	$53.48	$74.10	
10	$59.28	$74.10	
11	$59.31	$74.10	
12	$50.46	$74.10	
13	$70.37	$74.10	
14	$72.30	$74.10	

ABC Stone			
Division	Division Unit Cost	Baseline Unit Cost	Status
1	$16.84	$15.86	
2	$21.66	$15.86	Over 10%
3	$18.76	$15.86	Over 10%
4	$16.96	$15.86	
5	$15.58	$15.86	
6	$16.90	$15.86	
7	$17.52	$15.86	
8	$18.00	$15.86	Over 10%
9	$20.38	$15.86	Over 10%
10	$19.20	$15.86	Over 10%
11	$12.71	$15.86	
12	$17.57	$15.86	Over 10%
13	$11.94	$15.86	
14	$15.35	$15.86	

FOB Goods are competitively bid items that are awarded to the lowest bidder. Similarly to the commodities used in contract resurfacing, prices for these materials are market-driven and thus the Department has little control over the cost of these goods. However, variances in these costs often are the result of plant and quarry locations, competition, as well as supply and demand factors.

Conclusions

After completing this fourth quarterly report of baseline unit costs, several observations can be made by the Department of Transportation. First, this quarterly report is the first report that contains an entire year's worth of data. Therefore, it is in itself a baseline measurement that the Department can use in the future for comparison purposes to determine trends, etc. over time. Moving forward, it is the intent of the Department to begin reporting on a rolling year at the conclusion of each quarter; that is, data from the previous 3 quarters will be included as well as that of the quarter that just ended. This approach will assist in limiting variability in data and data inaccuracies caused by timing of contractor and material payments, timing of cost expenditures, timing as it relates to capturing work accomplished, projects and work activities with low amounts of work accomplished, projects with unique circumstances and requirements, work performed by contract, and goods purchased by low bid contract.

The aforementioned issues concerning data variability and inaccuracies still had an impact in the results presented in this quarterly report. In addition, while much improvement has been made and much more focus has been placed by managers, proper work coding and data entry continue to be areas that can be improved further, especially in regards to maintenance work functions. Lastly, we continue to have occasional instances where baseline unit costs are exceeded for goods used in and purchased for use in Department of Transportation projects that are competitively bid contract line items. Prices of these items can vary for a multitude of reasons, depending on the particular contract or item in question. Unfortunately, these items are primarily and almost solely market driven and therefore Divisions have little control to try to address them.

In closing, the Department continues to make positive progress in regards to Highway Divisions conducting their operations within 10% of established statewide baseline costs. Since the Department began tracking and reporting on these costs in the fall of 2015, the quality of data capture and reporting efforts has improved greatly, and Highway Divisions have placed emphasis on meeting production rates and achieving the required outcomes. These efforts will continue moving forward in 2017, and in conjunction with the new Road Maintenance Improvement Plans (RMIPs), the Department will expand and increase its ability to make data driven decisions to effectively and efficiently maintain its network.

Appendix A – Contract Resurfacing

Contract Resurfacing - Primary					
Div.	Quarterly Costs	Quarterly Accomp. (Ln Mi)	Division Primary Unit Cost	Statewide Baseline Unit Cost	Status
1	$11,298,476.12	172.738	$65,408.17	$97,940.30	
2	$22,566,167.22	156.239	$144,433.64	$97,940.30	Over 10%
3	$25,722,428.30	161.788	$158,988.48	$97,940.30	Over 10%
4	$11,281,883.23	158.495	$71,181.32	$97,940.30	
5	$23,493,530.34	340.443	$69,008.70	$97,940.30	
6	$6,555,693.69	78.668	$83,333.68	$97,940.30	
7	$8,540,569.11	88.076	$96,968.18	$97,940.30	
8	$13,547,984.52	166.206	$81,513.21	$97,940.30	
9	$7,080,427.71	86.728	$81,639.47	$97,940.30	
10	$8,085,438.41	66.923	$120,817.03	$97,940.30	Over 10%
11	$13,165,387.33	147.828	$89,058.82	$97,940.30	
12	$14,048,863.85	166.662	$84,295.54	$97,940.30	
13	$20,715,049.08	270.583	$76,557.10	$97,940.30	
14	$8,503,196.71	49.219	$172,762.48	$97,940.30	Over 10%

Contract Resurfacing - Secondary					
Div.	Quarterly Costs	Quarterly Accomp. (Ln Mi)	Division Secondary Unit Cost	Statewide Baseline Unit Cost	Status
1	$15,505,550.92	349.245	$44,397.35	$61,422.01	
2	$7,688,025.75	126.958	$60,555.66	$61,422.01	
3	$11,898,524.02	131.287	$90,629.87	$61,422.01	Over 10%
4	$15,657,631.33	264.131	$59,279.79	$61,422.01	
5	$20,632,297.34	265.947	$77,580.49	$61,422.01	Over 10%
6	$6,535,897.74	105.123	$62,173.81	$61,422.01	
7	$11,601,384.01	177.084	$65,513.45	$61,422.01	
8	$4,934,023.16	76.66	$64,362.42	$61,422.01	
9	$11,917,616.79	172.601	$69,047.21	$61,422.01	Over 10%
10	$5,502,918.05	51.124	$107,638.64	$61,422.01	Over 10%
11	$7,835,794.06	93.998	$83,361.28	$61,422.01	Over 10%
12	$28,225,421.58	452.277	$62,407.38	$61,422.01	
13	$15,701,933.46	211.124	$74,373.04	$61,422.01	Over 10%
14	$6,397,365.06	79.326	$80,646.51	$61,422.01	Over 10%

Appendix B – Pavement Preservation
Chip Seals

Pavement Preservation - Contract Chip Seals					
Div.	Quarterly Costs	Quarterly Accomp. (Ln Mi)	Division Unit Cost	Statewide Baseline Unit Cost	Status
1	$1,866,210.42	79.114	$23,588.88	$15,942.76	Over 10%
2	$633,793.01	43.922	$14,429.97	$15,942.76	
3				$15,942.76	
4	$5,751,813.16	172.888	$33,269.01	$15,942.76	Over 10%
5				$15,942.76	
6	$1,463,489.17	95.674	$15,296.62	$15,942.76	
7				$15,942.76	
8	$3,937,103.04	271.738	$14,488.60	$15,942.76	
9	$6,026,416.54	299.458	$20,124.41	$15,942.76	Over 10%
10				$15,942.76	
11	$8,291,591.71	550.720	$15,055.91	$15,942.76	
12	$667,172.72	60.422	$11,041.88	$15,942.76	
13	$1,686,087.44	65.324	$25,811.15	$15,942.76	Over 10%
14				$15,942.76	

Pavement Preservation - Force Account Chip Seals					
Div.	Quarterly Costs	Quarterly Accomp. (Ln Mi)	Division Unit Cost	Statewide Baseline Unit Cost	Status
1				$11,694.17	
2	486,549.03	50.643	$9,607.43	$11,694.17	
3				$11,694.17	
4				$11,694.17	
5				$11,694.17	
6	3,840,103.75	317.608	$12,090.70	$11,694.17	
7				$11,694.17	
8				$11,694.17	
9				$11,694.17	
10				$11,694.17	
11				$11,694.17	
12	1,163,042.91	135.94	$8,555.56	$11,694.17	
13	2,268,829.27	213.044	$10,649.58	$11,694.17	
14	3,099,611.85	335.904	$9,227.67	$11,694.17	

Pavement Preservation
Crack Seals

Crack Sealing								
Div	Rd System	Work Function	Amount	UOM	Cost	Unit Cost	SW BUC	Status
1	Primary	2822- Crack Sealing	null	LML	$311.34	null	$3,100.00	
1	Secondary	2822- Crack Sealing	65.67	LML	$208,189.85	$3,170.24	$3,300.00	
2	Primary	2822- Crack Sealing	null	LML	$9,100.91	null	$3,100.00	
2	Secondary	2822- Crack Sealing	null	LML	$20,684.75	null	$3,300.00	
3	Primary	2822- Crack Sealing	73.68	LML	$97,696.55	$1,325.96	$3,100.00	
3	Secondary	2822- Crack Sealing	93.10	LML	$221,835.63	$2,382.77	$3,300.00	
4	Primary	2822- Crack Sealing	null	LML	$172.38	null	$3,100.00	
4	Secondary	2822- Crack Sealing	142.00	LML	$355,978.17	$2,506.89	$3,300.00	
5	Primary	2822- Crack Sealing	21.76	LML	$34,786.05	$1,598.62	$3,100.00	
5	Secondary	2822- Crack Sealing	204.62	LML	$545,060.17	$2,663.77	$3,300.00	
6	Primary	2822- Crack Sealing	84.78	LML	$276,785.53	$3,264.75	$3,100.00	
6	Secondary	2822- Crack Sealing	174.24	LML	$422,633.98	$2,425.59	$3,300.00	

Crack Sealing								
7	Primary	2822- Crack Sealing	51.74	LML	$133,994.02	$2,589.76	$3,100.00	
7	Secondary	2822- Crack Sealing	166.61	LML	$354,805.98	$2,129.56	$3,300.00	
8	Primary	2822- Crack Sealing	148.42	LML	$395,727.11	$2,666.27	$3,100.00	
8	Secondary	2822- Crack Sealing	260.47	LML	$740,907.30	$2,844.50	$3,300.00	
9	Primary	2822- Crack Sealing	21.50	LML	$241,693.75	$11,241.57	$3,100.00	Over 10%
9	Secondary	2822- Crack Sealing	37.26	LML	$94,716.93	$2,542.05	$3,300.00	
10	Primary	2822- Crack Sealing	11.00	LML	$43,157.15	$3,923.38	$3,100.00	Over 10%
10	Secondary	2822- Crack Sealing	4.40	LML	$29,287.76	$6,656.31	$3,300.00	Over 10%
11	Primary	2822- Crack Sealing	55.70	LML	$228,296.84	$4,098.69	$3,100.00	Over 10%
11	Secondary	2822- Crack Sealing	9.30	LML	$34,726.41	$3,734.02	$3,300.00	Over 10%
12	Primary	2822- Crack Sealing	89.48	LML	$180,040.25	$2,012.07	$3,100.00	
12	Secondary	2822- Crack Sealing	9.80	LML	$285,142.62	$29,096.19	$3,300.00	Over 10%
14	Primary	2822- Crack Sealing	26.50	LML	$21,322.27	$804.61	$3,100.00	
14	Secondary	2822- Crack Sealing	51.61	LML	$181,086.82	$3,508.75	$3,300.00	

Appendix C – Bridge Replacements

Bridge Replacement Unit Costs ($/SF)						
Division	Division Managed			Express Design Build		
	Unit Cost	Statewide Baseline Unit Cost	Status	Unit Cost	Statewide Baseline Unit Cost	Status
1	$121.66	$117.42			$153.40	
2	$103.12	$117.42			$153.40	
3	$96.03	$117.42			$153.40	
4	$97.60	$117.42		$103.30	$153.40	
5	$102.16	$117.42			$153.40	
6	$121.64	$117.42		$104.06	$153.40	
7	$118.24	$117.42			$153.40	
8	$109.25	$117.42			$153.40	
9	$89.45	$117.42			$153.40	
10	$106.30	$117.42			$153.40	
11		$117.42		$213.84	$153.40	Over 10%
12	$121.26	$117.42			$153.40	
13	$174.63	$117.42	Over 10%		$153.40	
14	$260.62	$117.42	Over 10%		$153.40	

Appendix D – Maintenance Work Functions

Maintenance Work Functions - Division 1									
Div	**System**	**Func Area**	**Activity Name**	**UOM**	**Work Amount**	**Total Cost**	**Unit Cost**	**SW BUC**	**STATUS**
1	Primary	2817	Mechanical Asphalt Patching	TON	64.35	$13,732.56	213.4	$250.32	
1	Secondary	2817	Mechanical Asphalt Patching	TON	640.65	$120,751.47	$188.48	$222.53	
1	Primary	2900	Grass Mowing	SHM	13,379.69	$951,742.25	$71.13	$63.34	Over 10%
1	Secondary	2900	Grass Mowing	SHM	33,433.02	$1,598,576.59	$47.81	$39.41	Over 10%
1	Primary	2912	Mechanical Brush And Tree	SHM	537.06	$195,529.59	$364.07	$698.81	
1	Secondary	2912	Mechanical Brush And Tree	SHM	2,521.72	$688,468.88	273.02	$684.19	
1	Primary	3104	Litter Removal	SHM	212.61	$25,248.05	$118.75	$279.65	
1	Secondary	3104	Litter Removal	SHM	1,193.35	$254,825.31	$213.54	$334.91	
1	Primary	3108	Drainage Ditch Maintenance	SHM	8.44	$12,338.20	$1,461.87	$12,934.22	
1	Secondary	3108	Drainage Ditch Maintenance	SHM	117.46	$105,150.71	$895.20	$10,153.76	
1	Primary	3112	Shoulder Maint/ Reconstruct	SHM	12.55	$15,007.66	$1,195.83	$5,672.95	
1	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	48.82	$136,367.99	2793.28	$4,114.58	
1	Primary	3126	Install Pipes (48" or Less)	LF	440.00	$83,736.50	$190.31	$194.92	
1	Secondary	3126	Install Pipes (48" or Less)	LF	1,775.00	$232,581.29	131.03	$155.14	
1	Primary	3222	LongLine Paint Pvmt Marking	LF	96,061.00	$9,474.54	$0.10	$0.16	
1	Secondary	3222	LongLine Paint Pvmt Marking	LF	0.00	$73.38	null	$0.07	
1	Primary	3232	Install/Replace Pvmt Markers	EA	0.00	$169,144.27	null	$20.37	
1	Primary	3300	Install Non-NBIS >48"	LF	0.00	$0.93	null	$1,084.13	
1	Secondary	3300	Install Non-NBIS >48"	LF	144.00	$457,515.05	3177.19	$1,781.52	Over 10%

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 2									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
2	Primary	2817	Mechanical Asphalt Patching	TON	143.04	$6,982.00	48.81	$250.32	
2	Secondary	2817	Mechanical Asphalt Patching	TON	86,857.80	$640,393.24	$7.37	$222.53	
2	Primary	2900	Grass Mowing	SHM	8,633.86	$523,671.17	$60.65	$63.34	
2	Secondary	2900	Grass Mowing	SHM	27,602.12	$1,353,674.77	$49.04	$39.41	Over 10%
2	Primary	2912	Mechanical Brush And Tree	SHM	557.18	$332,131.18	$596.09	$698.81	
2	Secondary	2912	Mechanical Brush And Tree	SHM	2,826.61	$958,713.13	$339.17	$684.19	
2	Primary	3104	Litter Removal	SHM	4.00	$730.17	$182.54	$279.65	
2	Secondary	3104	Litter Removal	SHM	142.38	$33,907.91	$238.15	$334.91	
2	Primary	3108	Drainage Ditch Maintenance	SHM	5.08	$38,795.97	$7,637.00	$12,934.22	
2	Secondary	3108	Drainage Ditch Maintenance	SHM	1,459.21	$556,921.44	$381.66	$10,153.76	
2	Primary	3112	Shoulder Maint/ Reconstruct	SHM	0.00	$12,767.77	null	$5,672.95	
2	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	510.86	$54,921.82	$107.51	$4,114.58	
2	Primary	3126	Install Pipes (48" or Less)	LF	306.00	$57,637.38	188.36	$194.92	
2	Secondary	3126	Install Pipes (48" or Less)	LF	5,673.16	$853,998.72	150.53	$155.14	
2	Primary	3222	LongLine Paint Pvmt Marking	LF	93,182.00	$9,082.96	$0.10	$0.16	
2	Secondary	3222	LongLine Paint Pvmt Marking	LF	720,773.00	$44,484.57	$0.06	$0.07	
2	Primary	3232	Install/Replace Pvmt Markers	EA	35.00	$575.07	$16.43	$20.37	
2	Primary	3300	Install Non-NBIS >48"	LF	0.00	$4,214.87	null	$1,084.13	
2	Secondary	3300	Install Non-NBIS >48"	LF	83.70	$65,818.33	786.36	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 3									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
3	Primary	2817	Mechanical Asphalt Patching	TON	397.00	$81,535.08	$205.38	$250.32	
3	Secondary	2817	Mechanical Asphalt Patching	TON	58.01	$11,179.82	$192.72	$222.53	
3	Primary	2900	Grass Mowing	SHM	12,365.01	$629,159.75	$50.88	$63.34	
3	Secondary	2900	Grass Mowing	SHM	29,197.29	$940,249.95	$32.20	$39.41	
3	Primary	2912	Mechanical Brush And Tree	SHM	912.23	$305,069.08	$334.42	$698.81	
3	Secondary	2912	Mechanical Brush And Tree	SHM	4,730.10	$1,059,154.72	$223.92	$684.19	
3	Primary	3104	Litter Removal	SHM	113.00	$16,745.86	$148.19	$279.65	
3	Secondary	3104	Litter Removal	SHM	205.65	$53,542.63	$260.36	$334.91	
3	Primary	3108	Drainage Ditch Maintenance	SHM	1.40	$11,793.36	8423.83	$12,934.22	
3	Secondary	3108	Drainage Ditch Maintenance	SHM	5.01	$59,929.76	$11,962.03	$10,153.76	Over 10%
3	Primary	3112	Shoulder Maint/ Reconstruct	SHM	20.74	$32,693.87	$1,576.37	$5,672.95	
3	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	33.25	$104,992.19	3157.66	$4,114.58	
3	Primary	3126	Install Pipes (48" or Less)	LF	340.00	$124,373.52	$365.80	$194.92	Over 10%
3	Secondary	3126	Install Pipes (48" or Less)	LF	1,766.00	$365,664.54	$207.06	$155.14	Over 10%
3	Primary	3222	LongLine Paint Pvmt Marking	LF	29,212.00	$2,093.56	$0.07	$0.16	
3	Secondary	3222	LongLine Paint Pvmt Marking	LF	5,759,971.00	$369,960.34	$0.06	$0.07	
3	Primary	3232	Install/Replace Pvmt Markers	EA	224.00	$2,173.63	$9.70	$20.37	
3	Secondary	3232	Install/Replace Pvmt Markers	EA	203.00	$1,894.60	$9.33	$15.79	
3	Primary	3300	Install Non-NBIS >48"	LF	0.00	$158,433.59	null	$1,084.13	
3	Secondary	3300	Install Non-NBIS >48"	LF	508.50	$1,569,113.25	$3,085.77	$1,781.52	Over 10%

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 4									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
4	Primary	2817	Mechanical Asphalt Patching	TON	111.22	$28,039.42	$252.11	$250.32	
4	Secondary	2817	Mechanical Asphalt Patching	TON	517.60	$58,557.96	$113.13	$222.53	
4	Primary	2900	Grass Mowing	SHM	14,880.34	$793,804.64	$53.35	$63.34	
4	Secondary	2900	Grass Mowing	SHM	41,382.02	$1,535,831.70	$37.11	$39.41	
4	Primary	2912	Mechanical Brush And Tree	SHM	524.63	$95,560.36	$182.15	$698.81	
4	Secondary	2912	Mechanical Brush And Tree	SHM	1,536.77	$453,625.63	$295.18	$684.19	
4	Primary	3104	Litter Removal	SHM	189.00	$58,785.33	$311.03	$279.65	Over 10%
4	Secondary	3104	Litter Removal	SHM	359.66	$103,920.83	288.94	$334.91	
4	Primary	3108	Drainage Ditch Maintenance	SHM	2.30	$3,273.76	$1,423.37	$12,934.22	
4	Secondary	3108	Drainage Ditch Maintenance	SHM	74.30	$49,741.52	669.47	$10,153.76	
4	Primary	3112	Shoulder Maint/ Reconstruct	SHM	1.00	$3,235.29	3235.29	$5,672.95	
4	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	20.20	$51,287.28	2538.97	$4,114.58	
4	Primary	3126	Install Pipes (48" or Less)	LF	266.00	$40,259.39	$151.35	$194.92	
4	Secondary	3126	Install Pipes (48" or Less)	LF	1,535.00	$211,735.81	$137.94	$155.14	
4	Primary	3222	LongLine Paint Pvmt Marking	LF	199,746.00	$14,885.25	$0.07	$0.16	
4	Secondary	3222	LongLine Paint Pvmt Marking	LF	2,768,181.00	$154,774.34	0.06	$0.07	
4	Primary	3232	Install/Replace Pvmt Markers	EA	30.00	$3,036.62	$101.22	$20.37	Over 10%
4	Secondary	3232	Install/Replace Pvmt Markers	EA	10.00	$638.16	$63.82	$15.79	Over 10%
4	Primary	3300	Install Non-NBIS >48"	LF	60.00	$58,149.72	$969.16	$1,084.13	
4	Secondary	3300	Install Non-NBIS >48"	LF	260.00	$132,787.21	510.72	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 5									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
5	Primary	2817	Mechanical Asphalt Patching	TON	81.68	$30,734.76	$376.28	$250.32	Over 10%
5	Secondary	2817	Mechanical Asphalt Patching	TON	2,496.59	$474,127.49	189.91	$222.53	
5	Primary	2900	Grass Mowing	SHM	9,375.58	$625,731.98	$66.74	$63.34	
5	Secondary	2900	Grass Mowing	SHM	43,902.84	$1,679,030.87	$38.24	$39.41	
5	Primary	2912	Mechanical Brush And Tree	SHM	108.00	$74,118.20	$686.28	$698.81	
5	Secondary	2912	Mechanical Brush And Tree	SHM	1,763.38	$630,974.33	$357.82	$684.19	
5	Primary	3104	Litter Removal	SHM	3,269.30	$247,454.14	75.69	$279.65	
5	Secondary	3104	Litter Removal	SHM	877.86	$281,354.33	320.5	$334.91	
5	Primary	3108	Drainage Ditch Maintenance	SHM	0.00	$1,627.95	null	$12,934.22	
5	Secondary	3108	Drainage Ditch Maintenance	SHM	13.15	$19,423.06	$1,477.04	$10,153.76	
5	Primary	3112	Shoulder Maint/ Reconstruct	SHM	85.96	$104,400.60	$1,214.53	$5,672.95	
5	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	40.97	$50,856.14	$1,241.30	$4,114.58	
5	Primary	3126	Install Pipes (48" or Less)	LF	292.00	$77,680.10	266.03	$194.92	Over 10%
5	Secondary	3126	Install Pipes (48" or Less)	LF	2,875.10	$563,726.61	$196.07	$155.14	Over 10%
5	Primary	leigh	LongLine Paint Pvmt Marking	LF	18,383.00	-$73,897.59	-$4.02	$0.16	
5	Secondary	3222	LongLine Paint Pvmt Marking	LF	3,381,001.00	$1,915.56	$0.00	$0.07	
5	Primary	3232	Install/Replace Pvmt Markers	EA	9,924.00	$105,135.16	$10.59	$20.37	
5	Secondary	3232	Install/Replace Pvmt Markers	EA	1,699.00	$20,901.92	$12.30	$15.79	
5	Primary	3300	Install Non-NBIS >48"	LF	0.00	$166.29	null	$1,084.13	
5	Secondary	3300	Install Non-NBIS >48"	LF	0.00	$600.43	null	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 6									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
6	Primary	2817	Mechanical Asphalt Patching	TON	19.88	$10,370.08	521.63	$250.32	Over 10%
6	Secondary	2817	Mechanical Asphalt Patching	TON	792.42	$108,031.83	136.33	$222.53	
6	Primary	2900	Grass Mowing	SHM	15,187.24	$704,751.00	46.4	$63.34	
6	Secondary	2900	Grass Mowing	SHM	44,871.70	$1,329,292.95	$29.62	$39.41	
6	Primary	2912	Mechanical Brush And Tree	SHM	1,202.03	$292,430.21	243.28	$698.81	
6	Secondary	2912	Mechanical Brush And Tree	SHM	3,887.06	$910,538.39	$234.25	$684.19	
6	Primary	3104	Litter Removal	SHM	25.00	$2,976.10	119.04	$279.65	
6	Secondary	3104	Litter Removal	SHM	270.44	$52,254.91	193.22	$334.91	
6	Primary	3108	Drainage Ditch Maintenance	SHM	2.67	$30,530.47	$11,434.63	$12,934.22	
6	Secondary	3108	Drainage Ditch Maintenance	SHM	67.42	$335,902.47	$4,982.24	$10,153.76	
6	Primary	3112	Shoulder Maint/ Reconstruct	SHM	18.51	$26,083.71	$1,409.17	$5,672.95	
6	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	222.75	$528,456.20	2372.42	$4,114.58	
6	Primary	3126	Install Pipes (48" or Less)	LF	768.00	$250,935.73	$326.74	$194.92	Over 10%
6	Secondary	3126	Install Pipes (48" or Less)	LF	3,357.68	$788,687.30	$234.89	$155.14	Over 10%
6	Primary	3222	LongLine Paint Pvmt Marking	LF	23,366.00	$3,900.68	$0.17	$0.16	
6	Secondary	3222	LongLine Paint Pvmt Marking	LF	88,991.00	$6,404.07	$0.07	$0.07	
6	Primary	3232	Install/Replace Pvmt Markers	EA	0.00	$104.59	null	$20.37	
6	Secondary	3300	Install Non-NBIS >48"	LF	99.51	$123,044.66	$1,236.51	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 7									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
7	Primary	2817	Mechanical Asphalt Patching	TON	1,076.72	$185,117.20	171.93	$250.32	
7	Secondary	2817	Mechanical Asphalt Patching	TON	14,989.05	$2,078,270.88	$138.65	$222.53	
7	Primary	2900	Grass Mowing	SHM	3,700.09	$509,805.44	137.78	$63.34	Over 10%
7	Secondary	2900	Grass Mowing	SHM	30,474.34	$1,481,758.75	48.62	$39.41	Over 10%
7	Primary	2912	Mechanical Brush And Tree	SHM	919.27	$194,468.45	211.55	$698.81	
7	Secondary	2912	Mechanical Brush And Tree	SHM	3,982.81	$949,552.40	$238.41	$684.19	
7	Primary	3104	Litter Removal	SHM	698.10	$54,355.64	$77.86	$279.65	
7	Secondary	3104	Litter Removal	SHM	1,476.69	$168,079.61	$113.82	$334.91	
7	Primary	3108	Drainage Ditch Maintenance	SHM	0.30	$4,180.41	$13,934.70	$12,934.22	
7	Secondary	3108	Drainage Ditch Maintenance	SHM	0.20	$4,185.51	$20,927.55	$10,153.76	Over 10%
7	Primary	3112	Shoulder Maint/ Reconstruct	SHM	6.57	$15,380.61	$2,341.04	$5,672.95	
7	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	238.49	$141,961.39	$595.25	$4,114.58	
7	Primary	3126	Install Pipes (48" or Less)	LF	161.00	$48,384.31	$300.52	$194.92	Over 10%
7	Secondary	3126	Install Pipes (48" or Less)	LF	3,662.35	$673,788.22	183.98	$155.14	Over 10%
7	Primary	3222	LongLine Paint Pvmt Marking	LF	29,909.20	$5,369.43	$0.18	$0.16	Over 10%
7	Secondary	3222	LongLine Paint Pvmt Marking	LF	5,642,601.70	$372,586.10	$0.07	$0.07	
7	Primary	3232	Install/Replace Pvmt Markers	EA	0.00	$3,649.53	null	$20.37	
7	Secondary	3232	Install/Replace Pvmt Markers	EA	0.00	$4.50	null	$15.79	
7	Primary	3300	Install Non-NBIS >48"	LF	60.00	$94,214.99	$1,570.25	$1,084.13	Over 10%
7	Secondary	3300	Install Non-NBIS >48"	LF	424.42	$624,275.90	$1,470.89	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 8									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
8	Primary	2817	Mechanical Asphalt Patching	TON	20.15	$5,283.65	262.22	$250.32	
8	Secondary	2817	Mechanical Asphalt Patching	TON	7,217.78	$1,195,080.29	$165.57	$222.53	
8	Primary	2900	Grass Mowing	SHM	12,169.34	$572,403.27	$47.04	$63.34	
8	Secondary	2900	Grass Mowing	SHM	40,723.60	$1,370,998.17	$33.67	$39.41	
8	Primary	2912	Mechanical Brush And Tree	SHM	504.52	$293,138.09	581.02	$698.81	
8	Secondary	2912	Mechanical Brush And Tree	SHM	3,158.53	$1,648,744.81	$522.00	$684.19	
8	Primary	3104	Litter Removal	SHM	601.33	$81,871.81	$136.15	$279.65	
8	Secondary	3104	Litter Removal	SHM	753.56	$115,176.40	152.84	$334.91	
8	Primary	3108	Drainage Ditch Maintenance	SHM	2.72	$9,560.85	$3,515.02	$12,934.22	
8	Secondary	3108	Drainage Ditch Maintenance	SHM	18.40	$54,444.63	$2,958.95	$10,153.76	
8	Primary	3112	Shoulder Maint/ Reconstruct	SHM	71.77	$148,441.79	$2,068.30	$5,672.95	
8	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	154.71	$423,272.36	2735.91	$4,114.58	
8	Primary	3126	Install Pipes (48" or Less)	LF	384.00	$69,437.39	$180.83	$194.92	
8	Secondary	3126	Install Pipes (48" or Less)	LF	1,699.00	$306,470.57	$180.38	$155.14	Over 10%
8	Primary	3222	LongLine Paint Pvmt Marking	LF	193,000.00	$9,275.73	$0.05	$0.16	
8	Secondary	3222	LongLine Paint Pvmt Marking	LF	18,842,772.00	$1,134,311.95	$0.06	$0.07	
8	Secondary	3232	Install/Replace Pvmt Markers	EA	0.00	$572.78	null	$15.79	
8	Primary	3300	Install Non-NBIS >48"	LF	0.00	$13,339.92	null	$1,084.13	
8	Secondary	3300	Install Non-NBIS >48"	LF	954.97	$950,037.69	$994.84	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 9									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
9	Primary	2817	Mechanical Asphalt Patching	TON	122.05	$22,600.64	$185.18	$250.32	
9	Secondary	2817	Mechanical Asphalt Patching	TON	9,810.74	$723,156.77	$73.71	$222.53	
9	Primary	2900	Grass Mowing	SHM	9,593.48	$362,214.05	$37.76	$63.34	
9	Secondary	2900	Grass Mowing	SHM	30,205.95	$529,029.44	$17.51	$39.41	
9	Primary	2912	Mechanical Brush And Tree	SHM	2,421.47	$474,861.66	$196.10	$698.81	
9	Secondary	2912	Mechanical Brush And Tree	SHM	6,232.36	$1,452,340.04	$233.03	$684.19	
9	Primary	3104	Litter Removal	SHM	294.00	$39,705.88	$135.05	$279.65	
9	Secondary	3104	Litter Removal	SHM	177.50	$39,520.45	$222.65	$334.91	
9	Primary	3108	Drainage Ditch Maintenance	SHM	0.01	-$636.16	-$63,616.00	$12,934.22	
9	Secondary	3108	Drainage Ditch Maintenance	SHM	1.52	$20,836.32	$13,708.11	$10,153.76	Over 10%
9	Primary	3112	Shoulder Maint/ Reconstruct	SHM	21.02	$69,783.56	3319.86	$5,672.95	
9	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	116.58	$214,475.29	$1,839.73	$4,114.58	
9	Primary	3126	Install Pipes (48" or Less)	LF	486.00	$121,703.46	$250.42	$194.92	Over 10%
9	Secondary	3126	Install Pipes (48" or Less)	LF	1,816.60	$166,604.90	$91.71	$155.14	
9	Primary	3222	LongLine Paint Pvmt Marking	LF	884,585.00	$24,061.43	0.03	$0.16	
9	Secondary	3222	LongLine Paint Pvmt Marking	LF	13,651,862.93	$679,061.79	$0.05	$0.07	
9	Primary	3232	Install/Replace Pvmt Markers	EA	32.00	$6,534.21	$204.19	$20.37	Over 10%
9	Secondary	3232	Install/Replace Pvmt Markers	EA	12.00	$2,967.58	$247.30	$15.79	Over 10%
9	Primary	3300	Install Non-NBIS >48"	LF	3.00	$1,776.62	$592.21	$1,084.13	
9	Secondary	3300	Install Non-NBIS >48"	LF	712.55	$1,350,134.92	1894.79	$1,781.52	

Notes:

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2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 10									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
10	Primary	2817	Mechanical Asphalt Patching	TON	985.42	$189,788.53	$192.60	$250.32	
10	Secondary	2817	Mechanical Asphalt Patching	TON	5,659.77	$631,027.80	$111.49	$222.53	
10	Primary	2900	Grass Mowing	SHM	8,736.13	$1,344,025.16	$153.85	$63.34	Over 10%
10	Secondary	2900	Grass Mowing	SHM	25,474.83	$1,284,798.42	50.43	$39.41	Over 10%
10	Primary	2912	Mechanical Brush And Tree	SHM	708.33	$472,899.55	667.63	$698.81	
10	Secondary	2912	Mechanical Brush And Tree	SHM	3,408.00	$1,864,499.61	547.09	$684.19	
10	Primary	3104	Litter Removal	SHM	6,502.79	$482,445.22	$74.19	$279.65	
10	Secondary	3104	Litter Removal	SHM	6,206.05	$360,664.94	$58.12	$334.91	
10	Primary	3108	Drainage Ditch Maintenance	SHM	400.52	$4,386.45	10.95	$12,934.22	
10	Secondary	3108	Drainage Ditch Maintenance	SHM	706.76	$43,935.07	$62.16	$10,153.76	
10	Primary	3112	Shoulder Maint/ Reconstruct	SHM	14.26	$34,333.16	$2,407.65	$5,672.95	
10	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	94.84	$132,276.21	$1,394.73	$4,114.58	
10	Primary	3126	Install Pipes (48" or Less)	LF	108.00	$40,156.69	$371.82	$194.92	Over 10%
10	Secondary	3126	Install Pipes (48" or Less)	LF	3,550.83	$543,225.45	152.99	$155.14	
10	Primary	3222	LongLine Paint Pvmt Marking	LF	17,282.00	$4,861.28	$0.28	$0.16	Over 10%
10	Secondary	3222	LongLine Paint Pvmt Marking	LF	432,998.00	$42,946.40	$0.10	$0.07	Over 10%
10	Primary	3232	Install/Replace Pvmt Markers	EA	1,759.00	$12,314.06	7	$20.37	
10	Secondary	3232	Install/Replace Pvmt Markers	EA	545.00	$6,415.37	$11.77	$15.79	
10	Primary	3300	Install Non-NBIS >48"	LF	40.00	$39,568.80	$989.22	$1,084.13	
10	Secondary	3300	Install Non-NBIS >48"	LF	1,071.42	$1,205,958.74	$1,125.57	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 11									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
11	Primary	2817	Mechanical Asphalt Patching	TON	1,132.64	$195,138.62	$172.29	$250.32	
11	Secondary	2817	Mechanical Asphalt Patching	TON	16,296.47	$2,360,421.32	$144.84	$222.53	
11	Primary	2900	Grass Mowing	SHM	8,104.07	$442,209.78	$54.57	$63.34	
11	Secondary	2900	Grass Mowing	SHM	39,023.82	$1,092,331.39	27.99	$39.41	
11	Primary	2912	Mechanical Brush And Tree	SHM	466.35	$231,699.03	$496.84	$698.81	
11	Secondary	2912	Mechanical Brush And Tree	SHM	1,645.35	$616,540.45	$374.72	$684.19	
11	Primary	3104	Litter Removal	SHM	102.55	$25,189.38	$245.63	$279.65	
11	Secondary	3104	Litter Removal	SHM	1,026.72	$175,563.67	$170.99	$334.91	
11	Primary	3108	Drainage Ditch Maintenance	SHM	12.92	$45,520.07	$3,523.23	$12,934.22	
11	Secondary	3108	Drainage Ditch Maintenance	SHM	251.56	$235,314.43	$935.42	$10,153.76	
11	Primary	3112	Shoulder Maint/ Reconstruct	SHM	311.18	$349,857.89	$1,124.29	$5,672.95	
11	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	847.44	$926,635.44	$1,093.45	$4,114.58	
11	Primary	3126	Install Pipes (48" or Less)	LF	429.00	$110,567.24	$257.73	$194.92	Over 10%
11	Secondary	3126	Install Pipes (48" or Less)	LF	2,908.42	$471,350.01	$162.06	$155.14	
11	Primary	3222	LongLine Paint Pvmt Marking	LF	1,276,616.00	$76,068.84	0.06	$0.16	
11	Secondary	3222	LongLine Paint Pvmt Marking	LF	6,902,765.00	$385,722.55	$0.06	$0.07	
11	Secondary	3300	Install Non-NBIS >48"	LF	325.00	$312,369.13	$961.14	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 12									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
12	Primary	2817	Mechanical Asphalt Patching	TON	121.00	$22,485.44	$185.83	$250.32	
12	Secondary	2817	Mechanical Asphalt Patching	TON	10,785.80	$1,244,317.05	$115.37	$222.53	
12	Primary	2900	Grass Mowing	SHM	8,669.41	$574,810.16	$66.30	$63.34	
12	Secondary	2900	Grass Mowing	SHM	35,377.61	$1,000,690.63	$28.29	$39.41	
12	Primary	2912	Mechanical Brush And Tree	SHM	159.18	$123,163.06	$773.73	$698.81	Over 10%
12	Secondary	2912	Mechanical Brush And Tree	SHM	1,592.50	$657,735.20	413.02	$684.19	
12	Primary	3104	Litter Removal	SHM	1,448.07	$143,418.27	$99.04	$279.65	
12	Secondary	3104	Litter Removal	SHM	1,863.34	$166,525.70	89.37	$334.91	
12	Primary	3108	Drainage Ditch Maintenance	SHM	0.00	$92.19	null		
12	Primary	3112	Shoulder Maint/ Reconstruct	SHM	50.67	$107,157.04	$2,114.80	$5,672.95	
12	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	79.47	$184,712.65	2324.31	$4,114.58	
12	Primary	3126	Install Pipes (48" or Less)	LF	472.00	$73,779.92	156.31	$194.92	
12	Secondary	3126	Install Pipes (48" or Less)	LF	2,709.20	$382,331.10	141.12	$155.14	
12	Primary	3222	LongLine Paint Pvmt Marking	LF	545,496.00	$22,776.94	$0.04	$0.16	
12	Secondary	3222	LongLine Paint Pvmt Marking	LF	12,892,993.00	$642,921.06	$0.05	$0.07	
12	Primary	3232	Install/Replace Pvmt Markers	EA	0.00	$2,268.34	null	$20.37	
12	Secondary	3232	Install/Replace Pvmt Markers	EA	0.00	$0.00	null	$15.79	
12	Primary	3300	Install Non-NBIS >48"	LF	0.00	$2,618.42	null	$1,084.13	
12	Secondary	3300	Install Non-NBIS >48"	LF	90.00	$159,043.31	1767.15	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 13									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
13	Primary	2817	Mechanical Asphalt Patching	TON	882.02	$108,986.47	$123.56	$250.32	
13	Secondary	2817	Mechanical Asphalt Patching	TON	7,545.86	$1,028,598.01	136.31	$222.53	
13	Primary	2900	Grass Mowing	SHM	10,682.71	$536,021.58	50.18	$63.34	
13	Secondary	2900	Grass Mowing	SHM	25,647.20	$631,793.12	$24.63	$39.41	
13	Primary	2912	Mechanical Brush And Tree	SHM	1,577.49	$286,912.48	181.88	$698.81	
13	Secondary	2912	Mechanical Brush And Tree	SHM	4,819.52	$1,006,639.43	$208.87	$684.19	
13	Primary	3104	Litter Removal	SHM	592.10	$82,345.23	139.07	$279.65	
13	Secondary	3104	Litter Removal	SHM	1,404.29	$249,738.70	177.84	$334.91	
13	Primary	3108	Drainage Ditch Maintenance	SHM	0.20	$1,536.05	$7,680.25	$12,934.22	
13	Secondary	3108	Drainage Ditch Maintenance	SHM	1.60	$5,893.06	$3,683.16	$10,153.76	
13	Primary	3112	Shoulder Maint/ Reconstruct	SHM	41.43	$80,626.85	$1,946.10	$5,672.95	
13	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	60.56	$118,193.92	1951.68	$4,114.58	
13	Primary	3126	Install Pipes (48" or Less)	LF	714.00	$17,932.83	$25.12	$194.92	
13	Secondary	3126	Install Pipes (48" or Less)	LF	5,575.14	$656,657.70	$117.78	$155.14	
13	Primary	3222	LongLine Paint Pvmt Marking	LF	1,226,958.00	$84,363.42	$0.07	$0.16	
13	Secondary	3222	LongLine Paint Pvmt Marking	LF	21884176	$1,308,727.38	0.06	$0.07	
13	Primary	3232	Install/Replace Pvmt Markers	EA	0.00	$0.00	null	$20.37	
13	Secondary	3232	Install/Replace Pvmt Markers	EA	0	$4.54	null	$15.79	
13	Primary	3300	Install Non-NBIS >48"	LF	12.00	$12,922.17	$1,076.85	$1,084.13	
13	Secondary	3300	Install Non-NBIS >48"	LF	120	$108,782.44	906.52	$1,781.52	

Notes:

1. Null values are typically the result of charges made during the period for a particular work function where there is either work that has yet to be performed (i.e. material charges) or where work has already been performed and recorded prior to the reporting period (i.e. contract invoices paid for work accomplished prior to the reporting period).

2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Maintenance Work Functions - Division 14									
Div	System	Func Area	Activity Name	UOM	Work Amount	Total Cost	Unit Cost	SW BUC	STATUS
14	Primary	2817	Mechanical Asphalt Patching	TON	299.03	$69,662.86	$232.96	$250.32	
14	Secondary	2817	Mechanical Asphalt Patching	TON	3217.72	$718,054.60	223.16	$222.53	
14	Primary	2900	Grass Mowing	SHM	9,218.53	$330,775.95	$35.88	$63.34	
14	Secondary	2900	Grass Mowing	SHM	28201.28	$764,185.63	27.1	$39.41	
14	Primary	2912	Mechanical Brush And Tree	SHM	230.73	$281,052.42	1218.1	$698.81	Over 10%
14	Secondary	2912	Mechanical Brush And Tree	SHM	4745.21	$1,754,346.37	369.71	$684.19	
14	Primary	3104	Litter Removal	SHM	8,712.92	$583,489.69	66.97	$279.65	
14	Secondary	3104	Litter Removal	SHM	392.47	$70,893.69	180.63	$334.91	
14	Primary	3108	Drainage Ditch Maintenance	SHM	24.7	$96,641.57	3912.61	$12,934.22	
14	Secondary	3108	Drainage Ditch Maintenance	SHM	11.83	$48,016.49	4058.87	$10,153.76	
14	Primary	3112	Shoulder Maint/ Reconstruct	SHM	27.6	$75,892.51	2749.73	$5,672.95	
14	Secondary	3112	Shoulder Maint/ Reconstruct	SHM	19.31	$62,852.94	3254.94	$4,114.58	
14	Primary	3126	Install Pipes (48" or Less)	LF	763.54	$61,445.42	80.47	$194.92	
14	Secondary	3126	Install Pipes (48" or Less)	LF	6710.5	922836.89	137.52	155.14	
14	Primary	3222	LongLine Paint Pvmt Marking	LF	579521	69214.7	0.12	0.16	
14	Secondary	3222	LongLine Paint Pvmt Marking	LF	1377034.51	164937.31	0.12	0.07	Over 10%
14	Primary	3232	Install/Replace Pvmt Markers	EA	385	10762.75	27.96	20.37	Over 10%
14	Secondary	3232	Install/Replace Pvmt Markers	EA	10	7847.11	784.71	15.79	Over 10%
14	Secondary	3300	Install Non-NBIS >48"	LF	195.5	413308.67	2114.11	1781.52	Over 10%

Notes:

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2. Negative unit costs are typically the result of data entry corrections made in the accounting system for work that was performed prior to the reporting period.

Appendix E – Division 1 Justifications

Pavement Preservation		
Chip Seal	**Contract**	Contract Bid Item with no Force Account other that striping and inspection.
Maintenance Work Activities		
2900 – Grass Mowing	**Primary**	The average Contract Unit Bid price for Primary Divided is $61.54/shoulder mile and Primary Undivided is $52.15/shoulder mile. In addition, we have a Corridor Contract (US 17 & US 64) that includes a much higher level of service with a unit price of $88.50 for Primary Divided and $65.00 for Primary Undivided which already exceeds the statewide average without inspection costs included. With average inspection costs of $9.15/shoulder mile will be $70.69(primary divided) and $61.30 (primary undivided).
2900 – Grass Mowing	**Secondary**	The average Contract Unit Bid price for Secondary Paved Roads is $43.29/shoulder mile and inspection costs average $5.77/shoulder mile. This totals the Secondary Average Unit Costs to $49.06 which is already 24.5% over baseline unit costs of $39.41. Unless we consistently underrun mowing baseline unit costs with Maintenance Forces, we are never going to meet the goal.
3300- Install Non-NBIS >48" Up to NBIS Structures	**Secondary**	In response to the emergency situation during TS Julia, Division One was required to order pipe which in turn resulted in $245,366.96 of Non-NBIS Pipe be charged to standing maintenance. Once these charges have been transferred to the appropriate Disaster WBS Element, the Division One Unit Costs will be $1,473.25/lf.
Free on Board (FOB) Goods		
78M	Contract Bid Item.	

Appendix F – Division 2 Justifications

Contract Resurfacing		
Primary	There are sixteen (16) projects within this reporting period that have been accepted. These projects consisted of milling, widening, strengthening or a combination of these additional construction processes which is beyond the scope of work for simple resurfacing. These additional processes were necessary based on existing roadway conditions. The actual Base Line Unit Cost for Division 2 is $144,250.70/ LML which is still more than 10% of the Statewide BUC for Primary Resurfacing.	
Contract Resurfacing Commodities		
S9.5A	Division 2 had a Contract Unit Price for S9.5A at $43.07/Ton. The Baseline Unit Cost for this Commodity is $36.85. Contract Unit Prices were competitively bid and contracts awarded to lowest responsible bidder. Unit Prices for this material are higher near the isolated coastal areas of the Division that require longer haul distance to get the material to the project.	
Maintenance Work Activities		
2900 – Grass Mowing	**Secondary**	The Secondary Grass Mowing Unit Price is in excess of the 10% targeted Baseline Unit Cost because Contract Unit Prices for Mowing are in excess of the baseline unit cost. The Weighted Division Contract Unit Price for Secondary Mowing is $48.28/SHM. There are also some force account charges to this function for spot/reactionary responses to various sight distance issues along routes that needed to be resolved ahead of Contract mowing cycles.
Free on Board (FOB) Goods		
ABC	Division 2's average unit cost for ABC (101000850) is $20.94/ton per existing open Material Outline Agreements. This purchase order price is in excess of 10% of the state wide baseline unit cost. This line item is bid under state contract and is awarded to the lowest responsible bidder.	

Appendix G – Division 3 Justifications

Contract Resurfacing		
Primary	Due to existing conditions, the 8 primary contracts involved additional work including milling (various depths), widening, intermediate asphalt layers, and a pavement interlayer fabric. This additional scope increased the final costs by a combined total of $4,739,627. The two interstate contracts involved a significant cost for traffic control ($300,000) and involved milling (total of $86,625.00) and additional layer of intermediate asphalt ($3896.10). All these factors increased the cost per mile.	
Secondary	Due to the condition of the roads, additional work was necessary in order to provide a complete project. The additional work included milling, widening, intermediate asphalt layers, pavement interlayer fabric, patching, and mat stone. This additional work increased the final costs by a combined total of $2,713,107. All of these factors increased the final cost per mile.	
Contract Resurfacing Commodities		
S9.5A	The contract bid price was from $35.60 to $50/ton in each of the 5 contracts listed. The SW BUC is $36.85/ton. Some of the factors that impact the overall price are project quantities, project location, work availability, and distance to the plants	
S9.5B	Bid prices in the 7 contracts noted range from $36.05 to $53.65/ton. The SW BUC is $37.78. Some of the factors that impact the overall price are project quantities, project location, work availability and distance to the plants..	
S9.5C	Bid prices in the 7 contracts noted range from $35 to $50/ton. All of these are above the SW BUC of $35.42. Some of the factors that impact the overall price are project quantities, project location, work availability, and distance to the plants	
Maintenance Work Activities		
3108 – Drainage Ditch Maintenance	**Secondary**	The unit cost exceeds the baseline is because of some expenditures in the amount if $10,0865 were charged to this work function that should have been charge to a different work function. Corrections have since been made.
3126 – Install Pipes (48" or Less)	**Primary**	Emergency Pipe Replacement US 17 4-lane divided extensive traffic control to shift southbound into northbound 2-lane 2-way traffic pattern. Additionally, an improper charge was made to function 3126 which should have been to 3128 pipe maintenance.
3126 – Install Pipes (48" or Less)	**Secondary**	The work performed which is not reflective of typical unit cost. This was in relation to additional specialize equipment, hauling distance, and utility issues in order to perform the scope of installation. This will balance over time as more work is performed.

3300- Install Non-NBIS >48" Up to NBIS Structures	**Secondary**	There were two primary issues. First, the work accomplished for one of the pipe installation was not reported. This omission increases overall unit cost. The second issue deals with constructability issues. A pipe replacement in New Hanover and Sampson Counties experienced several issues including excessive depth (13'), high ground water (resulting in the use of well pointing), a wider pavement cut to accommodate safety (proper sloping), utility conflicts (resulting in additional assembly work), and restoration of an associated wooden bulkhead. All of these issues combined to elevate the overall unit cost.
Free on Board (FOB) Goods		
ABC	There are 6 active PO's within the division. Only 1 is less than the SW BUC of $15.86. The other 5 range from $16.95 to $26.50. These prices are set by bid and are affected by our geographical area.	

Appendix H – Division 4 Justifications

Pavement Preservation		
Chip Seal	**Contract**	The quarterly cost reported appears to be inaccurate. All of the contract Pavement Pres cost came from contract DD00140, which was let for $1,532,712.50 using a recurring WBS that we had used since about 2013. The cost reported was a total used in the WBS which was for several years, not just this contract. Total cost paid out of this WBS during this quarter was $1,763,850. Recalculating the unit cost gives $10,254 / lm which is well under the target.
Maintenance Work Activities		
3104 – Litter Removal	**Primary**	Our earlier work with Maintenance forces picking up high density litter areas pushed our unit cost up very high. The contracts let in the spring have brought those unit costs down, however those costs and accomplishments aren't captured here. We've spent $435,944.99 on the litter contract this year and picked up 1,859.76 shoulder miles. When we add those numbers to the reported numbers performed by maintenance forces, the overall unit cost comes down to $241.34 /shm, which is less than the target.
3232 – Install / Replace Pavement Markers & Vertical Delineators	**Primary**	This work was replacing damaged vertical delineators. These delineators cost about $30 each, and each location where we had to replace them only needed a few, making travel time to-and-from more prominent in the cost figure.
3232 – Install / Replace Pavement Markers & Vertical Delineators	**Secondary**	This work was replacing damaged vertical delineators. These delineators cost about $30 each, and each location where we had to replace them, only few needed to be replaced, making travel time to-and-from more prominent in the cost figure.

Appendix I – Division 5 Justifications

Contract Resurfacing		
Secondary	Milling required for roads with curb and gutter in urban areas increased the average lane mile unit cost to resurface the secondary roads above the statewide BUC.	
Maintenance Work Activities		
2817 – Mechanical Asphalt Patching	**Primary**	Traffic control and milling required to patch the asphalt surface on wood bridge decks by contract resulted in higher than average unit costs.
3126 – Install Pipes (48" or Less)	**Primary**	A project in April to replace 52 LF of 36" pipe in Person County that required two weeks to complete inflated our average unit cost. The division unit cost continues to drop from $673.22/LF in April to the current rate of $266.03/LF as additional work has been completed across the Division.
3126 – Install Pipes (48" or Less)	**Secondary**	In Durham County we are in the process of replacing a pipe where significant expenses have been incurred, but project is not yet complete and work accomplished has not been entered yet. This combined with a series of challenging pipe replacements in Franklin County has resulted in the Division exceeding BUC this quarter.

Appendix J – Division 6 Justifications

Maintenance Work Activities		
2817 – Mechanical Asphalt Patching	**Primary**	This is an error where 80.03 tons was not reported. When this is added to the quantities, the unit cost is below the baseline unit cost.
3126 – Install Pipes (48" or Less)	**Primary**	Division continues to evaluate the charges for the functional area in more depth. We are taking a very close look at our unit cost and the operation for the functional area. This year the Division installed several pipes on the primary and secondary systems on the upper size limit of this functional area which resulted in higher unit cost. A contract has been developed to get a competitive bid for this type of work for comparison.
3126 – Install Pipes (48" or Less)	**Secondary**	

Appendix K – Division 7 Justifications

Maintenance Work Activities		
2900 – Grass Mowing	**Primary**	All work was completed under the shoulder mile unit price as stated in the contract
2900 – Grass Mowing	**Secondary**	All work was completed under the shoulder mile unit price as stated in the contract
3108 – Drainage Ditch Maintenance	**Secondary**	This work was completed on a high traffic volume road that required a greater traffic control operation than usual.
3126 – Install Pipes (48" or Less)	**Primary**	This work occurred on a road that required the coordination with numerous utilities in the area.
3126 – Install Pipes (48" or Less)	**Secondary**	This work occurred on a road that required the coordination with numerous utilities in the area.
3222 – Long Line Painted Pavement Markings	**Primary**	According to the work accomplished, the unit price is within 10% of the SW BUC and should not have been listed.
3300- Install Non-NBIS >48" Up to NBIS Structures	**Primary**	This work required the signing of a detour route that could handle the existing truck traffic on this route and also the relocation of numerous utility conflicts located within this crossing area.

Appendix L – Division 8 Justifications

Maintenance Work Activities		
3126 – Install Pipes (48" or Less)	**Primary**	The unit cost for this item was approximately 20% higher than the statewide average cost in the last period. It has decreased to 16% higher over during the 2nd quarter. The largest contributor was use of a pipe replacement contract with an average unit cost of approximately $350. Use of this contract is being minimized in an effort to reduce the unit cost.

Appendix M – Division 9 Justifications

Contract Resurfacing		
Secondary	The high costs are due to the large quantities of milling required on wide urban maps in poor condition requiring rehab type work.	
Pavement Preservation		
Chip Seal	**Contract**	All Div 9 Pavement Preservation is being contracted out. Unit costs are driven by bid prices. Number of bidders was limited, little competition.
Crack Seal	**Primary**	The high Unit Cost is result of grinding/routing out cracks in multi lane primary concrete route and filling with polymer filler instead of traditional hot pour rubber
Maintenance Work Activities		
3108 – Drainage Ditch Maintenance	**Primary**	The high unit costs are due to work on several short sections of residential yards reported via CARS during wet weather periods. Work was low productivity and required attention to detail due to location.
3126 – Install Pipes (48" or Less)	**Primary**	The high unit costs are due to replacement of 2 failed cross lines under a Primary route with no feasible detour. Bore and Jack pipe was the choose solution which is significantly more expensive than traditional open cut and RCP replacement. Project also included 2 drainage boxes and significant shoulder construction where none previously existed.
3232 – Install / Replace Pavement Markers & Vertical Delineators	**Primary**	The installation of vertical markers is included in this FA and the cost difference btw Pavement Markers is significant. The material cost of the plastic vertical marker is $ 135/ea. With this cost alone we cannot meet the SW unit costs of $15.79 which is reflective of pavement markers. In addition, currently there is no inventory number for the plastic vertical markers we are using so when we buy in bulk all materials are charged against the FA and WBS creating a temporarily higher unit costs. Work Accomplished is not recorded until the units are installed which can be weeks or months in the future.
3232 – Install / Replace Pavement Markers & Vertical Delineators	**Secondary**	The installation of vertical markers is included in this FA and the cost difference btw Pavement Markers is significant. The material cost of the plastic vertical marker is $ 135/ea. With this cost alone we cannot meet the SW unit costs of $15.79 which is reflective of pavement markers. In addition, currently there is no inventory number for the plastic vertical markers we are using so when we

		buy in bulk all materials are charged against the FA and WBS creating a temporarily higher unit costs. Work Accomplished is not recorded until the units are installed which can be weeks or months in the future.
Free on Board (FOB) Goods		
ABC		This product is bid out of Raleigh as a commodity following Standard Procurement Procedures with a statewide spec and is awarded to the lowest bidders. There are no large independent quarries in the area to spur local competition.
78M		This product is bid out of Raleigh as a commodity following Standard Procurement Procedures with a statewide spec and is awarded to the lowest bidders. There are no large independent quarries in the area to spur local competition.

Appendix N – Division 10 Justifications

Contract Resurfacing		
Primary	Some resurfacing maps were scoped for additional pavement structure which included an intermediate lift of asphalt to provide additional strengthen and durability. This additional layer increased unit cost.	
Secondary	Some resurfacing maps were scoped for additional pavement structure which included an intermediate lift of asphalt to provide additional strengthen and durability. This additional layer increased unit cost.	
Pavement Preservation		
Crack Seal	**Primary**	The report reflects recent expenditures for supplies that have been ordered and charged to Crack Seal activities. Only a small quantity of work has been accomplished with the supplies at the time of the report.
Crack Seal	**Secondary**	The report reflects recent expenditures for supplies that have been ordered and charged to Crack Seal activities. Only a small quantity of work has been accomplished with the supplies at the time of the report.
Maintenance Work Activities		
2900 – Grass Mowing	**Primary**	Over a typical season our Interstate mowing expenditures will be approximately 60% of the Division total. Our lowest shoulder mile price on the Interstate is $280/shld mile. Our statewide BUC is $63.34. Interstate mowing is contracted and awarded to lowest bidder. The Interstate cost will keep us over the statewide BUC.
2900 – Grass Mowing	**Secondary**	Many small vacant lots owned by NCDOT were being mowed. They are scattered across the Division causing the cost to be higher during the summer months. 2nd quarter (Oct. – Dec. 2016) report shows unit cost at $26.65, compared to $39.41 BUC. That is over 30% below BUC. The average unit cost is continuing to drop and expected to get within 10%
3126 – Install Pipes (48" or Less)	**Primary**	There have been several pipe replacements of 36" and 48" pipes on primary routes that are at depths of approximately 10' with water flowing through them. Due to depth and water the trenches have to be sloped back thus causing more material to be removed and replaced, and the water has to be dammed up and pumped to keep water out of the work site.
3222 – Long Line Painted Pavement Markings	**Primary**	Still showing small amount of work accomplished. Long line marking on resurfacing maps and chip seal maps do not reflect in the unit cost.

3222 – Long Line Painted Pavement Markings	**Secondary**	Still showing small amount of work accomplished. Long line marking on resurfacing maps and chip seal maps do not reflect in the unit cost.
Free on Board (FOB) Goods		
ABC	This FOB commodity is bid out through Raleigh purchasing and awarded to the lowest bidder. Our Division only has one quarry with ABC priced less than the Statewide BUC. The typical FOB price is approximately 60% higher than the Statewide BUC.	

Appendix O – Division 11 Justifications

Contract Resurfacing		
Secondary	There were 8 contracts considered in this report. Several maps required significant patching and some leveling prior to resurfacing to provide a stable final surface. Also of note is that these contracts predominantly used S9.5A which had a range of unit bid prices from $35.50/ton to $46.75/ton and an Asphalt Binder unit bid price from $620/ton to $750/ton.	
Contract Resurfacing Commodities		
S9.5A	The contract bid price for the 10 contracts with S9.5A ranged from $35.50/ton to $46.75/ton. The SW BUC is $36.85/ton. Some of the factors that impact the overall price are competition, location, quantities and distance to the asphalt plants.	
S9.5C	The contract bid price for the 5 contracts with S9.5C ranged from $34.11/ton to $45.00/ton. The SW BUC is $35.42/ton. Some of the factors that impact the overall price are competition, location, quantities and distance to the asphalt plants	
Asphalt Liquid Binder	The contract bid price for these 13 contracts ranged from $600/ton to $750/ton. The SW BUC is $574.53/ton. The asphalt binder is part of the bid price that may be part of the bidders overall strategy.	
Pavement Preservation		
Crack Seal	**Primary**	Crack Sealing was performed on short sections of Primary Routes that required multiple traffic control setups. This was predominately multi-lane facilities that required more complex traffic control to ensure the safety of our employees.
Crack Seal	**Secondary**	9.30 LML were performed which is a small quantity. Expect the unit cost to improve as more LMLs are completed in the spring.
Bridge Replacement		
Express Design Build	Two of the bridges on the Express Design Build list required Supplemental agreements to deal with water lines that required relocation which significantly increased the cost for these projects. Expect this sharp increase to be absorbed as more bridges are completed.	
Maintenance Work Activities		
3126 – Install Pipes (48" or Less)	**Primary**	Two failed pipes were replaced on NC 18 in Alleghany County that required boring and jacking due to the depth of the pipes and the lack of a viable detour route. One of these pipes was located in an environmentally sensitive area further justifying the more expensive option of boring and jacking.

Appendix P – Division 12 Justifications

Pavement Preservation		
Crack Seal	**Secondary**	Work was performed by contractor; however, work accomplished was not captured when the invoice was processed. Once work accomplished is captured unit costs for this function will fall back in line the Statewide Baseline Unit Cost.
Maintenance Work Activities		
2912 – Mechanical Brush & Tree Control	**Primary**	This unit cost was over as a result of contract work being performed and charged to the wrong function. Once charges are removed and relocated to appropriate function, unit costs will fall back in line the Statewide Baseline Unit Cost.
Free on Board (FOB) Goods		
ABC	This FOB commodity cost is based on bid prices from quarries across the state that bid on work in various counties. Some of the factors that impact the overall price are competition, location, and projected material quantities provided by the Department.	

Appendix Q – Division 13 Justifications

Contract Resurfacing		
Secondary	Lowest bids were accepted for our contract resurfacing/AST work. This year we have additional patching in our contracts that have overrun significantly resulting in higher overall costs per lane mile. This fact, along with greater haul distances from our quarries/plants to each map and limited competition have resulted in lane mile costs higher than the statewide average.	
Contract Resurfacing Commodities		
S9.5B	Lowest bids are accepted for asphalt commodities. There are a limited number of contractors and asphalt plants in the region resulting in limited competition. Therefore, S9.5B commodity costs are higher than the statewide average.	
Pavement Preservation		
Chip Seal	**Contract**	Lowest bids were accepted for our contract resurfacing/AST work. This year we have additional patching in our contracts that have overrun significantly resulting in higher overall costs per lane mile. We also cover all of our chip seals with fog seals. These factors along with greater haul distances from our quarries/plants to each map and limited competition have resulted in unit costs higher than the statewide average.
Bridge Replacement		
Division Managed	The $174.63/SF cost for D13 is based on twelve bridge replacements for January 1 thru December 31. These bridge replacement projects are located at very remote job sites. Bid prices reflect the difficulty and premium expense to get equipment, material & labor to these projects. Also, as in many mountain projects, additional substructure costs (i.e.-pile excavation in soil & rock) and construction phasing costs are incurred. We also have a limited number of bridge contractors to bid on our projects along with a large amount of work being let and a large number of Design/Build bridges that are being done in our area. Lack of competition and increased volume of work results in higher bid prices.	

Appendix R – Division 14 Justifications

Contract Resurfacing		
Primary	Div 14 costs are higher than the statewide BUC's due to market driven factors. Div 14 encompasses a large geographical area with only a few asphalt plants and paving contractors. There is a lack of competition. There is high demand and low supply for asphalt contractors and our prices continue to go higher.	
Secondary	Div 14 costs are higher than the statewide BUC's due to market driven factors. Div 14 encompasses a large geographical area with only a few asphalt plants and paving contractors. There is a lack of competition. There is high demand and low supply for asphalt contractors and our prices continue to go higher.	
Contract Resurfacing Commodities		
S9.5A	Div 14 has historically had some of the highest asphalt prices in the state. This is due to our large, rural, geographical area, and only a few asphalt plants to serve our division.	
S9.5B	Div 14 has historically had some of the highest asphalt prices in the state. This is due to our large, rural, geographical area, and only a few asphalt plants to serve our division.	
S9.5C	Div 14 has historically had some of the highest asphalt prices in the state. This is due to our large, rural, geographical area, and only a few asphalt plants to serve our division.	
Pavement Preservation		
Bridge Replacement		
Division Managed	Div 14 bridge projects exceeded statewide BUC's due to the designs required for unusual site conditions. Our bridge projects often require extensive retaining walls due to site terrain, and this adds significant cost to our projects.	
Maintenance Work Activities		
2912 – Mechanical Brush & Tree Control	**Primary**	The high unit cost is due to the relatively small amount of work accomplished, and the reactive nature of our operations to clear sight distance obstructions, and trouble spots.
3222 – Long Line Painted Pavement Markings	**Secondary**	Our unit cost for this work function is the same for Q2 as it was at the end of Q1 - $0.12/ LF. Our unit cost for primary markings in Q2 is below the established SW BUC. More frequent mobilizations and less work accomplished generates a higher BUC for secondary versus primary routes.
3232 - Install/Replce Pvmt Markers	**Primary**	Traffic Services installs vertical markers under function 3232. The cost to install a vertical marker is higher than that cost to re-lens a snowplowable marker or apply a stick-on marker. There is additional expense for installation, and to set up traffic control to allow the adhesives time to cure.

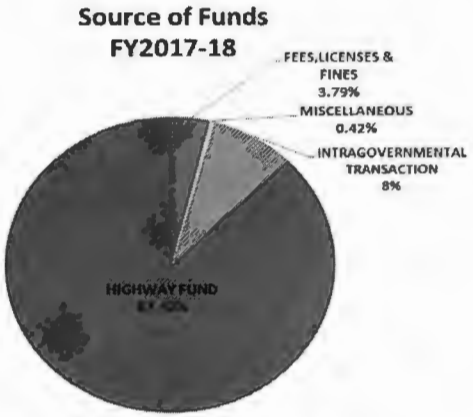
3232 - Install/Replce Pvmt Markers	**Secondary**	Traffic Services installs vertical markers under function 3232. The cost to install a vertical marker is higher than that cost to re-lens a snowplowable marker or apply a stick-on marker. Relatively few of these markers are installed on the secondary system (10) and therefore the unit price is much higher than markers installed on the primary system (385).
3300 - Install Non-NBIS >48"	**Secondary**	3300 unit costs are higher than the statewide BUC's due to several factors including longer than average aggregate haul times to job sites, increased complexity of pipe designs with sills and baffles to meet trout water environmental regulations, and larger headwalls due to mountainous site conditions. All of the above result in longer project durations and higher costs.

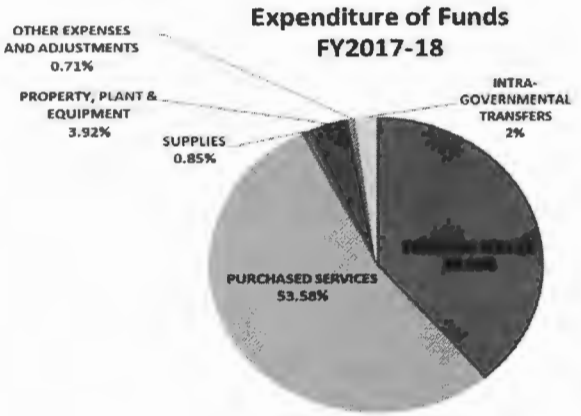
Department of Transportation

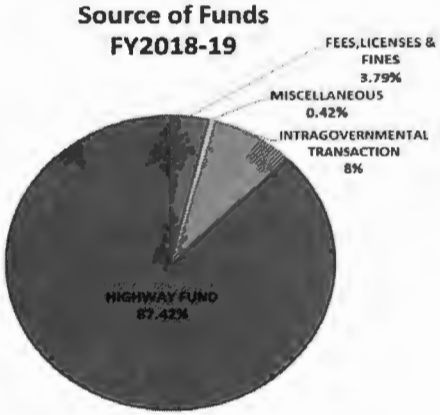
DOT Administration

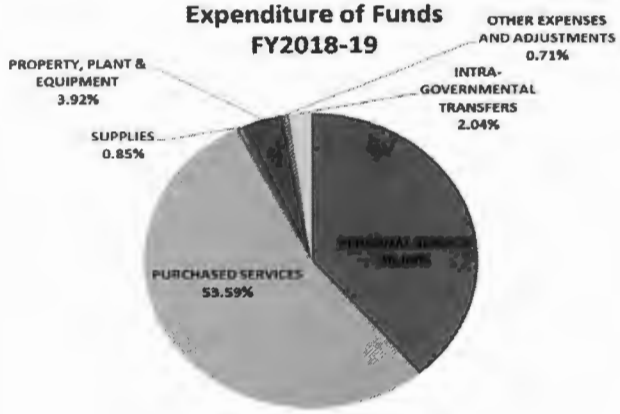
Fund Codes: 0001, 0002, 0006, 0007, 0177, 1096, 1104, 1262, 7011, 7015, 7020, 7025, 7030

Includes: Board of Transportation, Communications, Attorney General, Secretary, Computer Systems, Strategic Prioritization Office of Transportation (SPOT), Governance Office, Performance Energy Contract Debt Service, Inspector General, Human Resources, Financial, Information Technology, and Administrative Support









BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ 32,523,942	$ 39,402,094	$ 37,171,828	$ -	$ 37,171,828	$ -	$ 37,171,828
PURCHASED SERVICES	53,044,031	58,646,112	51,172,395	25,657	51,198,052	50,615	51,223,010
SUPPLIES	701,165	1,142,982	760,256	-	814,556	-	814,556
PROPERTY, PLANT & EQUIPMENT	1,671,351	4,554,886	3,744,408	-	3,744,408	-	3,744,408
OTHER EXPENSES AND ADJUSTMENTS	767,792	704,951	677,529	-	677,529	-	677,529
INTRA-GOVERNMENTAL TRANSFERS	63,236,839	1,954,411	1,954,363	-	1,954,363	-	1,954,363
Total Requirements	**$ 151,945,120**	**$ 106,405,436**	**$ 95,480,779**	**$ 25,657**	**$ 95,560,736**	**$ 50,615**	**$ 95,585,694**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	(6,711)	21,000	-	-	-	-	-
FEES,LICENSES & FINES	3,526,873	5,967,043	3,625,400	-	3,625,400	-	3,625,400
MISCELLANEOUS	1,932,132	405,814	400,814	-	400,814	-	400,814
INTRAGOVERNMENTAL TRANSACTION	47,858,088	9,312,658	7,994,097	-	7,994,097	-	7,994,097
Total Receipts	**$ 53,310,382**	**$ 15,706,515**	**$ 12,020,311**	**$ -**	**$ 12,020,311**	**$ -**	**$ 12,020,311**
Net Appropriation	**$ 98,634,738**	**$ 90,698,921**	**$ 83,460,468**	**$ 25,657**	**$ 83,540,425**	**$ 50,615**	**$ 83,565,383**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	403.000	437.000	403.000	0.000	403.000	0.000	403.000
Total FTE		**403.000**	**437.000**	**403.000**	**0.000**	**403.000**	**0.000**	**403.000**

Increase/Decrease Detail- NR Items Removed

DIT Fee increase	76,272
Total	**76,272**

Major Programs

DOT Management Personnel and Associated Costs

2016-17 Session Significant Budget Actions- Money Items

None

2016-17 Session Significant Budget Actions- Special Provision

None

2017 Major Budget Issues Potentially Requiring Legislative Action

None

Department of Transportation

DOH Administration

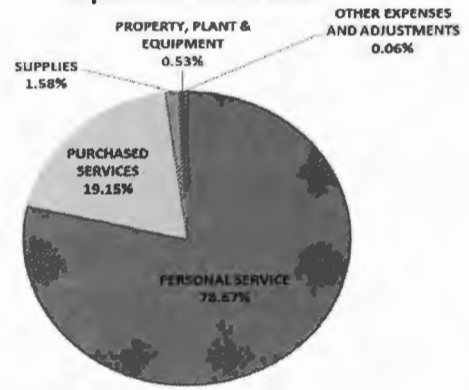
Fund Codes: 0055, 0056, 0064, 0149, 0178, 0179, 1018, 1065, 1067, 1069, 1070, 1078, 1129, 1130, 1186, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1256, 1272, 7031, 7070, 7080, 7085, 7090, 7095, 7100, 7105, 7110, 7115, 7120, 7125, 7130, 7135, 7140, 7145, 7150, 7152, 7153, 7175, 7176, 7185, 7190

Includes: Chief Engineer, Deputy Chief Engineer of Operations, Director of Preconstruction, Transportation Mobility and Safety, Project Development and Environmental Analysis, PDE Engineer Trainee Program, Chief Engineer DOH Special Projects, Utilities Unit Administration, Materials and Tests Unit, Roadside , Environmental Unit, Construction Unit, Office of Civil Rights, Structure Management, Divisions 1-14 Right of Way Administrations, Program Development Administration, Facilities Management, Transportation Planning Program, Divisions 1-14, Preconstruction Design Administration, OCR - On-the-Job Training Grant, Technical Services Administration, Field Operations Support, State Asset Management, Safety, and Right of Way Administration.

Source of Funds



Expenditure of Funds



Major Programs

Division of Highways Management Personnel and Associated Costs

2016-17 Session Significant Budget Actions- Money Items

None

2016-17 Session Significant Budget Actions- Special Provision

None

2017 Major Budget Issues Potentially Requiring Legislative Action

None

BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$46,145,496	$48,293,471	$50,546,405	$ -	$50,546,405	$ -	$50,546,405
PURCHASED SERVICES	10,053,764	6,021,649	12,307,637	-	12,307,637	-	12,307,637
SUPPLIES	548,665	694,102	1,016,798	-	1,016,798	-	1,016,798
PROPERTY, PLANT & EQUIPMENT	197,286	325,213	340,428	-	340,428	-	340,428
OTHER EXPENSES AND ADJUSTMENTS	4,970	14,283	41,705	-	41,705	-	41,705
INTRA-GOVERNMENTAL TRANSFERS	8,956	-	-	-	-	-	-
Total Requirements	**$56,959,137**	**$55,348,718**	**$64,252,973**	**$ -**	**$64,252,973**	**$ -**	**$64,252,973**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	132,280	286,434	307,434	-	307,434	-	307,434
FEES,LICENSES & FINES	31,740	-	-	-	-	-	-
MISCELLANEOUS	282,716	915,893	917,531	-	917,531	-	917,531
INTRAGOVERNMENTAL TRANSACTION	19,623,293	20,578,723	21,990,757	-	21,990,757	-	21,990,757
Total Receipts	**$20,070,029**	**$21,781,050**	**$23,215,722**	**$ -**	**$23,215,722**	**$ -**	**$23,215,722**
Net Appropriation	**$36,889,108**	**$33,567,668**	**$41,037,251**	**$ -**	**$41,037,251**	**$ -**	**$41,037,251**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	581.000	557.000	581.000	0.000	582.000	0.000	582.000
Total FTE		**581.000**	**557.000**	**581.000**	**0.000**	**582.000**	**0.000**	**582.000**

Increase/Decrease Detail- NR Items Removed

None

Department of Transportation

Construction

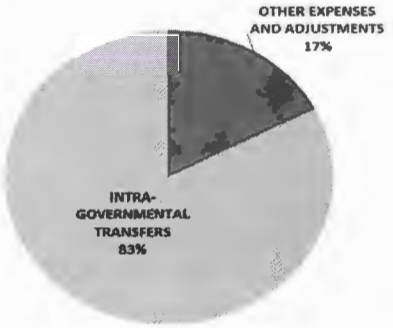
Fund Codes: 7811, 7812, 7814, 7817, 7818, 7837, 7838

Includes: Primary & Secondary Construction, Public Service Roads, Spot Safety, Contingency, Division of Small Urban Construction, and Economic Development.

Source of Funds



Expenditure of Funds



Major Programs

- Low cost shovel-ready construction projects needed to address safety-related issues and to support economic development projects.
- Unpaved road program

2016-17 Session Significant Budget Actions- Money Items

- Small Urban Construction Funds changed from Recurring to Nonrecurring ($2,500,000)

2016-17 Session Significant Budget Actions- Special Provision

- Amended the funding distribution formula for unpaved roads so that half of the $12 million is equally distributed to the 14 Highway Divisions based on the prioritized scores within the division.

2017 Major Budget Issues Potentially Requiring Legislative Action

None

BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
PURCHASED SERVICES	-	-	-	-	-	-	-
SUPPLIES	-	-	-	-	-	-	-
PROPERTY, PLANT & EQUIPMENT	-	-	-	-	-	-	-
OTHER EXPENSES AND ADJUSTMENTS	9,605,736	8,255,089	8,387,454	(695,000)	7,692,454	(695,000)	7,692,454
INTRA-GOVERNMENTAL TRANSFERS	53,055,673	36,799,789	36,667,424	-	36,667,424	-	36,667,424
Total Requirements	**$ 62,661,409**	**$45,054,878**	**$45,054,878**	**$ (695,000)**	**$44,359,878**	**$ (695,000)**	**$44,359,878**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	-	-	-	-	-	-	-
FEES,LICENSES & FINES	-	-	-	-	-	-	-
REVENUES	2,310,326	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 2,310,326**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Appropriation	**$ 60,351,083**	**$45,054,878**	**$45,054,878**	**$ (695,000)**	**$44,359,878**	**$ (695,000)**	**$44,359,878**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total FTE		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Increase/Decrease Detail- NR Items Removed

$695,000 nonrecurring in planning funds appropriated in the 2015 budget for FY2015-16 and FY2016-17	(1,390,000)
Total	**(1,390,000)**

Department of Transportation

Maintenance

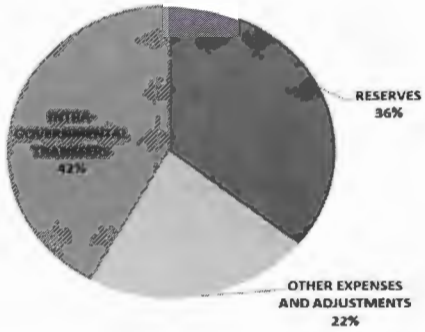
Fund Codes: 0934, 7813, 7821, 7822, 7824, 7833, 7839, 7841

Includes: General Maintenance Reserve, Urban Construction, Primary & Secondary Maintenance, Contract Resurfacing, Non-System Streets, Bridge Program, Pavement Preservation

Source of Funds



Expenditure of Funds



Major Programs

Includes all secondary and primary system maintenance activities

2016-17 Session Significant Budget Actions- Money Items

Consolidated the Primary, Secondary, and Reserve for General Maintenance for greater budget flexibility.

2016-17 Session Significant Budget Actions- Special Provision

- Consolidated responsibility and oversight over all stages of a construction project under the Chief Engineer.
- Directed DOT to enact the Restructuring Plan it submitted as required in Sec. 29.14(d)(4) of S.L. 2015-241.

2017 Major Budget Issues Potentially Requiring Legislative Action

Funding shortfalls identified in MOPAR report

BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
PURCHASED SERVICES	-	-	-	-	-	-	-
SUPPLIES	-	-	-	-	-	-	-
RESERVES	-	472,705,911	472,405,911	(9,040,000)	463,365,911	(9,040,000)	463,365,911
OTHER EXPENSES AND ADJUSTMENTS	249,898,245	380,224,815	284,795,560	-	284,795,560	-	284,795,560
INTRA-GOVERNMENTAL TRANSFERS	1,005,260,606	445,948,388	541,377,643	-	541,377,643	-	541,377,643
Total Requirements	**$ 1,255,158,851**	**$ 1,298,879,114**	**$ 1,298,579,114**	**$ (9,040,000)**	**$ 1,289,539,114**	**$ (9,040,000)**	**$ 1,289,539,114**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	-	-	-	-	-	-	-
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	6,579,606	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 6,579,606**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Appropriation	**$ 1,248,579,245**	**$ 1,298,879,114**	**$ 1,298,579,114**	**$ (9,040,000)**	**$ 1,289,539,114**	**$ (9,040,000)**	**$ 1,289,539,114**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total FTE		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Increase/Decrease Detail- NR Items Removed

Removes $9,040,000 in funding associated with Inmate Litter Collection	(18,080,000)
Total	**(18,080,000)**

VISITOR REGISTRATION SHEET

Senate Appropriations on DOT Committee — March 7, 2017

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO DEBBIE LOWN

NAME	FIRM OR AGENCY AND ADDRESS
Debbie Collins	NCDOT 1 S WILMINGTON
Jim Ritchey	WRA Baltimore
[signature]	RAMP, LPA & NCMA
BERRY JENKINS	CAROLINAS AGC
[signature]	PPAB
ERIC BOYETTE	NCDOT
Hope Mozeroff	NCDMV
JASON GRAY	Rural Center
Jacqueline Gonzalez	Sen. Ford Staff
Jake Cook	NCC
Carson Hunt	MVA

VISITOR REGISTRATION SHEET

Senate Appropriations on DOT Committee — March 7, 2017

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO DEBBIE LOWN

NAME	FIRM OR AGENCY AND ADDRESS
Patrick Norman	NCDOT
Ed Johnson	NCDOT
Lana Tyler/AR	NCDOT
[illegible]	[illegible]
Joe McClees	McClees Consulting
Rachel Blank	RBlank
Sherwood	NS
Jay Hicks	NSDOT
Bobby Lewis	NSDOT
Mike Holder	NCDOT
Paul Worley	NCDOT

VISITOR REGISTRATION SHEET

Jt. Comm. on App. Transportation 03/07/17

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Kathy Kingsbury	GP
Shelley Blake	GoTriangle
Jeff Mac	GoTriangle
David Collins	SEANC
Betsy Bailey	CAGC
CS Hollis	CSH
Ken Melton	KMA

Senate Pages Attending

COMMITTEE: Joint App. - D.O.T. **ROOM:** 1027

DATE: 3-7 **TIME:** 8:30

PLEASE PRINT LEGIBLY!!!!!!!!!!!!!!....*or else!!!!!*

Page Name	Hometown	Sponsoring Senator
1. Brandon M. Haynes	New London	McInnis
2. Isaiah McKee	New London	McInnis
3.		
4.		
5.		
6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

House Pages
Assignments
Tuesday, March 07, 2017
Session: 2:00 PM

Committee	Room	Time	Staff	Comments	Member
Appropriations on Department of Transportation	1027/1128	8:30 AM	Christopher Irvin		Rep. Speaker Tim Moore
			Mahlaysia Thomas		Rep. Speaker Tim Moore
Appropriations on Health and Human Services	643	8:30 AM	Jacob Harris		Rep. Ted Davis
			Brian Ornelas		Rep. Speaker Tim Moore
			Ryan Velten		Rep. Pat McElraft
Appropriations on Justice and Public Safety	415	8:30 AM	Tyler Phillips		Rep. Mike Clampitt
			Shaun Robinson		Rep. Speaker Tim Moore
Appropriations, Agriculture and Natural and Economic Resources	421	8:30 AM	Rayquian Jones		Rep. Speaker Tim Moore
			Michael Lee		Rep. Speaker Tim Moore
Appropriations, Education	Other	8:30 AM	Kaleah Poole		Rep. Speaker Tim Moore
			Leonardo Tamburro		Rep. Gale Adcock

NCGA

NORTH CAROLINA GENERAL ASSEMBLY

Joint Appropriations on Department of Transportation

March 7, 2017

Room 1027/1128 LB

8:30 AM

Senate Sergeant at Arms

BECKY MYRICK

TERRY EDMONDSON

Committee Sergeants at Arms

NAME OF COMMITTEE Jt. Comm. on App. Transportation

DATE: 03/07/17 Room: 1027/1128

House Sgt-At Arms:

1. Name: David Leighton
2. Name: Joe Crook
3. Name: Russell Salisbury
4. Name:
5. Name:

Senate Sgt-At Arms:

1. Name:
2. Name:
3. Name:
4. Name:
5. Name:

House Committee on Appropriations, Transportation
Wednesday, March 8, 2017 at 8:30 AM
Room 1027/1128

MINUTES

The House Committee on Appropriations, Transportation met at 8:30 AM on March 8, 2017 in Room 1027/1128. Representatives Bumgardner, Iler, G. Martin, Presnell, Shepard, Strickland, Torbett, and Watford and Senators: Davis, Davis, McInnis, Dunn attended.

Representative Phil Shepard, Chair, presided.

Representative Shepard welcomed the Pages and Sergeant at Arms for the meeting.

Representative Shepard welcomed Mike Holder, Chief Engineer, Division of Highways to present the presentation:

Maintenance and Construction
By: Mike holder, Chief Engineer, Division of Highways
North Carolina Department of Transportation (attachment 1)

The meeting adjourned at 9:57

Representative Phil Shepard, Chair
Presiding

Pamela Pate, Committee Clerk

NORTH CAROLINA HOUSE OF REPRESENTATIVES
JOINT COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2017-2018 SESSION

You are hereby notified that the **House Committee on Appropriations, Transportation** will meet **JOINTLY** as follows:

DAY & DATE: Wednesday, March 8, 2017
TIME: **8:30 AM**
LOCATION: **1027/1128**
COMMENTS: **Representative Shepard,chairing**

Respectfully,

Representative Frank Iler, Co-Chair
Representative Michele D. Presnell, Co-Chair
Representative Phil Shepard, Co-Chair
Representative John A. Torbett, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 4:22 PM on Wednesday, March 01, 2017.

___ Principal Clerk
___ Reading Clerk – House Chamber

Pamela Pate (Committee Assistant)

NORTH CAROLINA
Department of Transportation



March 2017

Overview of Maintenance & Construction Programs

Michael L. Holder, PE
Chief Engineer

ATTACHMENT # 1

Role of Transportation

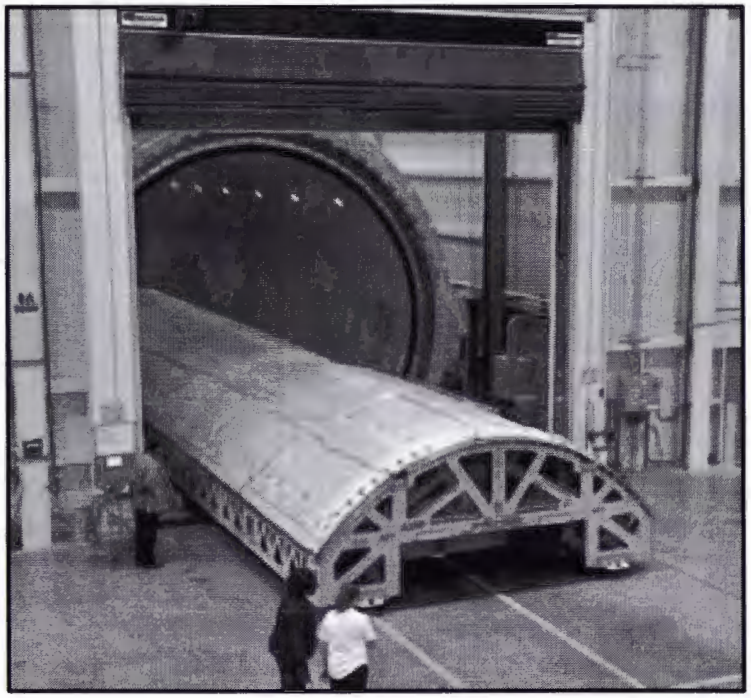
- Connects people/communities
- Drives economic development/growth
- Enhances quality of life





Connecting North Carolina

- Diverse state (geography and population)
- No "one-size-fits-all" solution to meet various needs
- Must have variety of project delivery solutions for all unique community needs



Spirit AeroSystems manufactures metal and composite structural airframe assemblies at the GTP.

Mission

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

What We Do

- Oversee all aspects of transportation including:
  - Highways
  - Rail
  - Aviation
  - Ferries
  - Public Transit
  - Bicycle and Pedestrian Transportation
  - Division of Motor Vehicles
  - State Ports
  - Global TransPark
- Leverage state's infrastructure/connect supply chains





Board of Transportation

- Makes decisions about transportation priorities and funding allocations
  - Meets 1st Thursday of each month

- 19 members; all appointed by the Governor
  - One representative from each of the 14 divisions
  - 5 additional at-large members oversee:
    - State Ports and Aviation
    - Rural Transportation
    - Environmental
    - Government-Related Finance & Accounting
    - Mass Transit

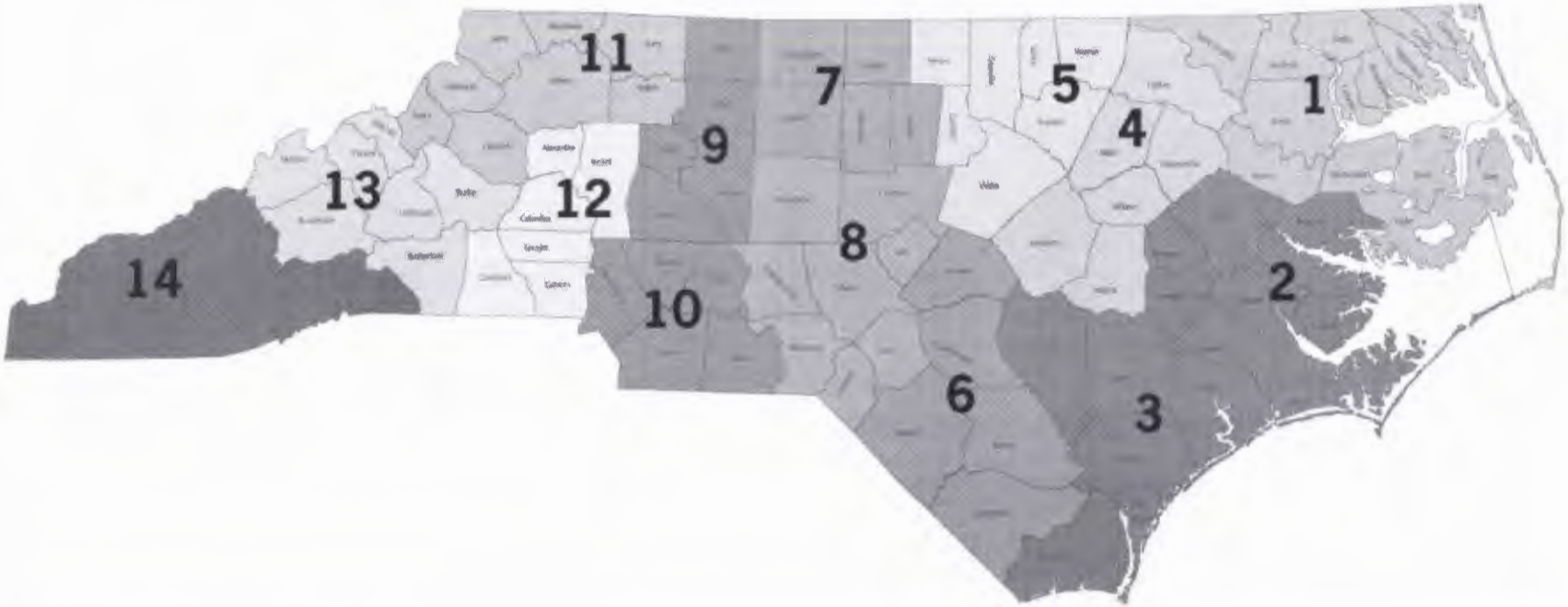
Focus Areas for 2017

- Accelerate delivery of projects & reduce cash balance by half
- Reduce traffic-related fatalities
- Improve mobility/reduce congestion
- Improve appearance/condition of roadways & bridges
- Enhance/expand project delivery & funding tools
  - Develop statewide guidance
- Work collaboratively to enhance economic competiveness
- Prepare for future technologies
  - Unmanned Aircraft Systems/Drones
  - Connected/Autonomous Vehicles
- Ports
- 2nd customer service survey ended Jan. 31st; will also help identify opportunities to improve

Division of Highways – Field Operations

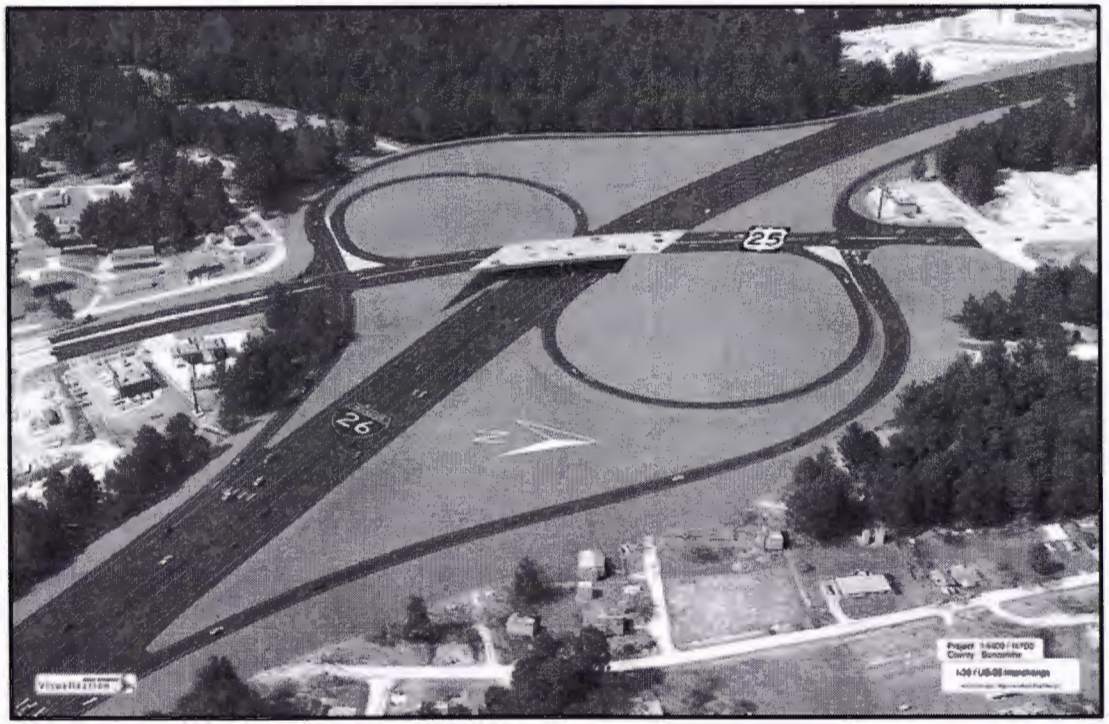
- Under Direction of Chief Engineer
- Approximately 6,000 employees
- 14 Transportation Divisions

- 4 Primary Functions:
  - Project Delivery
  - Construction
  - Maintenance
  - Operations/Traffic Management

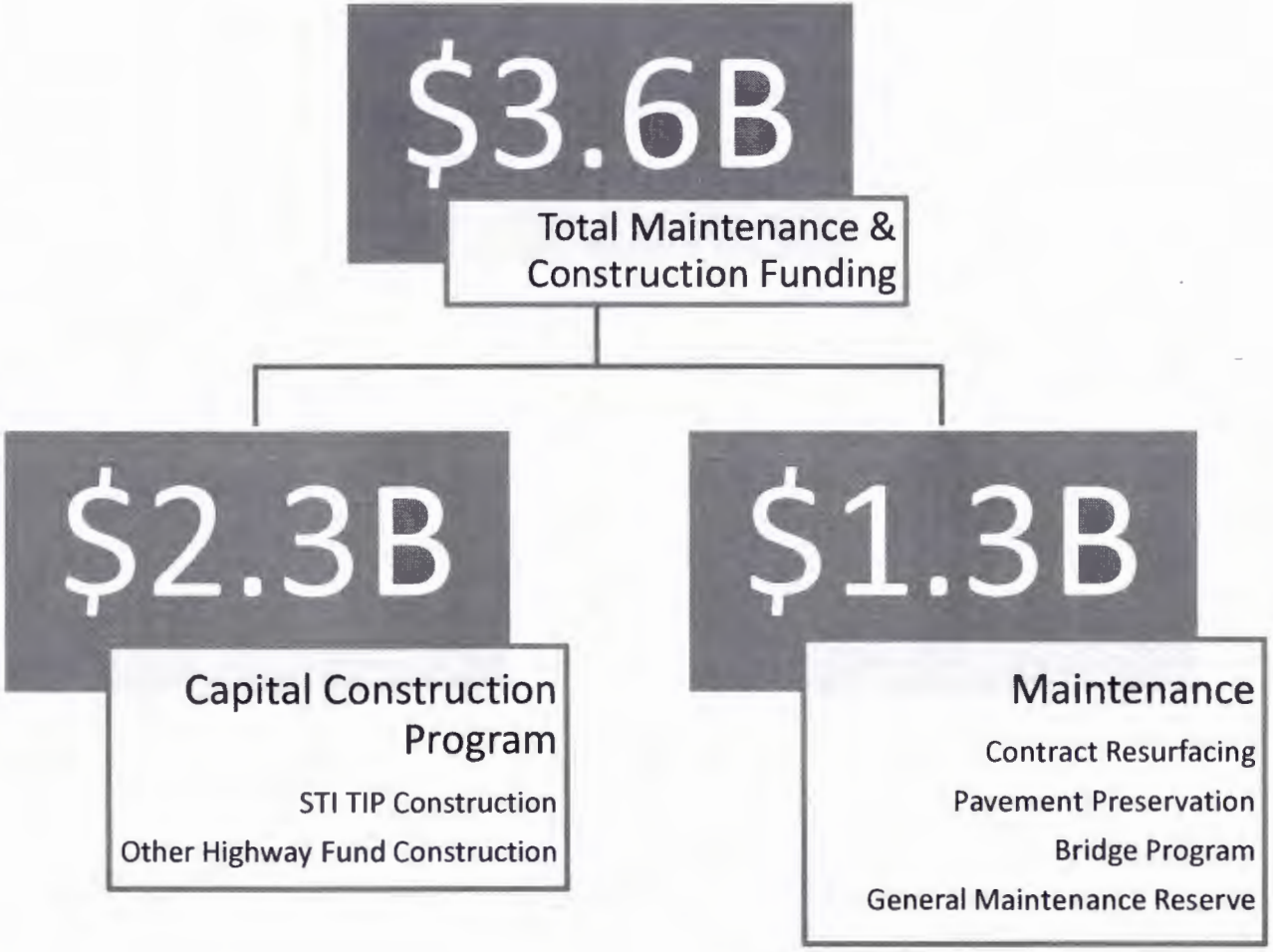


Division of Highways – Central Staff

- Under Direction of Chief Engineer
- Approximately 1,200 employees
- Support Division Operations
- Central Unit Functions Include:
  - Policy & Contract Standards Development
  - Designing
  - Permitting
  - Material Testing
  - Traffic Safety
  - Project Procurement
  - Facility Management
  - Fleet Management
  - Training



Maintenance & Construction Funding per Year

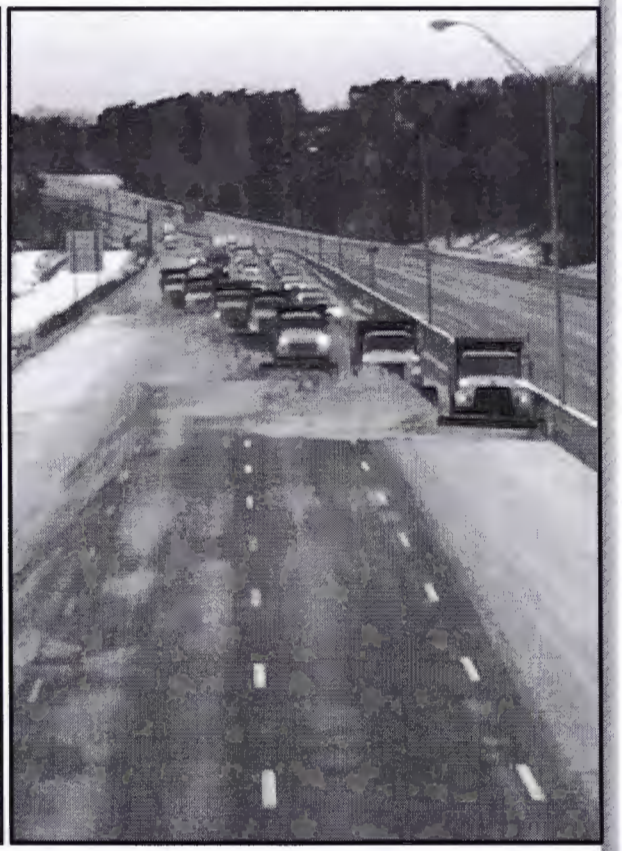


Maintenance

- Pothole Repair
- Resurfacing
- Drainage Installation & Improvements
- Mowing/Vegetation Management
- Snow & Ice Removal
- Litter Removal
- Sign Installation & Replacement
- Pavement Markings
- Signal Installation & Repair
- Bridge Repair & Replacement







Value of Assets to Maintain

Highway Asset Type	Approximate Quantity	Estimated Asset Value
Bridges (number)	13,500	$60 billion
Pavement (lane miles)	163,000	$62 billion
Other Roadway Assets (centerline miles)	80,000	$446 billion
Large Pipes and Culverts (each)	27,000	$7 billion
Total	**-**	**$575 billion**

Construction

- New Location
- Widening
- Bridge Projects
- Interchange Improvements
- Safety Improvements





State vs. Local Responsibility

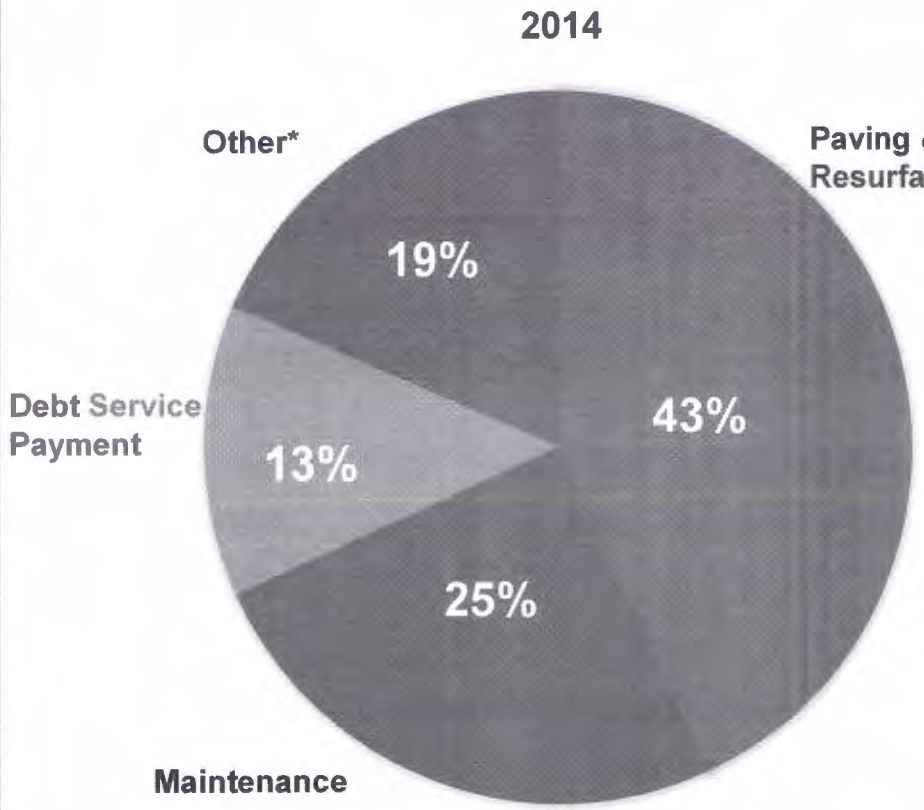
State vs. Local Responsibility – Highway System

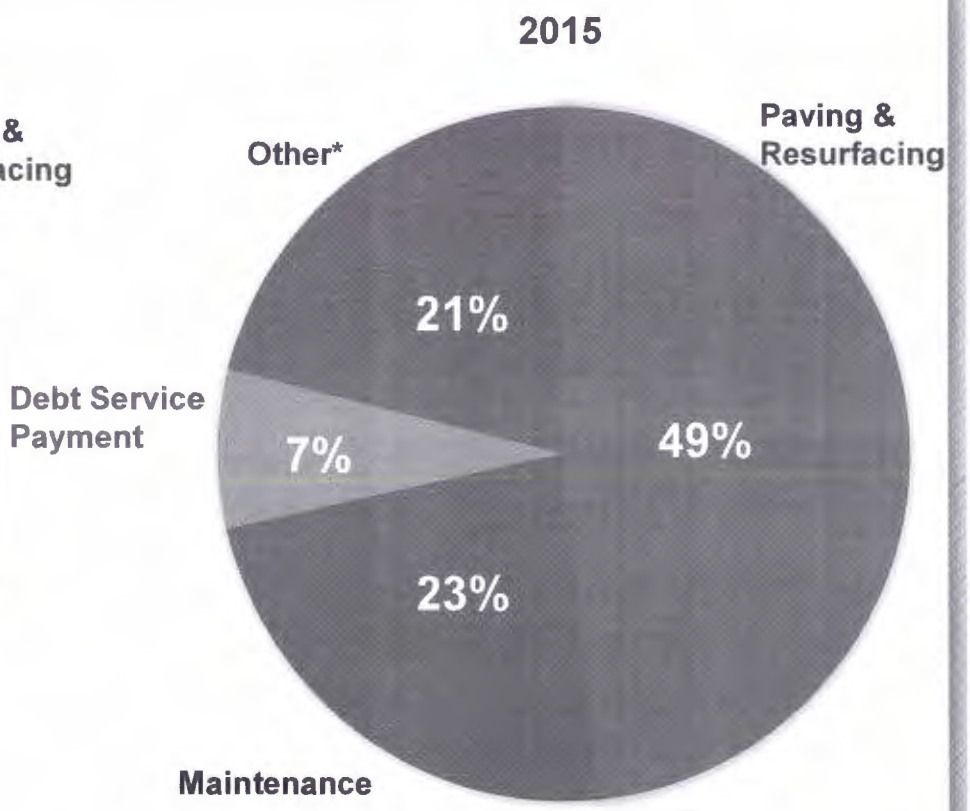
Road Miles in North Carolina	
NCDOT Maintained	80,000
Primary Routes (15,000)	
Secondary Routes (65,000)	
Municipally/Other Maintained	26,000
Not Publicly Maintained	25,000
TOTAL	**131,000**
Structures in North Carolina	
NCDOT Maintained Bridges	13,500
NCDOT Maintained Culverts	4,500
Municipally/Other Maintained	500
TOTAL	**18,500**
Traffic Signals	
NCDOT Maintained	**9,400**

Street Aid to Municipalities - Powell Bill Funds

- Funds allocated from the Highway Fund to provide financial assistance for streets maintained by municipalities
- S.L. 2015-241: Eliminated statutory formula and established fixed appropriation from the State Highway Fund:
  - FY 2015-2016 - $147.5M
  - FY 2016-2017 - $147.5M
- S.L. 2015-241 also directed funds be used "primarily for the resurfacing"
- Allocation – 75% Population + 25% Miles
- Eligible Activities:
  - Resurfacing
  - Maintaining, repairing, constructing, reconstructing or widening of any streets or bridges
  - Planning, construction and maintenance of bikeways, greenways, or sidewalks
  - Traffic Control Devices
  - Municipal Street Bond Debt Service

Street Aid to Municipalities - Powell Bill Funds Expenditures





***Other:**

- Bridge Construction & Repair
- Curb & Gutter
- Drainage & Storm Sewer
- Engineering
- Greenways
- Maintenance as Part of Paving Project
- New Construction
- New Equipment
- Sidewalks
- Snow & Ice Removal
- TIP
- Traffic Control

Maintenance Allocations

Current Funding Programs & Activities

Major Program	Example Activities
Contract Resurfacing	▪ Placement of plant mixed asphalt ▪ Milling existing asphalt ▪ Shoulder reconstruction ▪ Pavement markings
Pavement Preservation	▪ Chip seals ▪ Crack seals ▪ Joint sealing ▪ Microsurfacing ▪ Diamond Grinding ▪ Full-depth Reclamation
Bridge Program	▪ Bridge replacement ▪ Bridge rehabilitation ▪ Large drainage structure replacement

Current Funding Programs & Activities

Major Program	Example Activities
General Maintenance Reserve (GMR)	▪ Drainage maintenance ▪ Shoulder maintenance/reconstruction ▪ Litter pickup ▪ Roadside vegetation management ▪ Grass mowing ▪ Pavement patching ▪ Installing or replacing: – Pavement markings – Signals and signs – Markers and symbols ▪ Repairing concrete bridge decks ▪ Bridge girder painting ▪ Emergency bridge repair ▪ Statewide programs

Consolidation of Primary and Secondary to GMR



$135M to $145M



~$300M



~$0 to 45M

Previous Years' Appropriations



$467.6M

FY 2017 Appropriation

Consolidation of Primary and Secondary to GMR Session Law 2016-94

SECTION 35.24.(b) The Department of Transportation, in consultation with its Division Engineers……determine GMR funds for other purposes…emergency responses, weather-related events, and statewide programs.

July 7th Allocations Workshop

- Division Engineers and Division Maintenance Engineers
- Statewide Programs
- Distribution Formulas
- Consensus



Allocations

- Statewide Programs
  - Emergencies/Snow & Ice Response
  - Research and Development
  - Asset Management & Operations
  - State & Federal Obligations

- GMR, Contract Resurfacing & Pavement Preservation Allocation:

  Distribute based on 35% Needs & 65% Inventory

- Bridge Program Allocation:

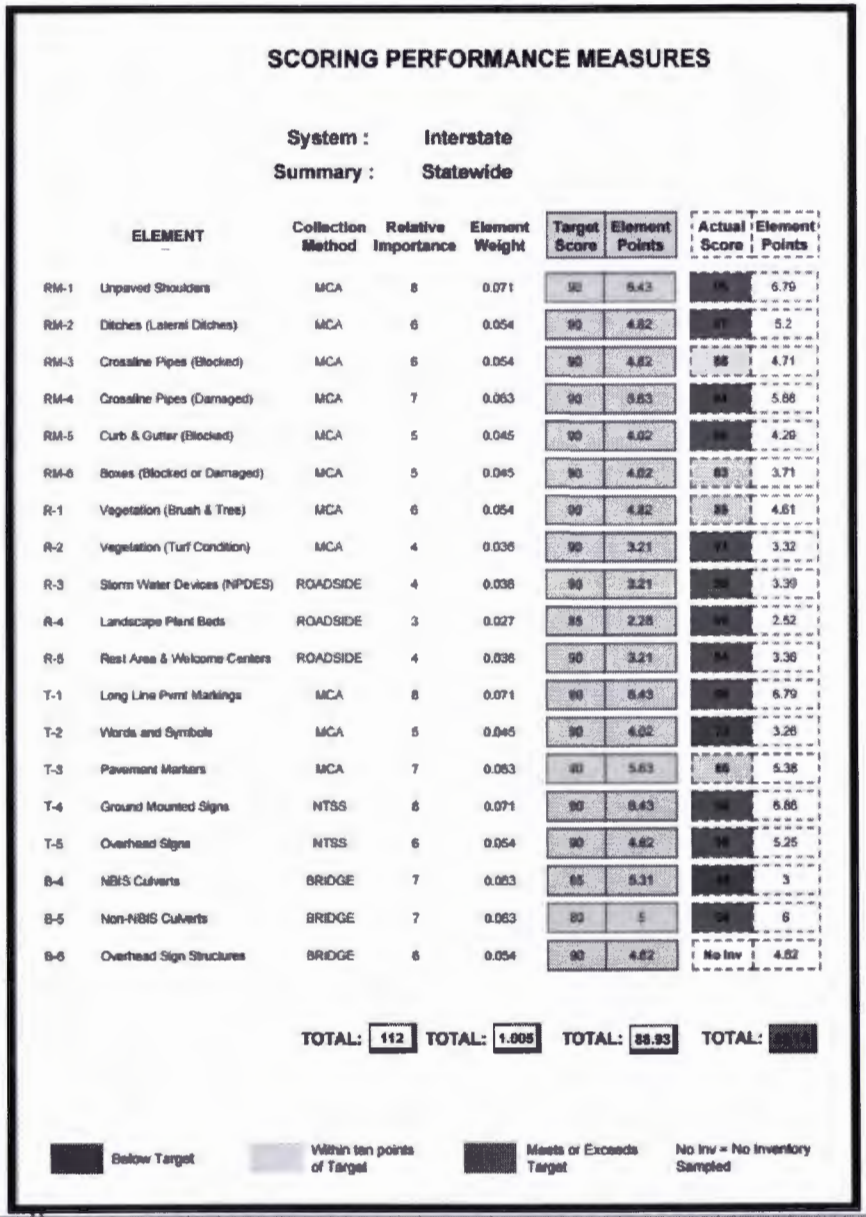
  Uniform Amount + ($ Available to Distribute x Need)

Assessed Needs

Major Assessment Programs

Assessment Program	Frequency	Method	Elements Assessed
Maintenance Condition Assessment Program (MCAP)	Year Round – Updated Quarterly	Inspection teams: random survey data collection	Drainage, vegetation, traffic, shoulders, pavement markings
Pavement Condition Survey (PCS)	Year Round – Updated Annually	Primary/Interstate - High speed data collection Secondary - Inspection Teams: Manual data collection	Concrete and asphalt pavement distresses
National Bridge Inspection Standards (NBIS)	Two-year cycle (100%)	Inspection Teams: Manual data collection	All Structural Elements

Maintenance Condition Rating Score Card



SCORING PERFORMANCE MEASURES

System : Interstate
Summary : Statewide

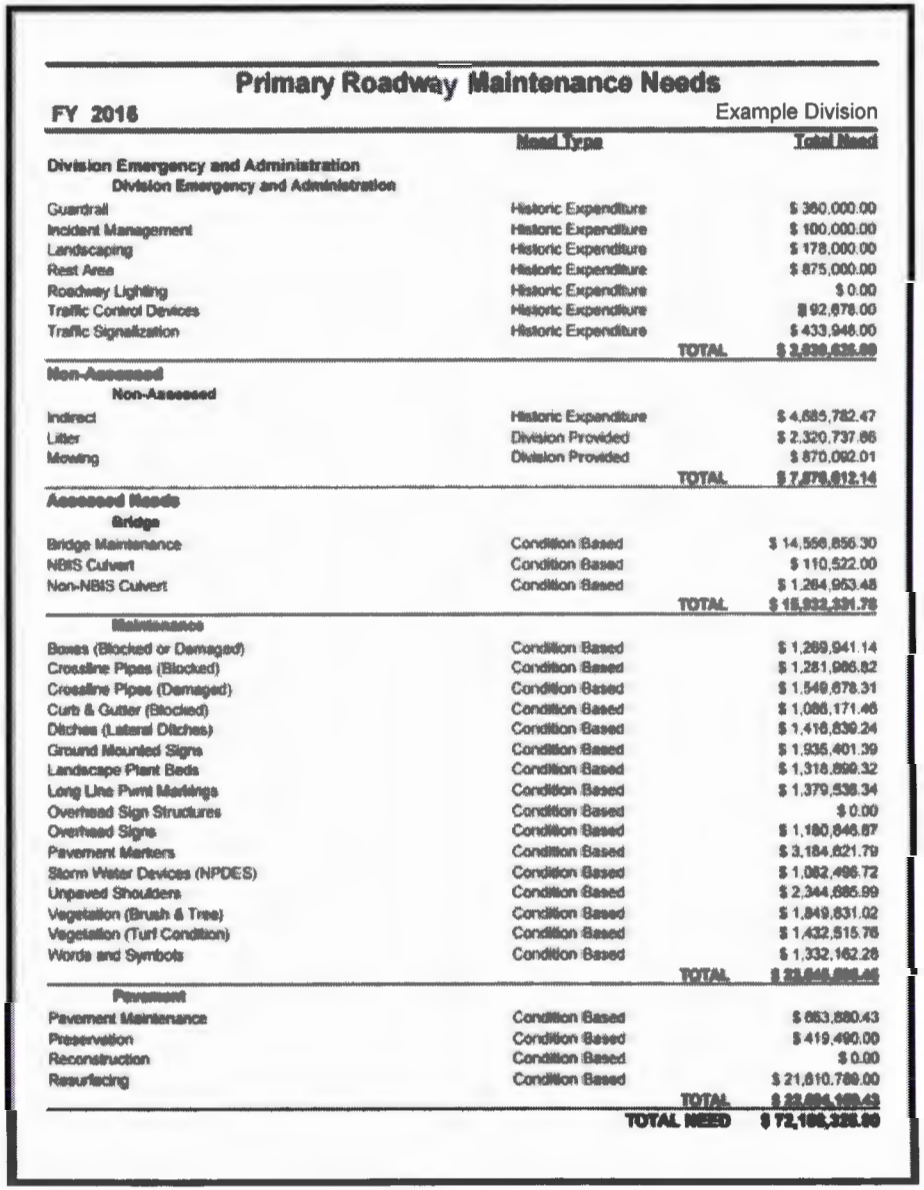
	ELEMENT	Collection Method	Relative Importance	Element Weight	Target Score	Element Points	Actual Score	Element Points
RM-1	Unpaved Shoulders	MCA	8	0.071	90	6.43	95	6.79
RM-2	Ditches (Lateral Ditches)	MCA	6	0.054	90	4.82	97	5.2
RM-3	Crossline Pipes (Blocked)	MCA	6	0.054	90	4.82	88	4.71
RM-4	Crossline Pipes (Damaged)	MCA	7	0.063	90	5.63	94	5.88
RM-5	Curb & Gutter (Blocked)	MCA	5	0.045	90	4.02	94	4.29
RM-6	Boxes (Blocked or Damaged)	MCA	5	0.045	90	4.02	83	3.71
R-1	Vegetation (Brush & Tree)	MCA	6	0.054	90	4.82	86	4.61
R-2	Vegetation (Turf Condition)	MCA	4	0.036	90	3.21	93	3.32
R-3	Storm Water Devices (NPDES)	ROADSIDE	4	0.036	90	3.21	94	3.39
R-4	Landscape Plant Beds	ROADSIDE	3	0.027	85	2.28	94	2.52
R-5	Rest Area & Welcome Centers	ROADSIDE	4	0.036	90	3.21	94	3.36
T-1	Long Line Pvmt Markings	MCA	8	0.071	90	6.43	95	6.79
T-2	Words and Symbols	MCA	5	0.045	90	4.02	73	3.28
T-3	Pavement Markers	MCA	7	0.063	90	5.63	86	5.38
T-4	Ground Mounted Signs	NTSS	8	0.071	90	6.43	94	6.86
T-5	Overhead Signs	NTSS	6	0.054	90	4.82	98	5.25
B-4	NBIS Culverts	BRIDGE	7	0.063	85	5.31	48	3
B-5	Non-NBIS Culverts	BRIDGE	7	0.063	80	5	94	6
B-6	Overhead Sign Structures	BRIDGE	6	0.054	90	4.82	No Inv	4.82

TOTAL: 112 TOTAL: 1.005 TOTAL: 88.93 TOTAL:

Below Target | Within ten points of Target | Meets or Exceeds Target | No Inv = No Inventory Sampled

- Statewide, Division, County
- Interstate, Primary, Secondary
- Updated Quarterly – Rolling Year

Needs Sheet



Primary Roadway Maintenance Needs

FY 2016 — Example Division

	Need Type		Total Need
Division Emergency and Administration			
Division Emergency and Administration			
Guardrail	Historic Expenditure		$ 360,000.00
Incident Management	Historic Expenditure		$ 100,000.00
Landscaping	Historic Expenditure		$ 178,000.00
Rest Area	Historic Expenditure		$ 875,000.00
Roadway Lighting	Historic Expenditure		$ 0.00
Traffic Control Devices	Historic Expenditure		$ 92,678.00
Traffic Signalization	Historic Expenditure		$ 433,948.00
		TOTAL	$ 2,038,626.00
Non-Assessed			
Non-Assessed			
Indirect	Historic Expenditure		$ 4,685,782.47
Litter	Division Provided		$ 2,320,737.66
Mowing	Division Provided		$ 870,092.01
		TOTAL	$ 7,876,612.14
Assessed Needs			
Bridge			
Bridge Maintenance	Condition Based		$ 14,556,856.30
NBIS Culvert	Condition Based		$ 110,522.00
Non-NBIS Culvert	Condition Based		$ 1,264,963.48
		TOTAL	$ 15,932,331.78
Maintenance			
Boxes (Blocked or Damaged)	Condition Based		$ 1,269,941.14
Crossline Pipes (Blocked)	Condition Based		$ 1,281,986.82
Crossline Pipes (Damaged)	Condition Based		$ 1,549,678.31
Curb & Gutter (Blocked)	Condition Based		$ 1,086,171.46
Ditches (Lateral Ditches)	Condition Based		$ 1,416,839.24
Ground Mounted Signs	Condition Based		$ 1,936,401.39
Landscape Plant Beds	Condition Based		$ 1,318,899.32
Long Line Pvmt Markings	Condition Based		$ 1,379,538.34
Overhead Sign Structures	Condition Based		$ 0.00
Overhead Signs	Condition Based		$ 1,180,846.87
Pavement Markers	Condition Based		$ 3,184,821.79
Storm Water Devices (NPDES)	Condition Based		$ 1,082,496.72
Unpaved Shoulders	Condition Based		$ 2,344,685.99
Vegetation (Brush & Tree)	Condition Based		$ 1,849,831.02
Vegetation (Turf Condition)	Condition Based		$ 1,432,515.76
Words and Symbols	Condition Based		$ 1,332,162.28
		TOTAL	$ 23,845,886.46
Pavement			
Pavement Maintenance	Condition Based		$ 863,880.43
Preservation	Condition Based		$ 419,490.00
Reconstruction	Condition Based		$ 0.00
Resurfacing	Condition Based		$ 21,610,789.00
		TOTAL	$ 22,894,159.43
		TOTAL NEED	$ 72,186,326.80

- Summary of Need
- By Division
- By Category
- By System

Non-Assessed Elements

Division specific needs based on historical expenditures

Examples:

- Traffic safety devices
- Roadway lighting
- Rest area maintenance
- Major events
- Emergencies/Snow & Ice





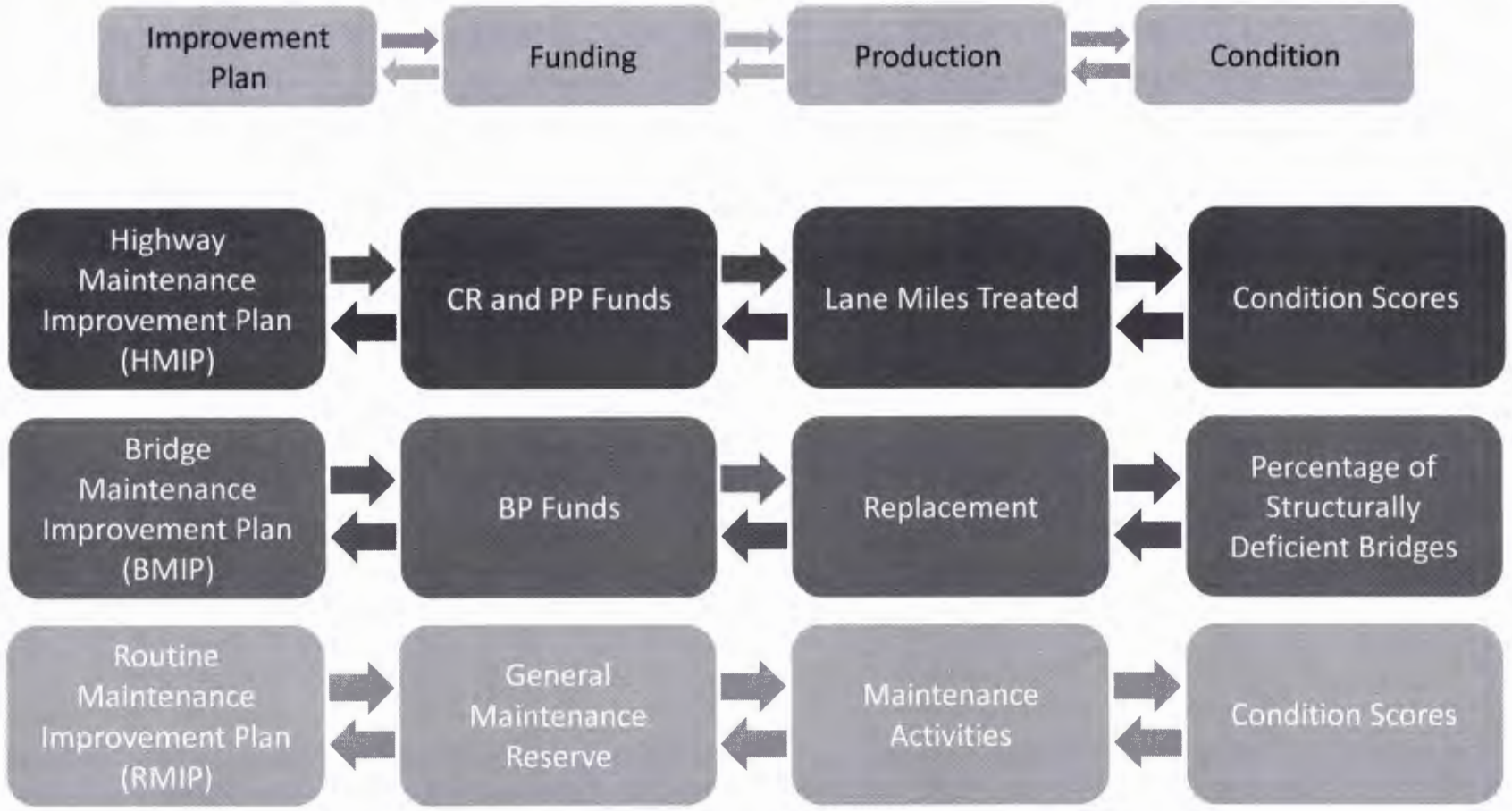


2016 Maintenance Operations and Performance Analysis Report (MOPAR)

December 2016



DOH Transition to Maintenance Planning



Annual Program Funding

Major Programs	Funding Need ($ million)	Current Funding ($ million)
Contract Resurfacing	$523	$497
Pavement Preservation	$162	$85
Bridge Program	$250	$242
General Maintenance Reserve	$988	$467
Total	**$1,923**	**$1,291**

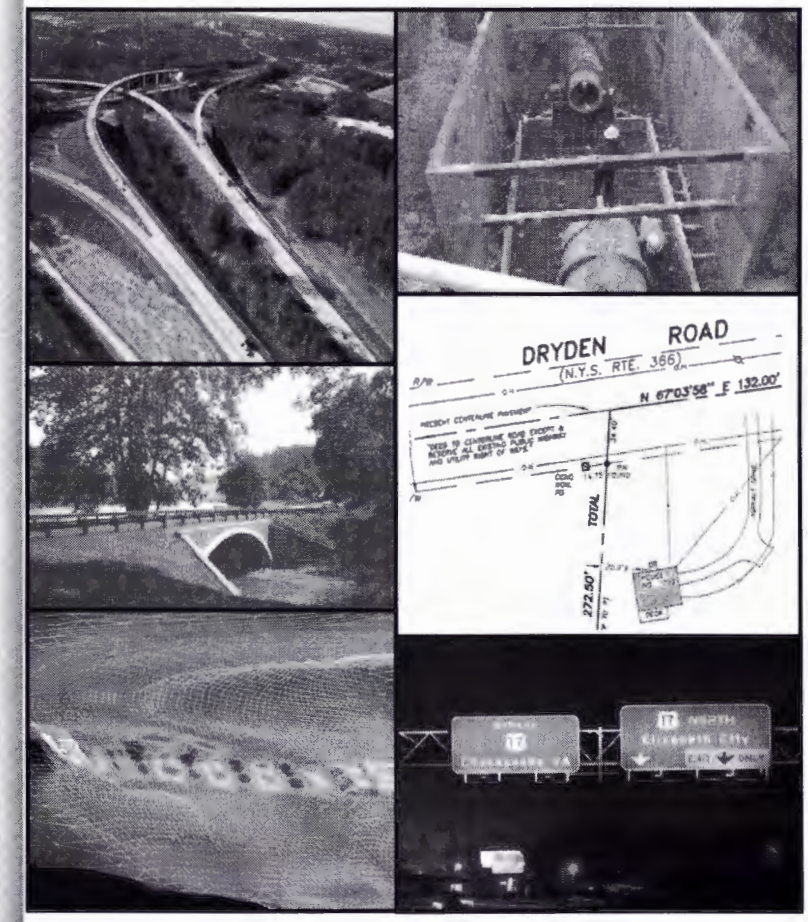
How to Build a Road

Project Planning Major Steps

- Develop preliminary highway designs within corridors
- Evaluate impacts
- Coordinate with project stakeholders (agencies & public)
- Select preferred alternate
- National Environmental Policy Act (NEPA) & State Environmental Policy Act (SEPA)



Project Design Major Steps



- Location and Surveys provides survey information
- Highway design is finalized
- Construction limits are determined
- Right of Way obtained
- Relocate third party utilities
- Project advertised

Construction Process – Typical Steps

1) Surveying

2) Clearing

3) Erosion Control

4) Bottom Drainage

5) Rough Grading

6) Bridge Foundations

7) Top Drainage

8) Bridge Beams and Deck

9) Fine Grading

10) Base and Pave

11) Guardrail

12) Markings, Signs, Signals

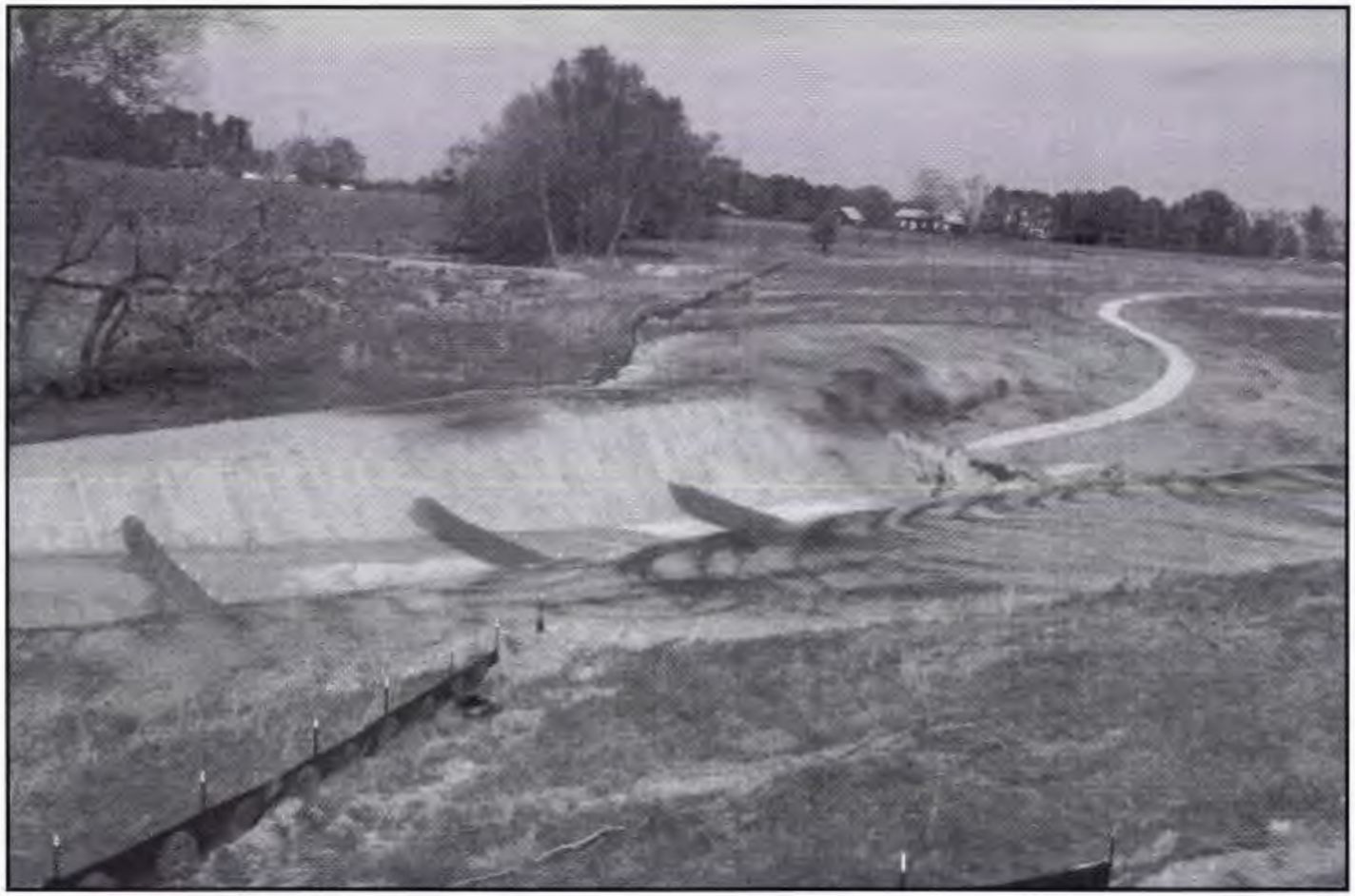
Survey



Clearing



Erosion Control



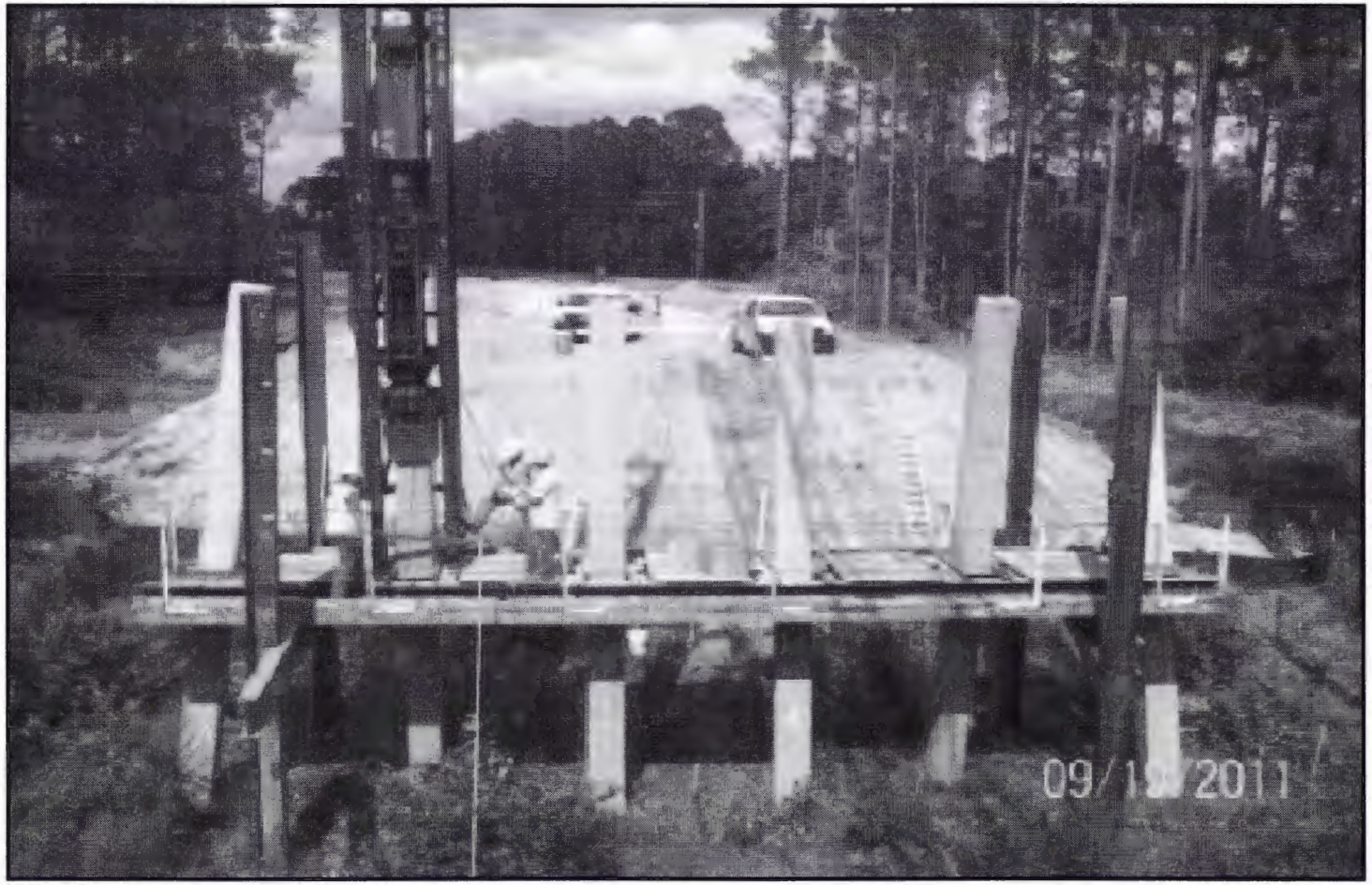
Bottom Drain Pipe and Culverts



Rough Grading



Bridge Foundations



Top Drainage





Bridge Beams and Deck





Fine Grading



Base and Pave





Guardrail



Pavement Markings, Signs, Signals





Typical Project Construction Durations

Project Type	Construction Duration
New Location	3 to 4 years
Major Pavement Rehabilitation	2 to 3 years
Urban Widening	2 to 3 years
Major Bridge Project	2 to 4 years
Low Impact Bridge Replacement	6 to 12 months



Construction Delays



Causes:

- Utility Conflicts
- Weather
- Unanticipated Site Conditions
- Scope Changes / Added Work

Remedies:

- Utility coordinators
- Utilize less weather dependent products/materials
- Increased authority in 2016 – timely decisions at local level
  - Approval of Change Orders
  - Settlement of Time/Monetary Claims
  - Onsite DOT Representative
- Include incentives for early or on-time completion

Geographic Construction Challenges

	Drainage	Clay Soils	Hard Rock	Steep Terrain	Tourist/ Seasonal Congestion	Night Work	Traffic Phasing	Env. Impacts	Utility Conflicts
East	X				X			X	X
Central		X				X	X	X	X
West			X	X	X			X	X





Outsourcing

Current Outsourcing Rates – SFY 2016

	Eligible Expenditures	Consultant Payments	Utilization Rate
Preconstruction & Technical Services	$86.9M	$64M	74%

- Achieved legislative mandates for the fourth straight quarter.
- Rate has increased from 50% to 74% in the past 5 ½ years.

DOT "REPORT" Program

Session Law 2015-241
House Bill 97

Responsiveness

Efficiency

Performance

Oversight

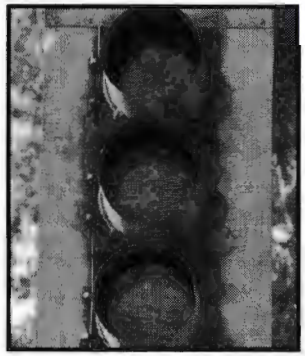
Restructure

Transparency

REPORT - Responsiveness

- **Intent**: Increased transparency and responsiveness to public to improve condition of our roads

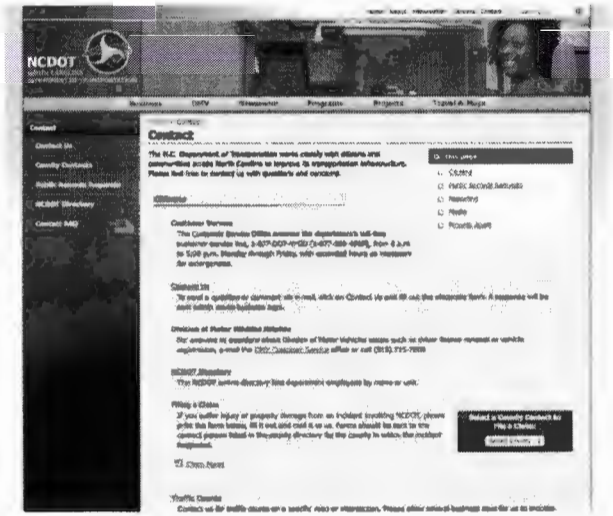
- **Responsiveness Legislation**:
  - Potholes: 2 business days
  - Safety-related: 10 business days
  - Non-Safety-related: 15 business days

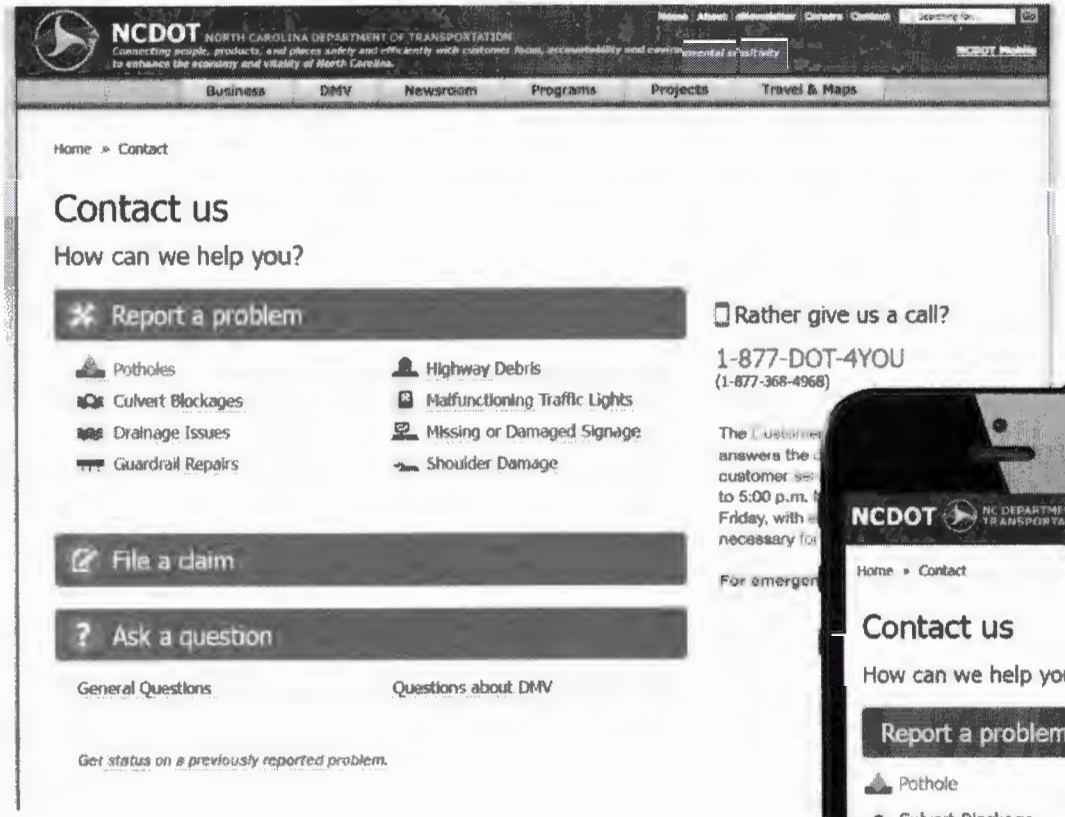


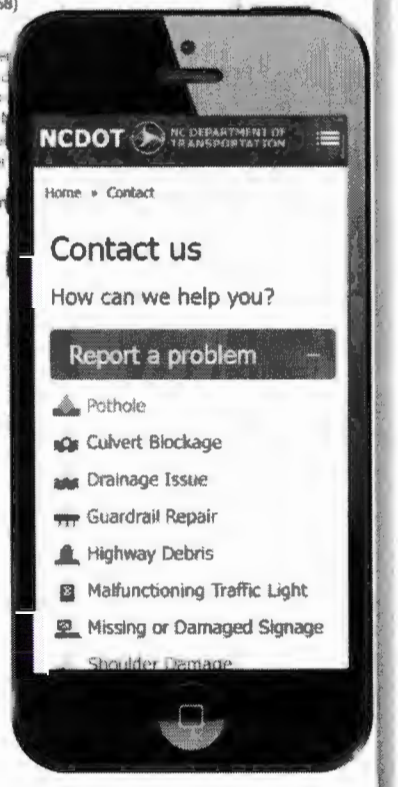




Report a Problem – Online or by Phone





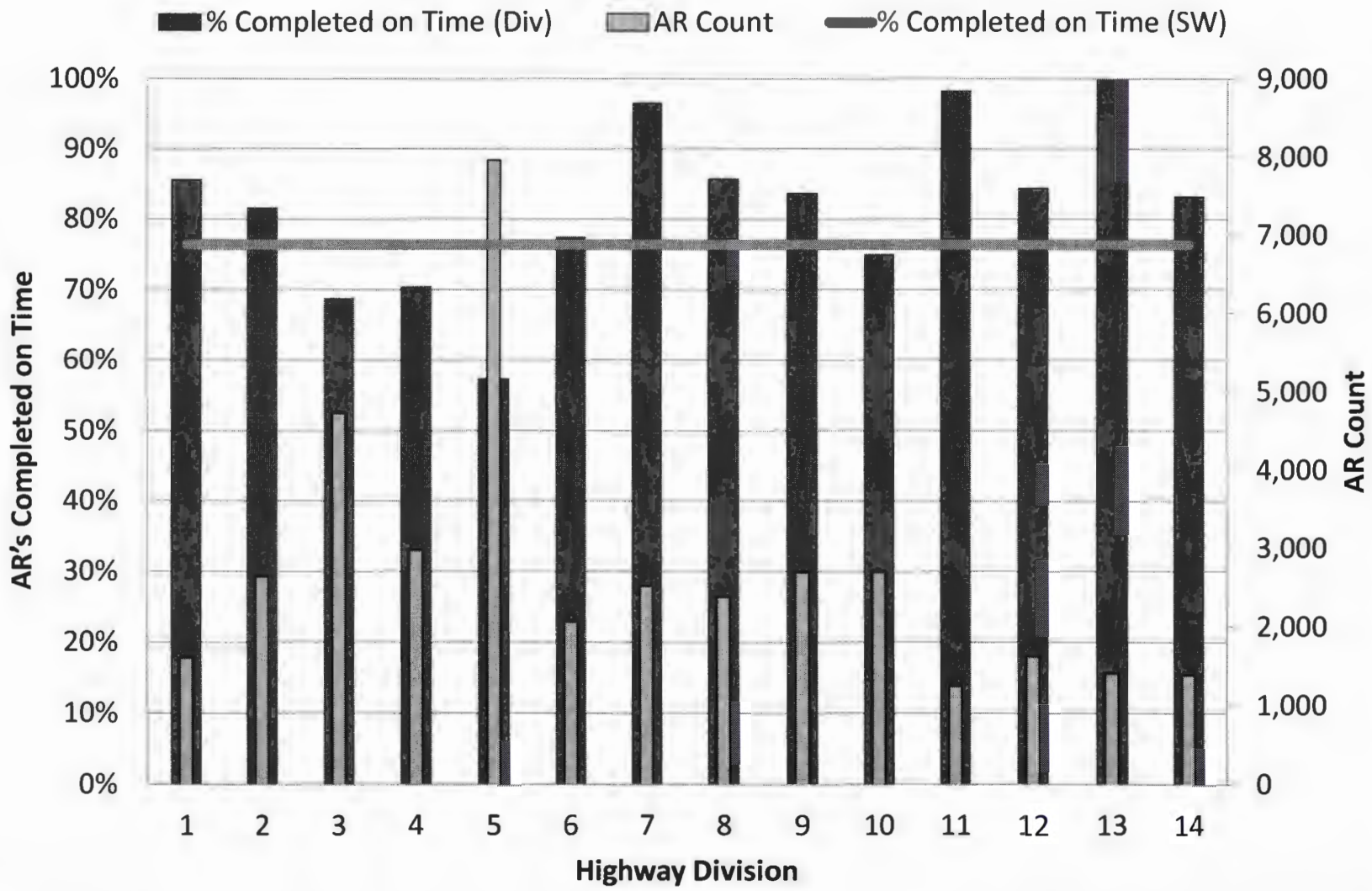


In addition to existing Contact page on www.NCDOT.gov

CY 2016 Statewide Action Requests

Category	SubCategory	AR Count	ARs Closed On Time	ARs Closed Exceeds Time	ARs Open
Maintenance	Drainage	11,966	8,704	2,291	971
Maintenance	Shoulder Repair	4,498	3,683	562	253
Maintenance	Guardrail Damage	1,227	907	239	81
Maintenance	Pothole	14,654	10,588	3,890	176
Traffic	Signal Malfunction	2,463	2,292	167	4
Traffic	Signing	3,060	2,756	272	32
TOTAL		37,868	28,930 (76%)	7,421 (20%)	1,517 (4%)

CY 2016 Action Requests by Division



REPORT - Efficiency

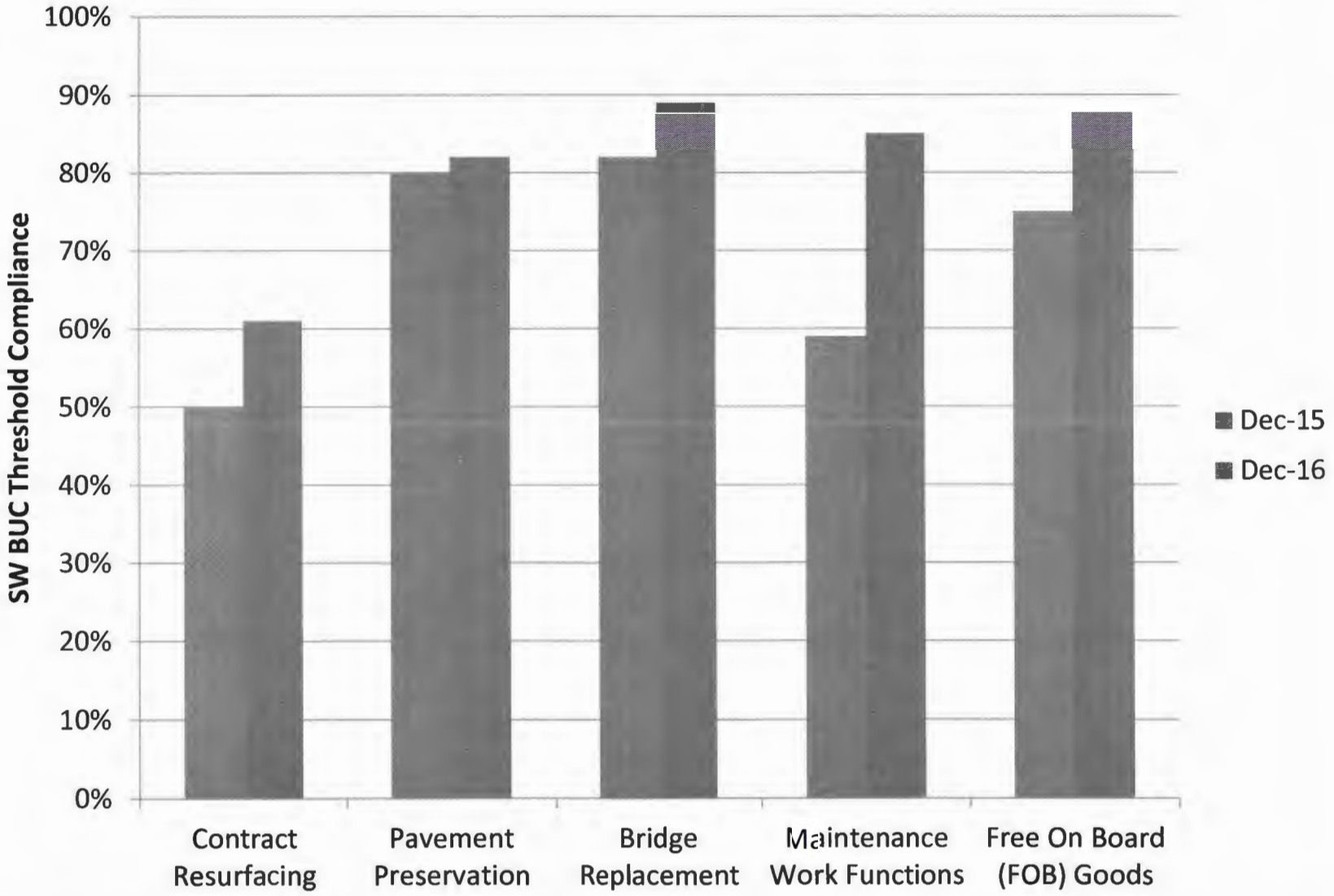
Baseline Unit Costs (BUC) Report established baseline unit costs for the following principal, planned work activities:

1) Contract Resurfacing
2) Pavement Preservation – DOT & Contract Chip Seals & Crack Sealing
3) Division Bridge Replacements
4) 10 Core Planned Maintenance Functions
5) Free On-Board (FOB) Goods





Baseline Unit Cost Compliance



REPORT - Performance

- **Intent**: Increased transparency and responsiveness to public to improve condition of our roads
- **Performance Legislation**:
  - Conduct annual survey of NC citizens to measure level of satisfaction with the condition of the roads and highways
  - Additional roadway reviews
  - Conduct annual job satisfaction survey



2016 Survey Results

- **Customer/Citizen Survey**
  - 2,430 randomly selected NC residents responded
  - 71% reported that transportation in North Carolina is one of the best compared to others states
  - 84% of respondents are satisfied overall with transportation services in North Carolina

Roadway Reviews

What grade would you give to the overall quality of highways in NC?				
Excellent	**Good**	**Average**	**Below Average**	**Failing**
8%	38%	42%	10%	1%

Perceived Importance of Roadway Features for Feeling of Safety			
Highest Ranked Features	Roadway Markings	Physical Condition of the Road Surface	Visibility of Signs
Lowest Ranked Features	Mowing & Trimming	Inside Shoulder Widths	Type of Shoulder

System	Overall Highway Condition Mean Ratings*
Interstate	3.52
Primary	3.19
Secondary	2.98

*3.0 = Basic Expectations Met

2016 Survey Results

- **Employee Survey**
  - 5,602 NCDOT employees responded to the anonymous survey
  - NCDOT's overall employee engagement score is 5.30 (on a 7-point scale)
  - An internal Employee Engagement Advisory Council has been appointed to review results and make recommendations

REPORT - Oversight

- **Intent**: Increase budget transparency and allow for greater legislative and citizen oversight

- **Oversight Legislation:**
  - Reclassify the funding source for all full-time positions that are budgeted as receipt-supported

  - DOH employees shall be attributed to respective Highway Division fund codes within the Highway Fund

- Working with financial services contractor to refine and simplify tracking of indirect and overhead costs

- Systems to be in place by May 1, 2017

REPORT - Restructure

- **Intent**: Improve the efficiency and effectiveness and align operations and staffing with the strategic goals set for the Department
- **Restructure Legislation:**
  - Review operations, staffing levels and employee performance management efforts
  - Align staffing with strategic goals and workload
  - Shift project development decision making to Divisions
  - Eliminate 10% filled positions
    - Central staff performing administrative, managerial, supervisory or oversight functions

Implementation

Organizational and business process improvements to support Divisions as project owners

- Eliminated approximately 250 central positions (16.5%)
- Aligning staff to support project delivery by relocating vacant FTEs to Divisions
  - Transferred 23 positions Summer 2016
  - Evaluating the need for additional transfers
- Accelerating project delivery
  - 70% Division managed projects
  - 30% Central managed projects

REPORT - Transparency

- **Intent**: Increased transparency of the Department's information on project delivery to the public

- **Transparency Legislation**: The DOT website shall report on the following types of projects:
  - Maintenance projects > $1M
  - Bridge replacement projects
  - Bridge repair or renovation projects with road closure > 24hrs.
  - All construction projects included in 5 year STIP

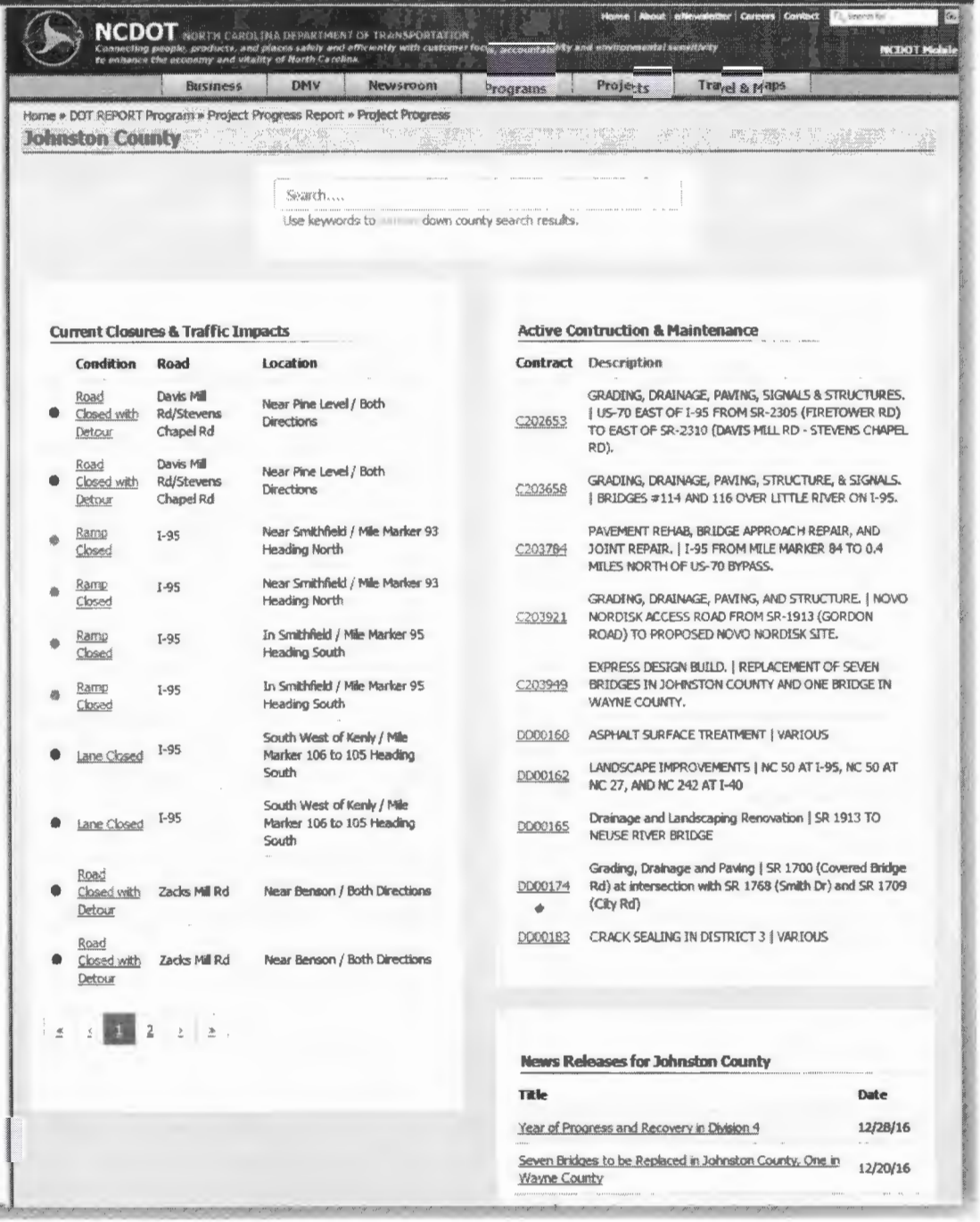
New link added on the NCDOT public website

REPORT NCDOT Program

https://ncdot.gov/report

DOT Report Project Progress County View

- "What's happening near me?"
- Lane closures, traffic incidents, all real-time from NCDOT TIMS
- Construction progress & maintenance info
- Important projects highlighted
- Local press releases



Questions?

VISITOR REGISTRATION SHEET

JT Committee on Appropriations,Transportation — 3/8/2017

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Bruce Anderson	4705 Andrews Lewis St Charlotte, NC 28277
Ellis Powell	CAPA
Kym Hunter	SELC
Felix Hunter	" "
Dave Fenn	City of Charlotte
Jillian Totman	MWC LLC
Tonya Horton	TJS
[illegible]	PPAR
Sherwood	NS
Harold Black	CWA
GRANT WELCH	CWA

VISITOR REGISTRATION SHEET

JT Committee on Appropriations,Transportation — 3/8/2017

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Joy Hicks	NCDOT
AB Swindell	Concrete Supply Company
[illegible]	RANC NCMA LPA
H. Tasaico	NCDOT
[illegible]	[illegible]
Berry Jenkins	CIAR's Lindas AGC
Joel Lane	SCL
Jay Stem	NCAA
[illegible]	[illegible]
David Collins	SEAWC
Fred Bone	Bone Asso.

VISITOR REGISTRATION SHEET

JT Committee on Appropriations,Transportation — Name of Committee

3/8/2017 — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
CESAR LEYVA	CWA POBOX 220116 CLT 28222

Committee Sergeants at Arms

NAME OF COMMITTEE JT Committee on Appropriations,Transportation

DATE: 3/8/2017 Room: 1027/1128

House Sgt-At Arms:

1. Name: David Leighton
2. Name: Russell Salisbury
3. Name: Reggie Sills
4. Name:
5. Name:

Senate Sgt-At Arms:

1. Name: Billy Fritscher
2. Name: Hal Roach
3. Name:
4. Name:
5. Name:

House Pages
Assignments
Wednesday, March 08, 2017
Session: 2:00 PM

Committee	Room	Time	Staff	Comments	Member
Appropriations on Department of Transportation	1027/1128	8:30 AM	Dylan Gabard		Rep. Speaker Tim Moore
			Jacob Harris		Rep. Ted Davis
Appropriations on General Government and Information Technology	425	8:30 AM	Rayquian Jones		Rep. Speaker Tim Moore
			Kaleah Poole		Rep. Speaker Tim Moore
Appropriations, Agriculture and Natural and Economic Resources	421	8:30 AM	Mahlaysia Thomas		Rep. Speaker Tim Moore
Appropriations, Education	Other	8:30 AM	Tyler Phillips		Rep. Mike Clampitt
			Leonardo Tamburro		Rep. Gale Adcock
Appropriations, Health and Human Services	643	8:30 AM	Nikyah Bowers		Rep. Speaker Tim Moore
Appropriations, Justice and Public Safety	415	8:30 AM	Shaun Robinson		Rep. Speaker Tim Moore
Commerce and Job	544	8:30 AM	Christopher Irvin		Rep. Speaker Tim

House Pages
Assignments
Wednesday, March 08, 2017

Committee	Room	Time	Staff	Comments	Member
Development					Moore
			Michael Lee		Rep. Speaker Tim Moore
Judiciary IV	1228/1327	10:00 AM	Brian Ornelas		Rep. Speaker Tim Moore

The Joint Committee on Appropriations on Department of Transportation
Thursday, March 9, 2017 at 8:30AM
Room 1027/1128

MINUTES

The Joint Committee on Appropriations on Department of Transportation convened at 8:32 AM on March 9, 2017 in Room 1027/1128. Eleven members were present.

Senators Jim Davis and Tom McInnis presided.

Senator Davis called the meeting to order, welcomed members, presenters, and visitors and thanked the Sergeants-at-Arms (Frances Patterson, Tom Burroughs, Joe Rook, David Leighton, Russell Salisbury) and Pages (Hunter Gunnell, New London, Senator McInnis; Holly Hutcheson, Durham, Senator Woodard; Jacob Harris, Representative Ted Davis; Shaun Robinson, Speaker Tim Moore) for their service.

Senator Davis introduced Burt Tasaico, State Program Analysis Engineer for the NC Department of Transportation, who then began his presentation on Transportation Revenue Sources (Attachment #1). Tasaico responded to comments and questions from committee members.

At 9:08 AM Senator McInnis assumed the role of Chair and Tasaico continued to respond to comments and questions from committee members Shephard, McInnis, Watford, D. Davis, Torbett, Bumgardner, and Iler.

Susan Tyler, Fiscal Analyst, Fiscal Research Division, North Carolina General Assembly, was introduced to present her report on State Transportation Revenue Sources, Reliance, and Responses (Attachment #2). She responded to questions and comments from committee members.

At 9:27 AM Senator Davis re-assumed the role of Chair and Tyler continued to respond to comments and questions from committee members Bumgardner and Torbett.

Tasaico resumed his presentation and responded to questions from members J. Davis and Iler.

There being no further business, the meeting adjourned at 10:43AM.

Senator Jim Davis and Senator Tom McInnis
Presiding

Kaye Davis Culberson, Committee Clerk

Joint Appropriations Committee on Transportation

March 9, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis, Chairing
Senator Tom McInnis
Senator Wesley Meredith

Representative Frank Iler
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. Transportation Revenue Sources

   - Burt Tasaico, State Program Analysis Engineer
     Department of Transportation

   - Susan Tyler, Fiscal Analyst, Fiscal Research Division
     North Carolina General Assembly

Next meeting: Debt Affordability/Instruments and NC Turnpike Authority- Tuesday, March 14th, 8:30 a.m.

ATTACHMENT 1

NORTH CAROLINA
Department of Transportation

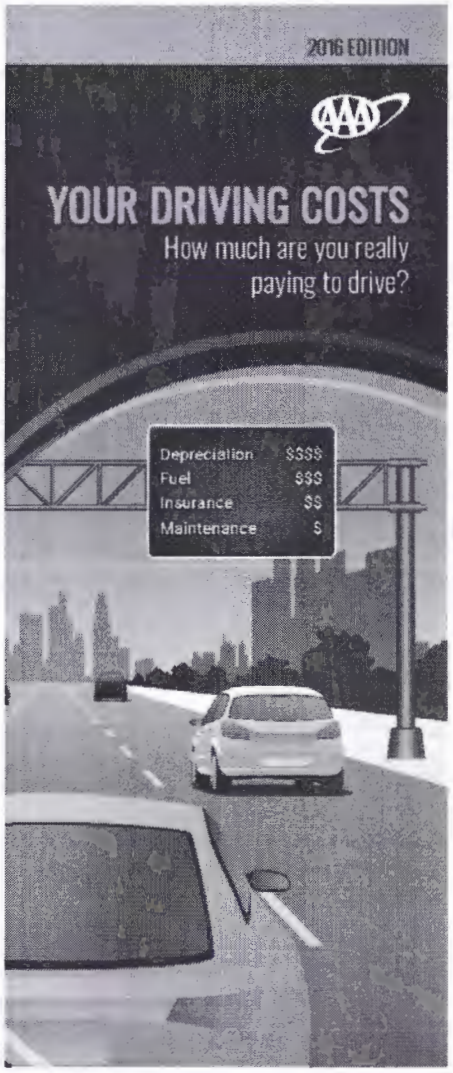


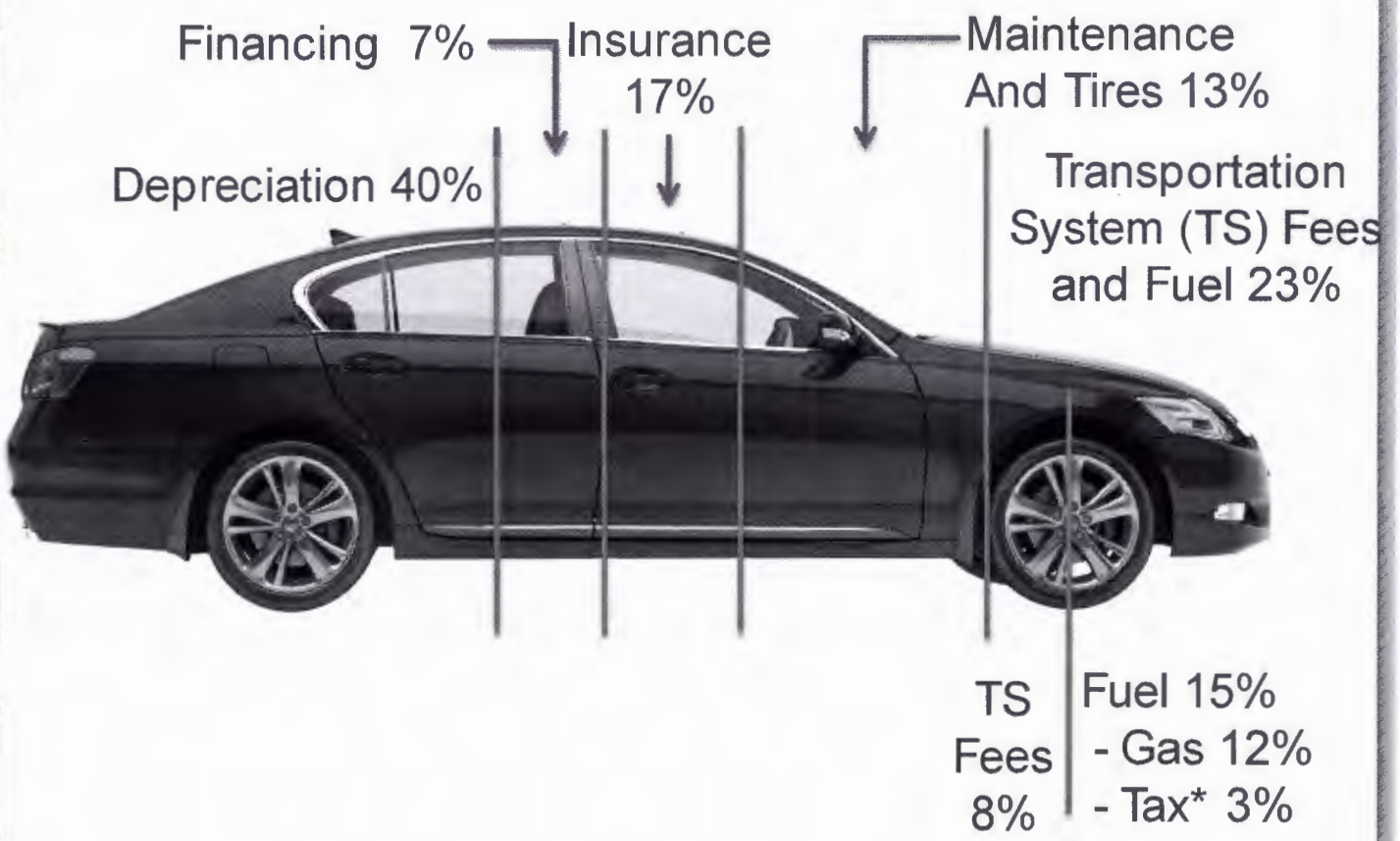
Transportation Funding

Burt Tasaico, PE, State Program Analysis Engineer

March 9, 2017

Vehicle Ownership - $6,800/year





* Federal and State motor fuel taxes

Current Funding

State Funding

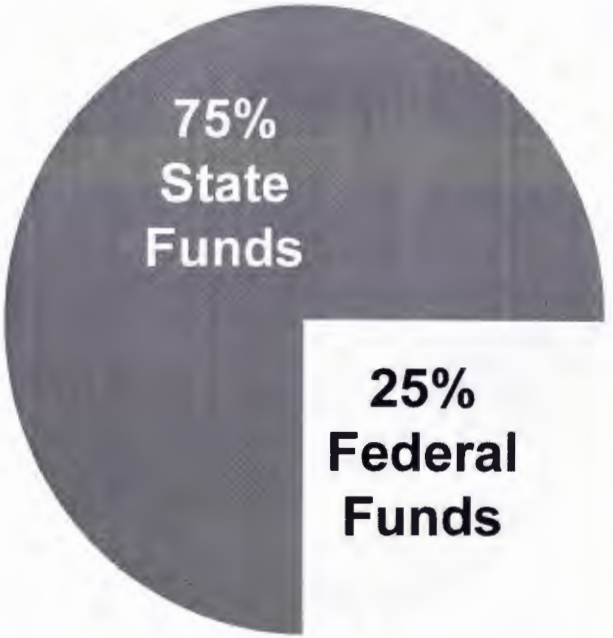
SFY 2017



Motor Fuel Tax 50%

Highway Use Tax 20%

Fees 30%



- No Political Appetite for National Solutions
- Up to States to Fix

Federal Funding (since 2008)

SFY 2017



Motor Fuel Tax 70%

Fees 10%

General Fund* 20%

*$143.6 billion since 2008 (through 1/2016)

Federal Transportation Revenues

SFY 2017



Motor Fuel Tax 70%

Fees 10%

General Fund* 20%

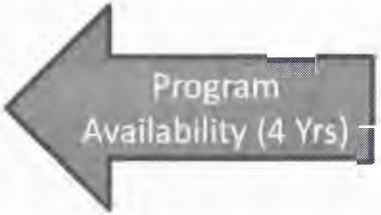
*$143.6 billion since 2008 (through 1/2016)

Federal Aid Overview – Revenue Sources

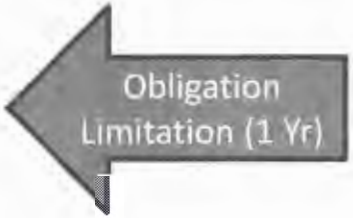
Motor Fuel Tax:	Gasoline	18.4 cents/gallon
	Diesel*	24.4 cents/gallon
	** International Registration Program (IRP)*	
Truck Sales:	12% of retail price for trucks over 33,000 lbs. or trailers over 26,000 lbs. GVW	
Truck Use:	Up to 55,000 lbs.	No Tax
	Over 55,000 lbs.	$100 + $22/1,000 lbs. over 55,000 lbs. ($550 maximum)
Tires:	9.45 cents/10 pounds over 3,500 lbs. maximum rated load capacity 4.725 cents for bias-ply or super single tire) *Effective January 1, 2005*	
General Fund Transfers:	$143.6 billion since 2008 (through 1/2016)	

Federal Aid Overview

- Tied to specific systems
  - 25% of NC mileage eligible



- Matching requirements (20%)
- Reimbursement Program

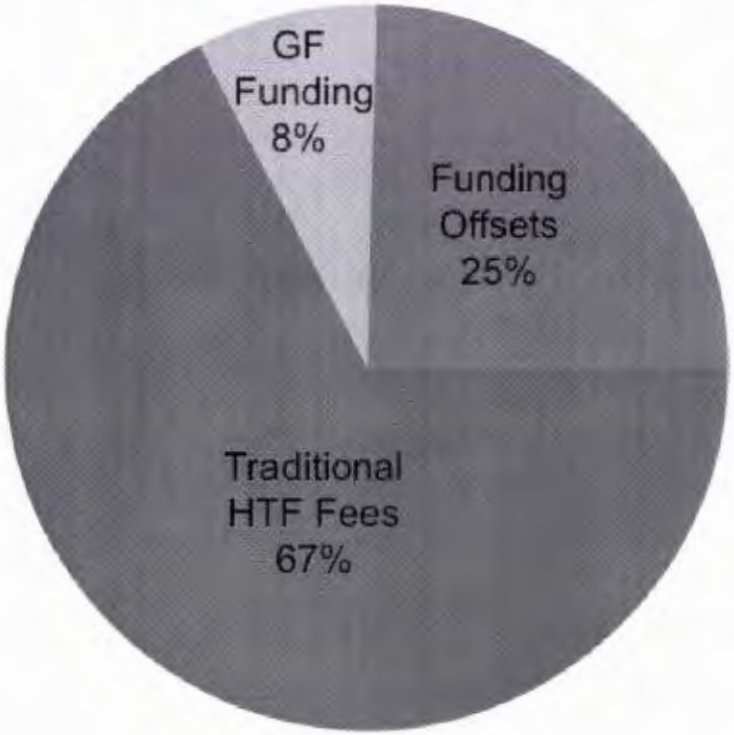


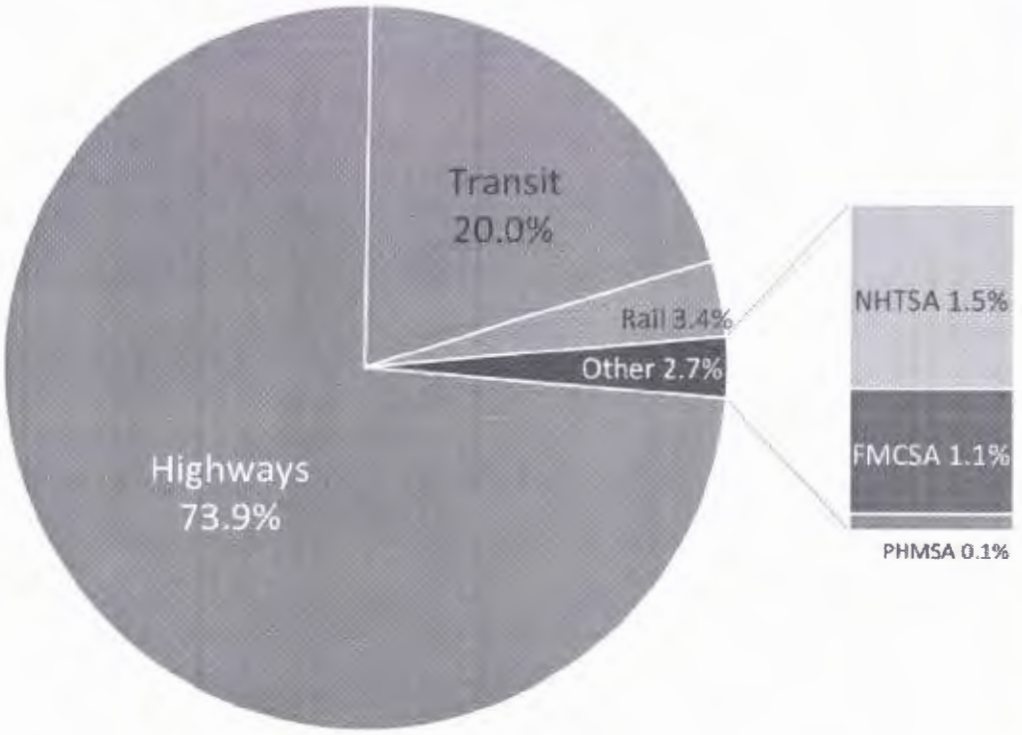
- Apportionments
  - Approved by Congress
  - Maximum caps by transportation programs
- Obligation Authority
  - Approved by Congress as reimbursable funding to program projects (less than apportionment)
  - Restricts spending to states after apportionment
  - Not distributed by transportation programs

Federal Aid Overview - Reauthorizations

- Notable Acts
  - 1916 First Act
  - 1956 Highway Trust Fund
  - 1982 Mass Transit Account
  - 1991 First of multi-year acts (Intermodal Surface Transportation Efficiency Act, known as ISTEA)
  - 2015 FAST Act (Fixing America's Surface Transportation)

FAST – Sources and Uses





Total 5 year	$305.5 B
Funding Offsets	$75.2 B

NHTSA – National Highway Traffic Safety Administration
FMCSA – Federal Motor Carrier Safety Administration
PHMSA – Pipeline and Hazardous Materials Safety Adm.
GF – General Fund
HTF – Highway Trust Fund (Federal)

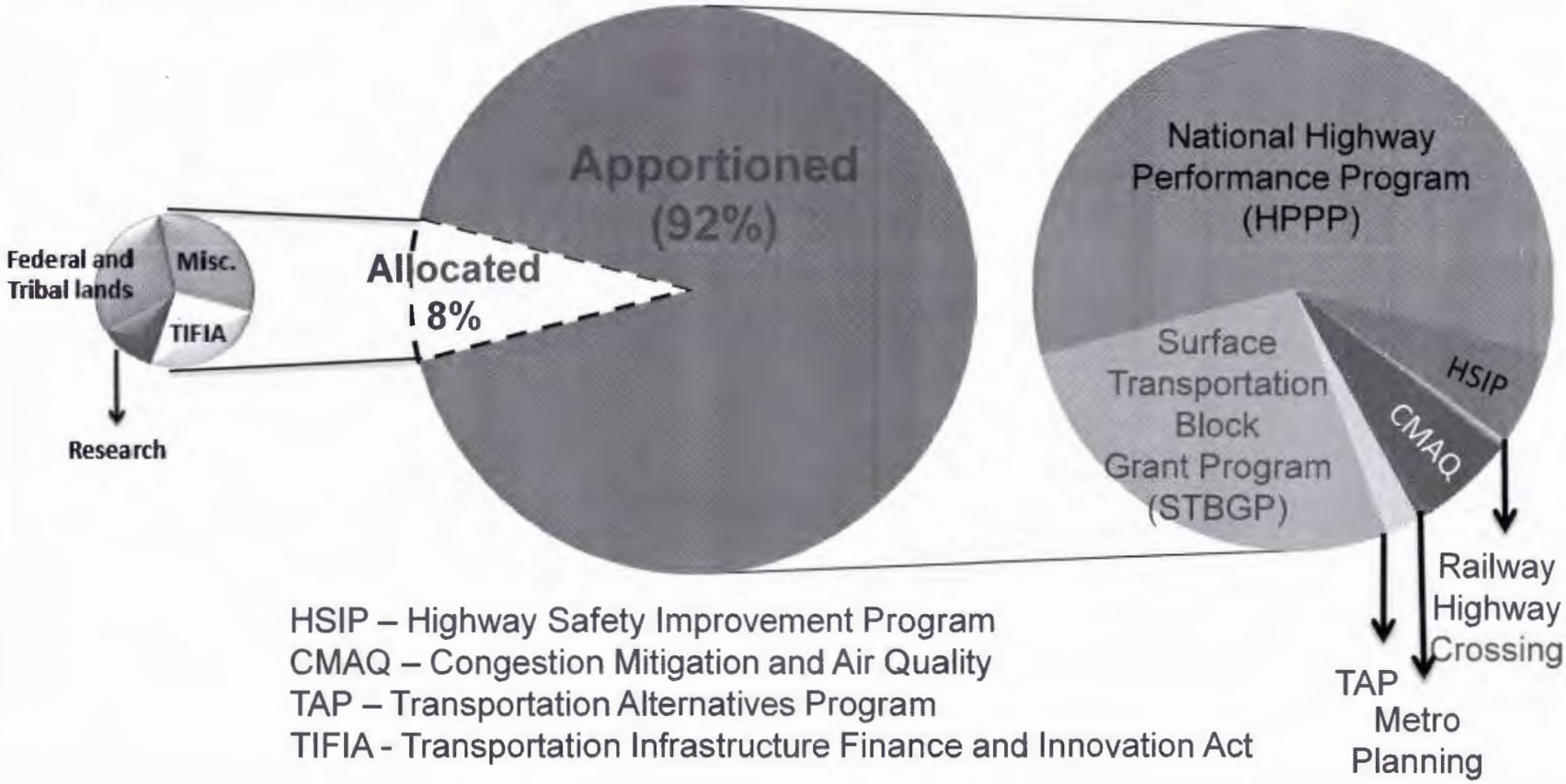
FAST Highway Funds – Allocated vs Apportioned

Allocated (8%)

- No formula specified by law
- Distributed throughout the year
- Discretionary grants may be withdrawn by administrative action
- Only some States are recipients

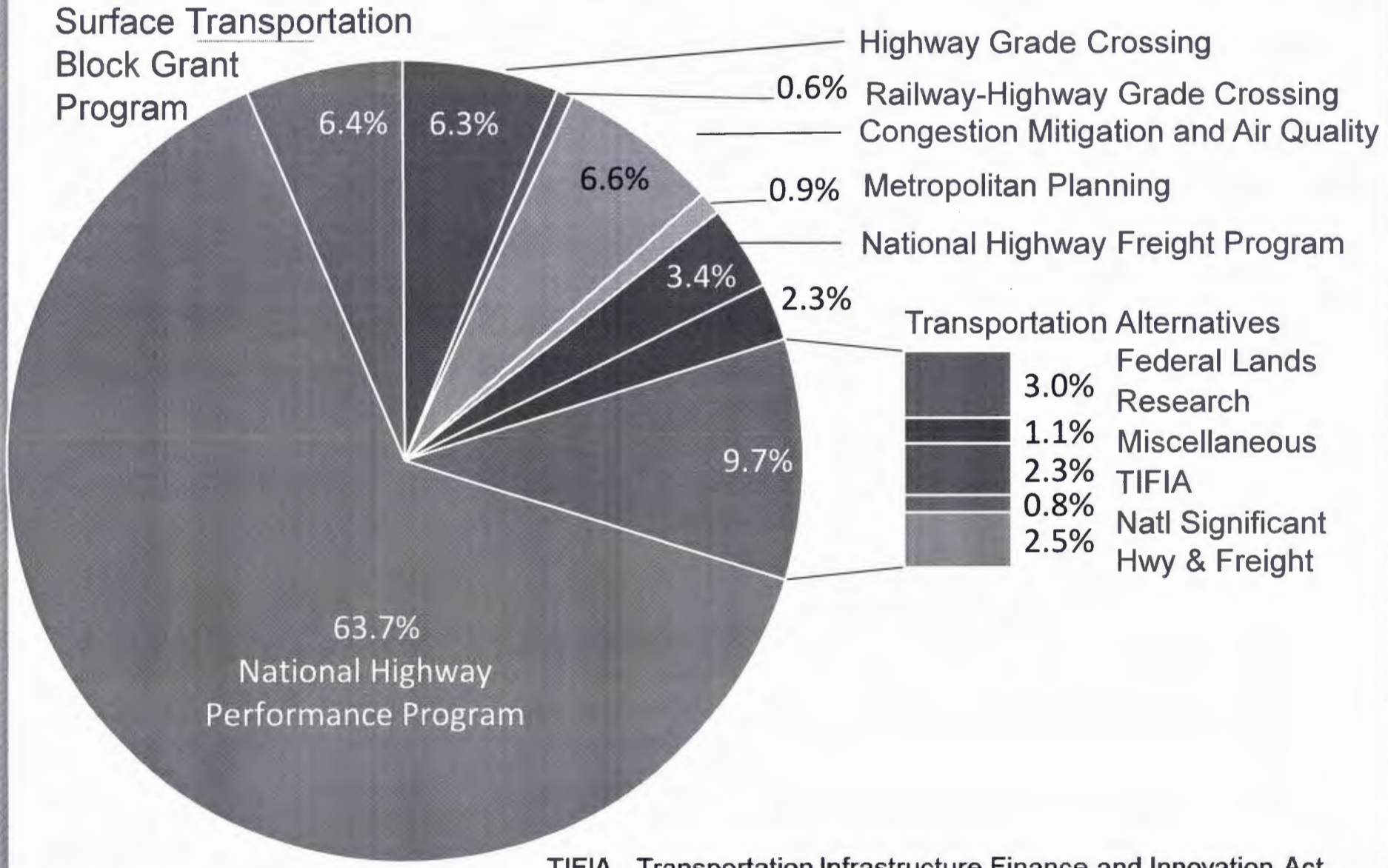
Apportioned (92%)

- Distributed by formula specified in law
- Distributed on October 1st
- Withdrawn only by law
- All States are recipients



HSIP – Highway Safety Improvement Program
CMAQ – Congestion Mitigation and Air Quality
TAP – Transportation Alternatives Program
TIFIA - Transportation Infrastructure Finance and Innovation Act

FAST - Highway in NC



TIFIA - Transportation Infrastructure Finance and Innovation Act

Federal Aid – Rate of Return

- "Rate of Return" – how much money a state receives relative to the amount of funds the state contributes to the federal Highway Trust Fund.
- A donor state receives less than they pay in, while a done state receives more than they pay in.

Highway Rate of Return (2015 Information)

	Revenue ($ B)	Apportionment ($ B)	Revenue/ Apportionment
US	33.76	39.45	110.3%
NC	1.04	1.03	99.1%
NC/US	2.92%	2.62%	89.9%

FAST Act – Funding Alternatives Program

- Created a program in U.S. Section 23-503(b) to provide grants that:
  - Demonstrate user-based alternative revenue mechanisms
  - Utilize user fee structure, such as tolling or vehicle miles travelled
  - Help maintain future long-term solvency of the Federal Highway Trust Fund

- Program Goals:

Implementation, Interoperability, Public Acceptance and Hurdles	Use of Independent and Private Third Parties
Privacy Protection	Congestion Mitigation Impacts
Equity Concerns	Ease of User Compliance
Technology Reliability and Security	Flexibility of User Choice
Cost of System Administration	Auditing, Compliance/Enforcement

- Funding
  - $15 million in FFY 16
  - $20 million annually from FFY 2017 through FFY 2020
  - 50% Cost Sharing

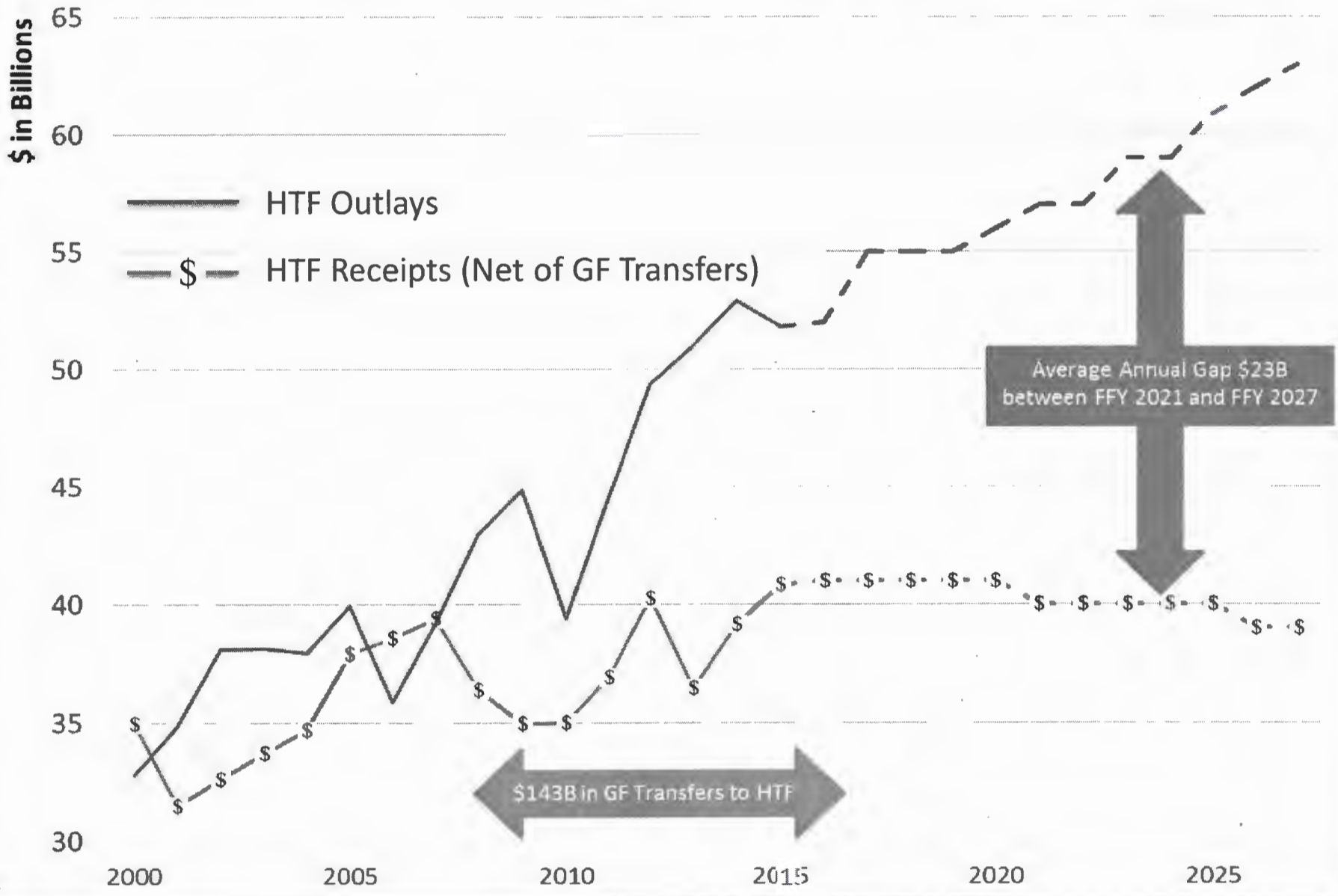
FAST Act – Funding Alternatives Program

FFY 2016 Selections ($14.3 million)

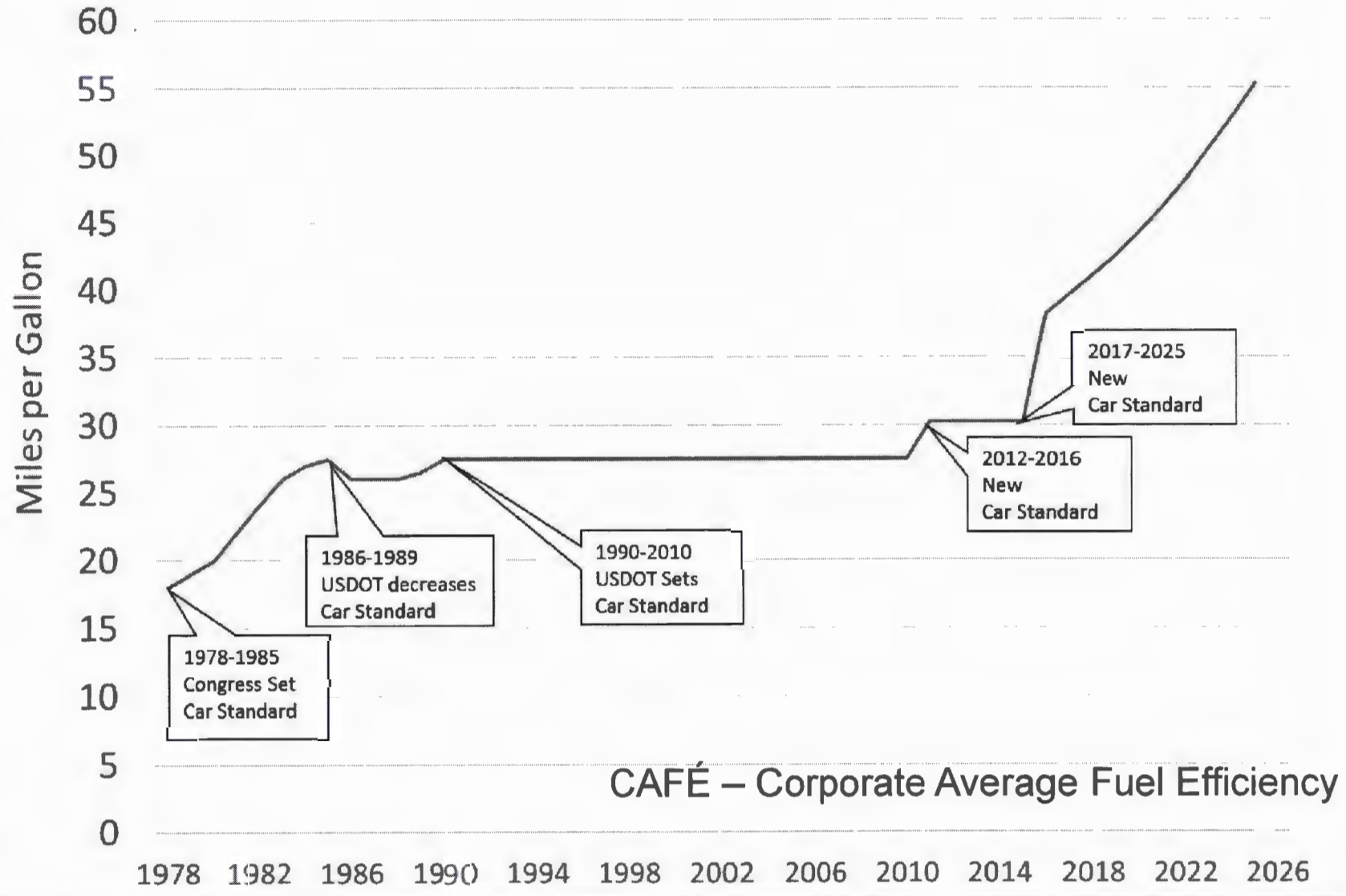
State	Project	Funding ($ in thousands)
California	Pay at the Pump	750
Delaware	On Board Mileage Counter	1,490
Hawaii	Inspection Station Odometer Reading	3,998
Minnesota	Collection by Mobility as a Service Provider	300
Missouri	Registration Fee Based on Estimated Miles/Gallon	250
Oregon	Improvements to Existing Program	2,100
Oregon	Interoperability with Western Road User Charge Consortium	1,500
Washington	Interoperability of Various Collection Systems	3,847

Note: There are pilot programs in California, Oregon and Minnesota

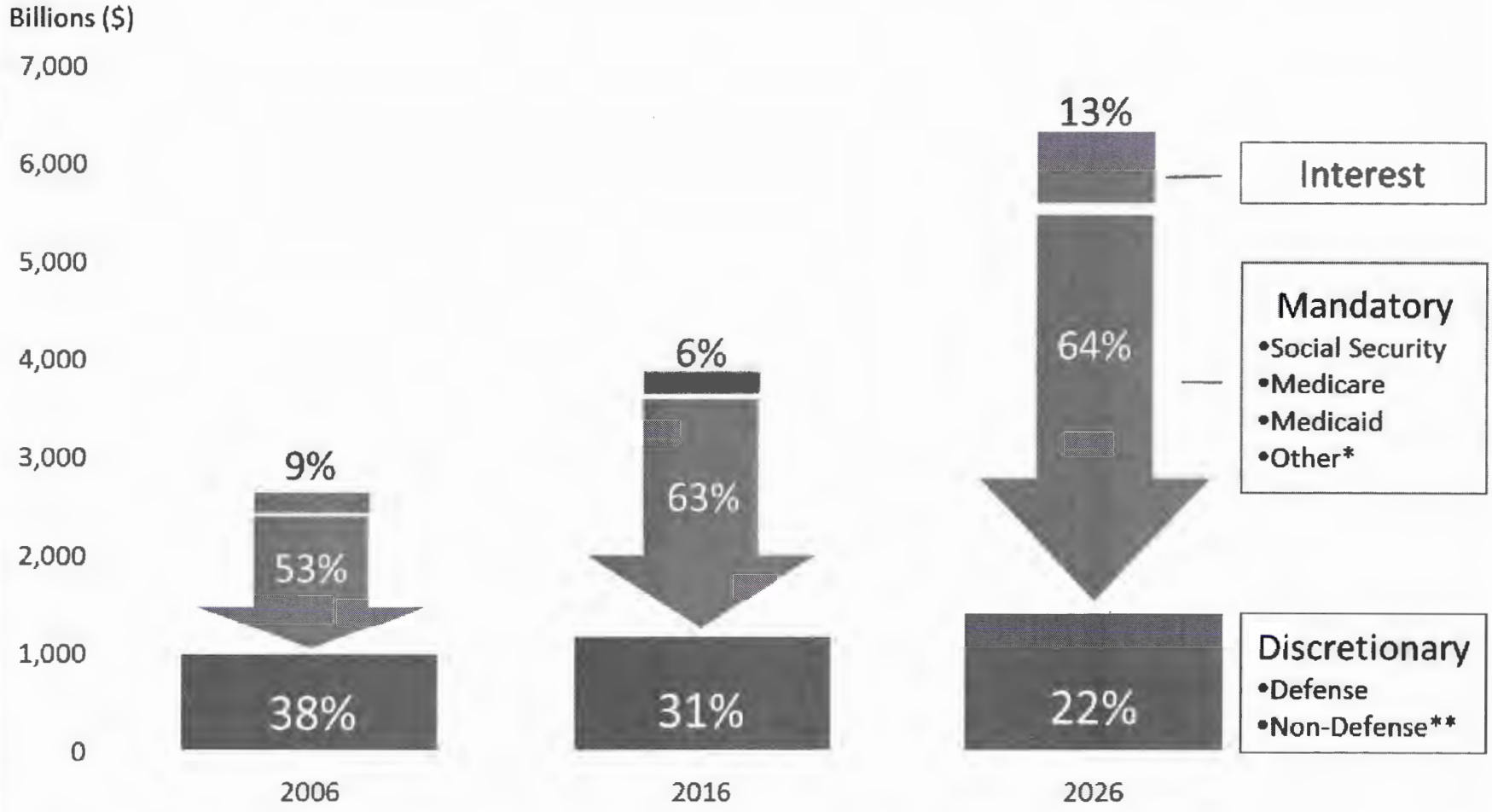
Highway Trust Account – Growing Revenue Gap



Federal Vehicle Standards (CAFÉ) – Passenger Vehicle



Total Federal Spending



*unemployment compensation, federal civilian and military retirement, some veterans' benefits, the earned income tax credit, the Supplemental Nutrition Assistance Program and other mandatory programs

**transportation, education, veterans' benefits, health, housing assistance, and other activities

Washington Update (March 3, 2017)

- Infrastructure Plan
  - Transform crumbling infrastructure to accelerate economic growth
  - Provide maximum flexibility to the states
  - Infrastructure more than highway and bridges (rail, bus, ports, airport, water and sewer systems, schools, electric grid, VA hospitals and perhaps more)
  - Accomplish first 100 days (pre-election) in 2017, perhaps in 2018
  - Leverage new revenues and use Public-Private Partnerships
    - $136B in federal tax credits to private investors
    - Would yield $1 trillion for infrastructure over 10 years

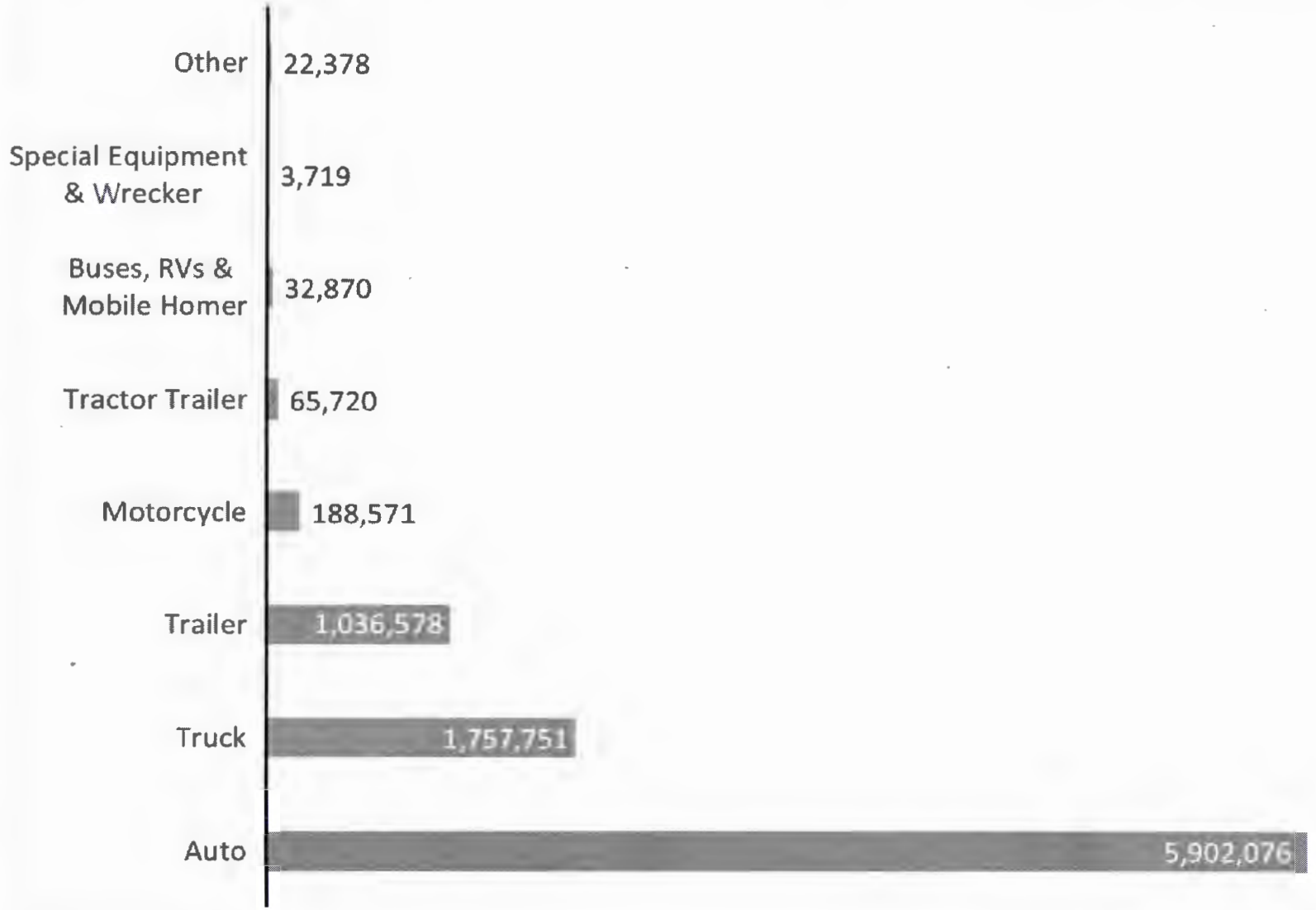
Washington Update (March 3, 2017)

- Annual Federal Budget
  - 2018 Appropriation Bill
    - Release date late April or early May
    - Defense Spending Bill +54 billion
  - 2017 Appropriations Bill
    - On second Continuing Resolution (CR) through 4/28/2017
    - Defense Spending Bill perhaps voted on week of March 6th
    - Transportation maybe added onto Defense bill and provide FAST act spending level but include a reduced Contract Authority rescission

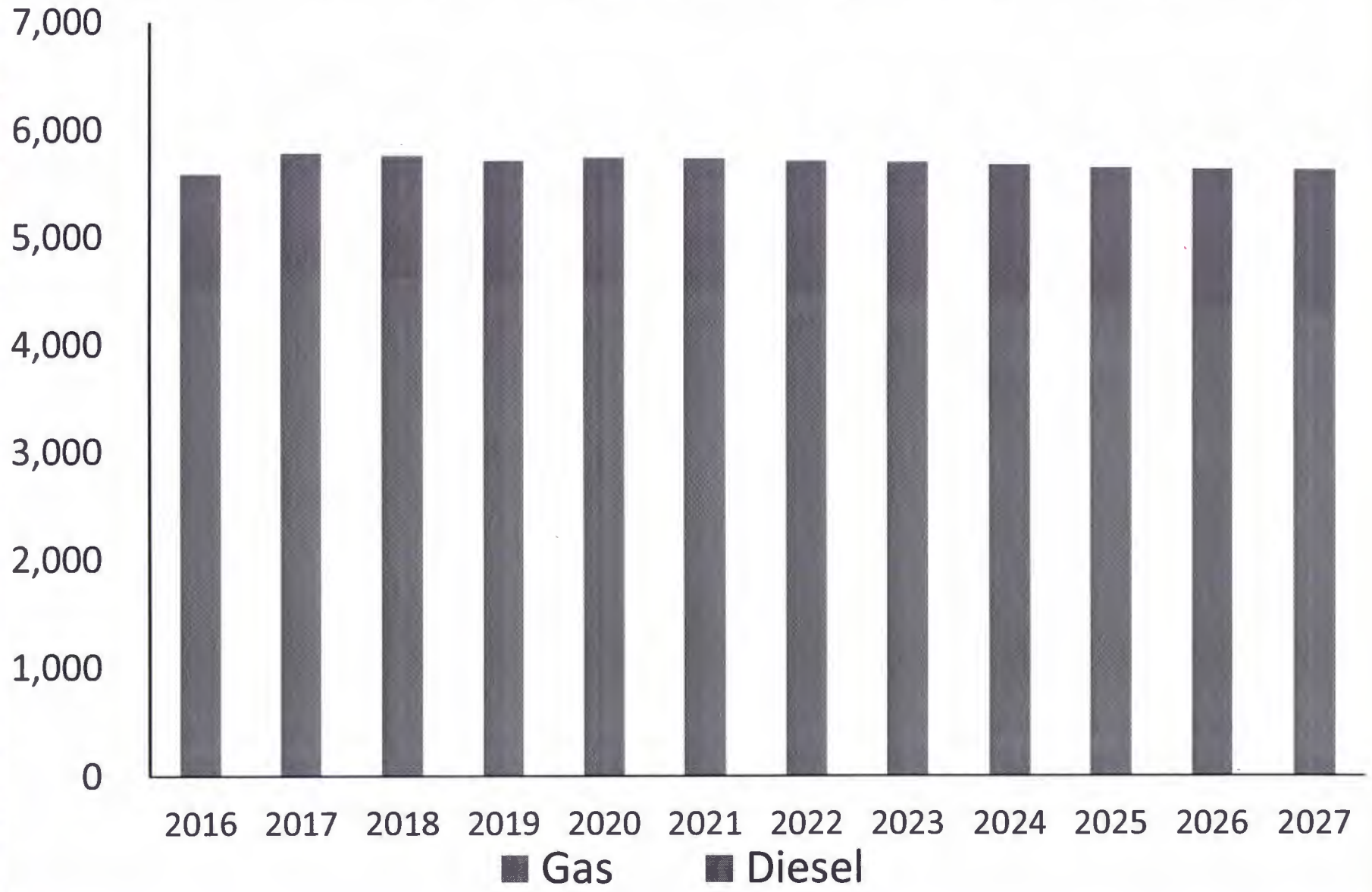
Revenue Variable and Data Sources

Source	Variables	Data Sources
Motor Fuel Tax	Rate	• Population – OSBM Demographics • CPI-Energy – Global Insight • Legislative
	Fuel Consumption	• In-House Model (SAS)
DMV Fees	Rate	• General Statute
	Transactions	• CPI – Global Insight • Regression Analysis • NC Population Growth
Highway Use Tax	Rate	• General Statute
	Transactions	• Historical • NC Population Growth
	Vehicle Pricing	• Global Insight
Federal	Revenue	• Congressional Budget Office

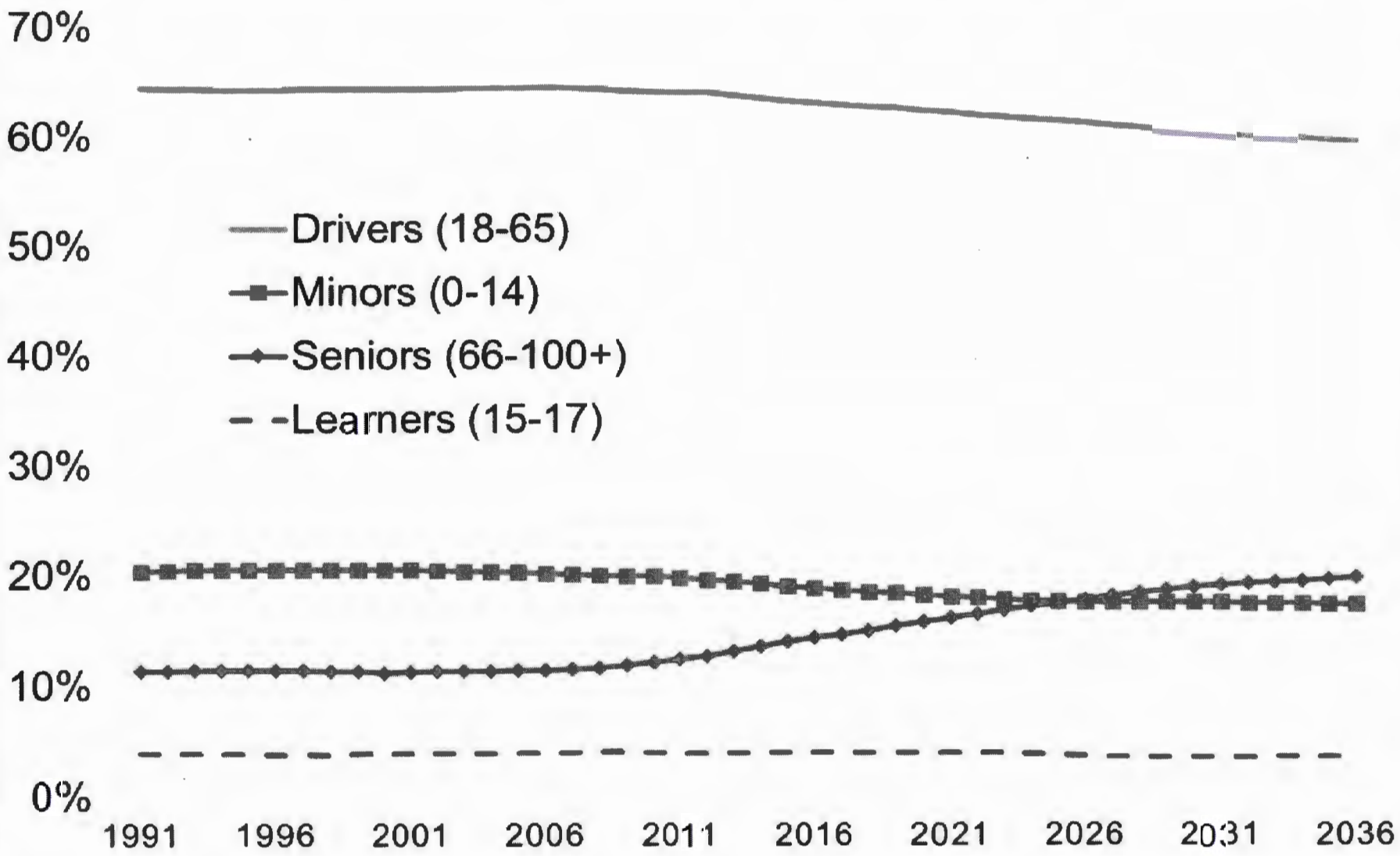
Vehicle Classification (2016)



Fuel Consumption (million of gallons) - Forecast



NC Percent Population by Age Groups



Source: NC DMV Analysis based on OSBM Population Estimates

Historical – Vehicle Technology Deployment

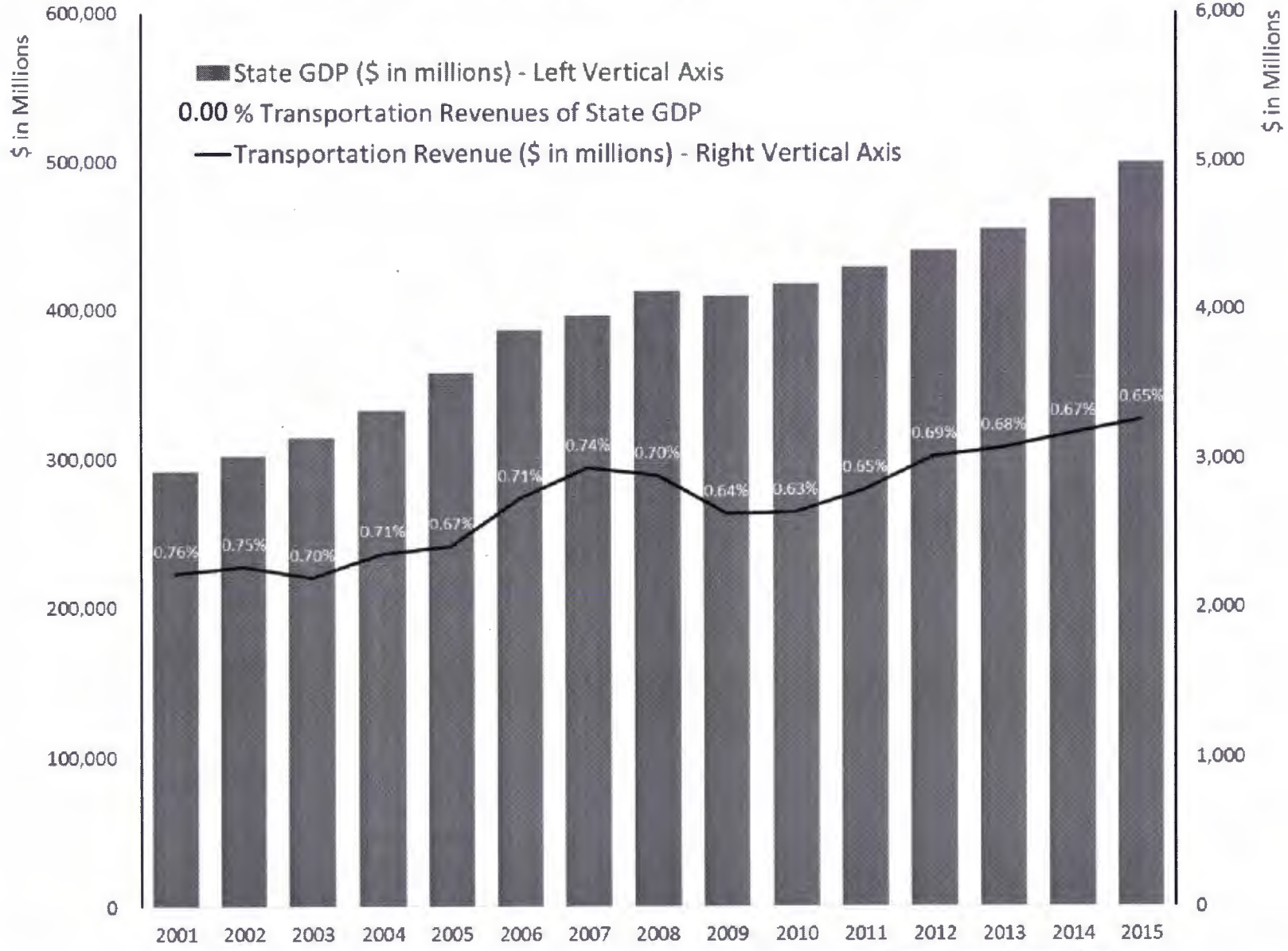
Vehicle Technology	Deployment Cycle	Typical Cost Premium	Market Saturation Share
Air bags	25 years (1973-98)	A few hundred dollars	100%, due to federal mandate
Automatic transmissions	50 years (1940s-90s)	$1,500	90% U.S. 50% worldwide
Navigation systems	30+ years (1985-2015+)	$500 and rapidly declining	Uncertain; probably over 80%
Optional GPS Services	15 years	$250 annual	2-5%
Hybrid vehicles	25+ years (1990s-2015+)	$5,000	Uncertain - Currently about 4%

Source: Victoria Transport Policy Institute - 2017

Projection – Autonomous Vehicle Deployment

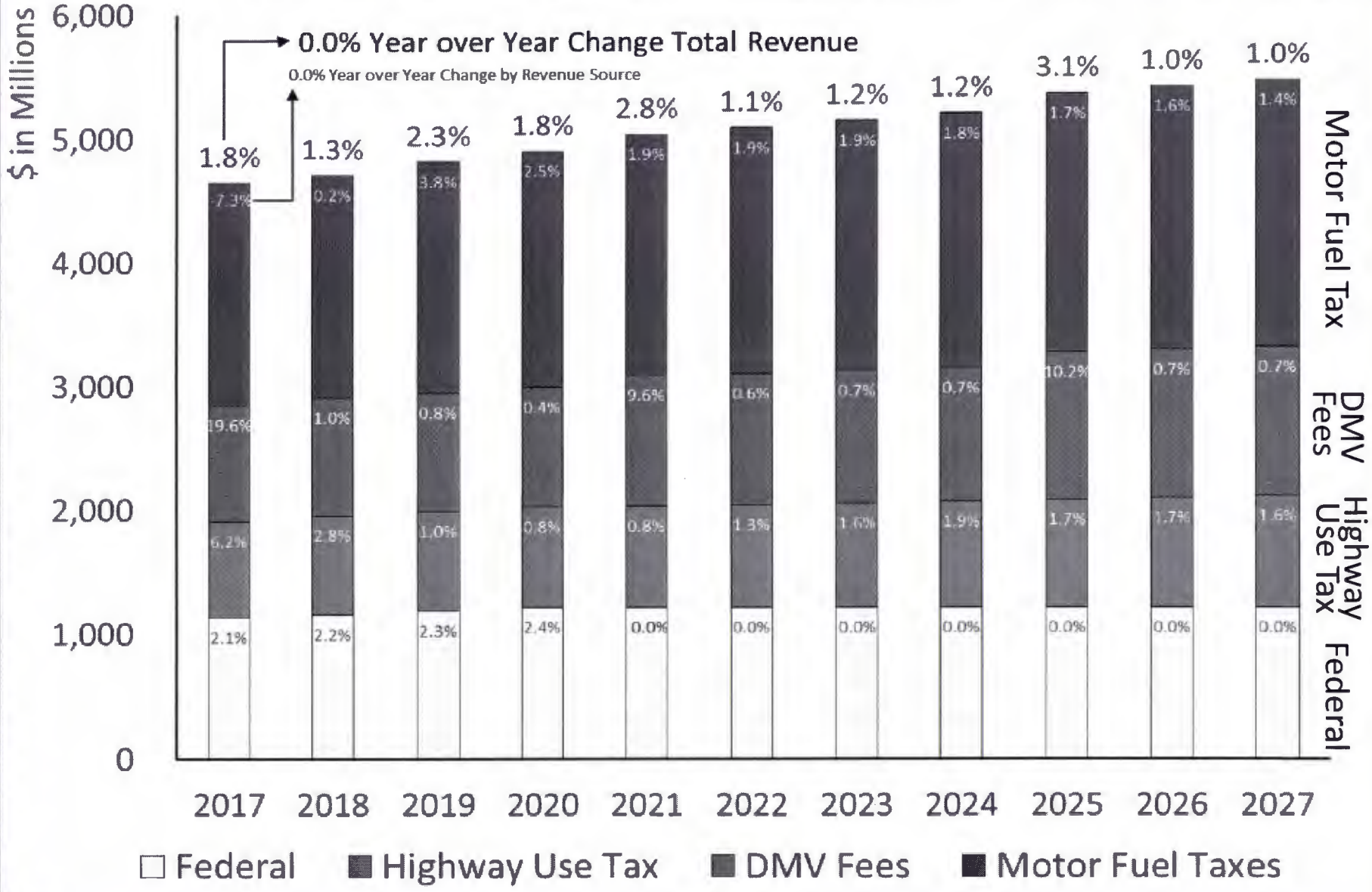
Stage	Decade	Vehicle Sales	Vehicle Fleet	Vehicle Travel
Available – large price premium	2020s	2-5%	1-2%	1-4%
Available - moderate price premium	2030s	20-40%	10-20%	10-30%
Available – minimal price premium	2040s	40-60%	20-40%	30-50%
Standard - included on most new vehicles	2050s	80-100%	40-60%	50-80%
Saturation (everybody who wants it has it)	2060s	?	?	?
Required – on all new and operating vehicles	???	100%	100%	100%

State GDP and Transportation Revenues

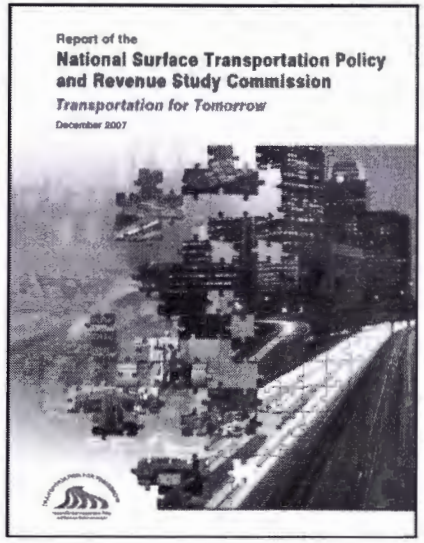


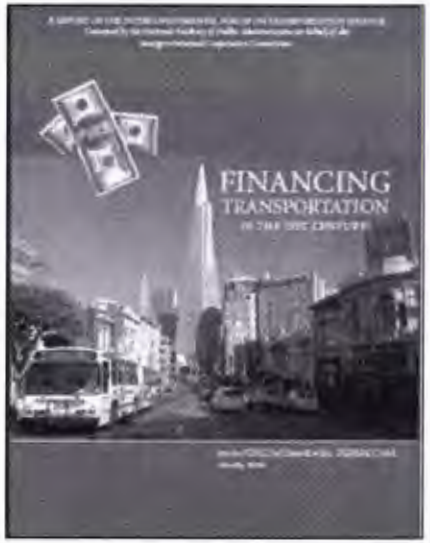
Note: Different Vertical Axis Scales

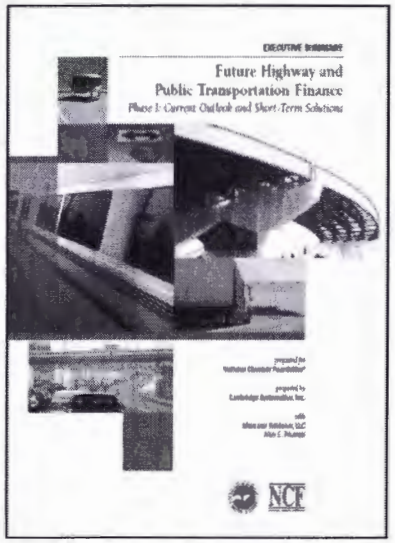
10 Year Revenue Forecast – State and Federal Sources



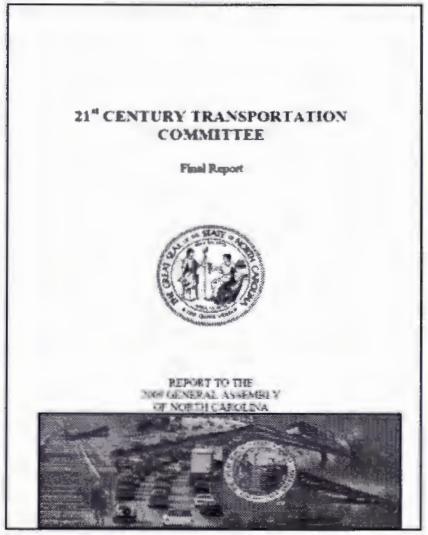
Previous Revenue Studies

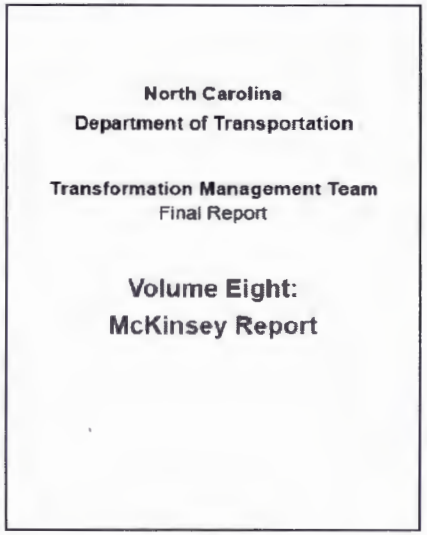


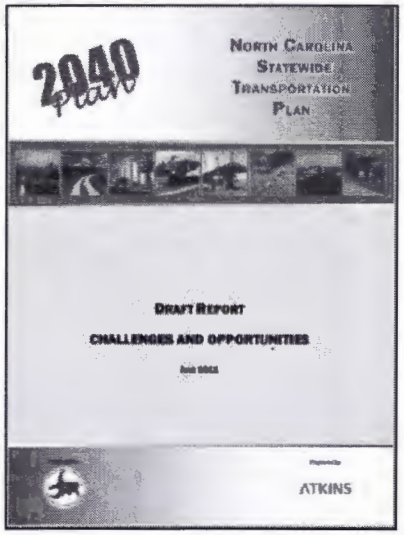




National



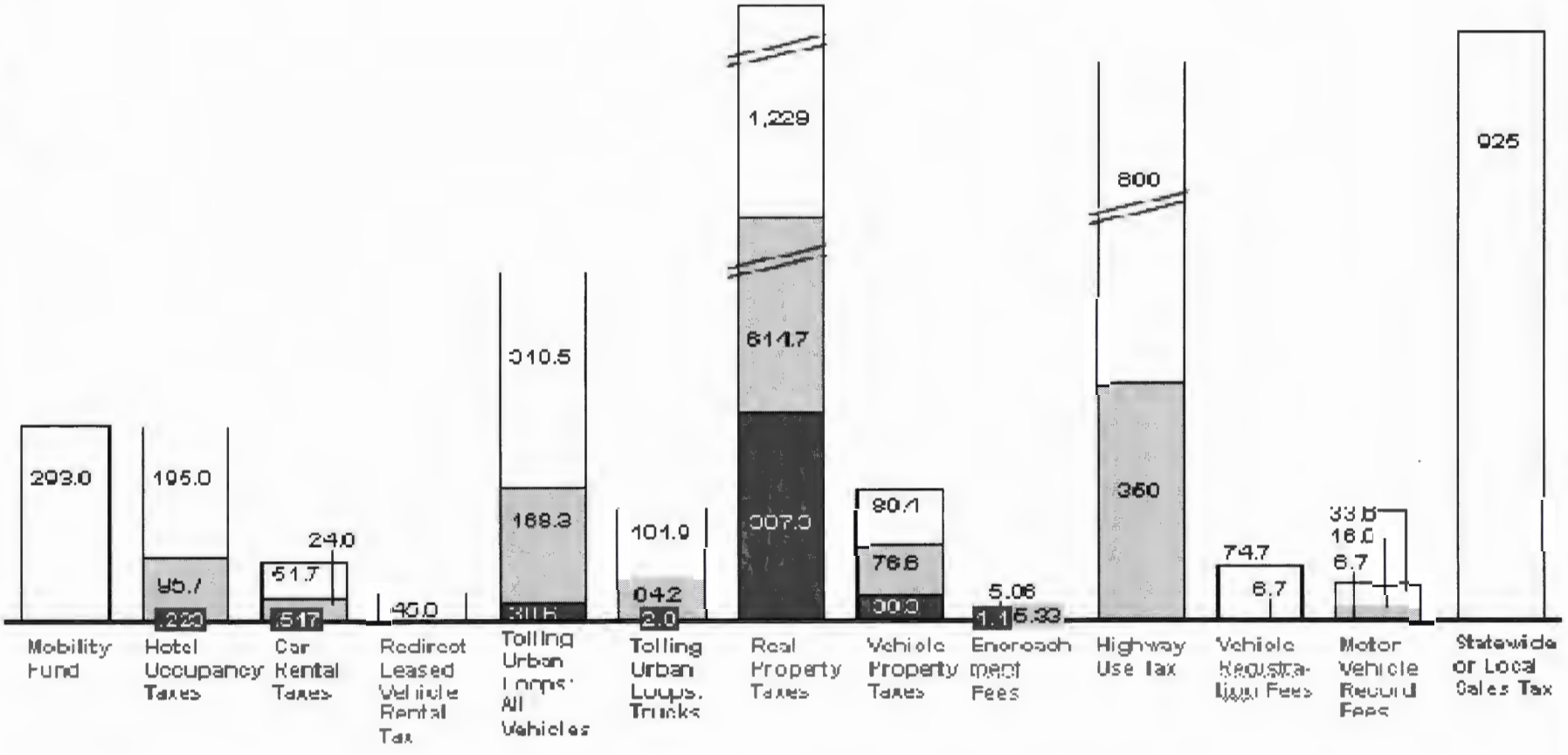




State

27

McKinsey Report – Revenue Options



Legend – New Sources of Funding/Current Sources of Funding

* *Except Leveraging Debt, which measures additional revenues every other year over an 8-year period; and General Fund transfers, which measures average annual return over an 8 year period.*

21st Century Transportation Committee - Recommendations

	Goal: $1 billion per year for the next 10 years
√	Eliminate Transfers (HF and HTF)
	Implement VMT (Statewide and Local Option)
√	Increase Highway Use Tax Rate and Class A & B caps
√	Increase Passenger Vehicle Registration Fees
√	Increase Stagger Registration Fees
	Consider Weight based Vehicle Registration Fees
√	Consider Bond Referendum
√	Allow Local Option Tax
√	Implement Indexing DMV Fee Rates Structure
	Implement Statewide Interstate Tolling
	Implement Differential Fuel Tax Rates

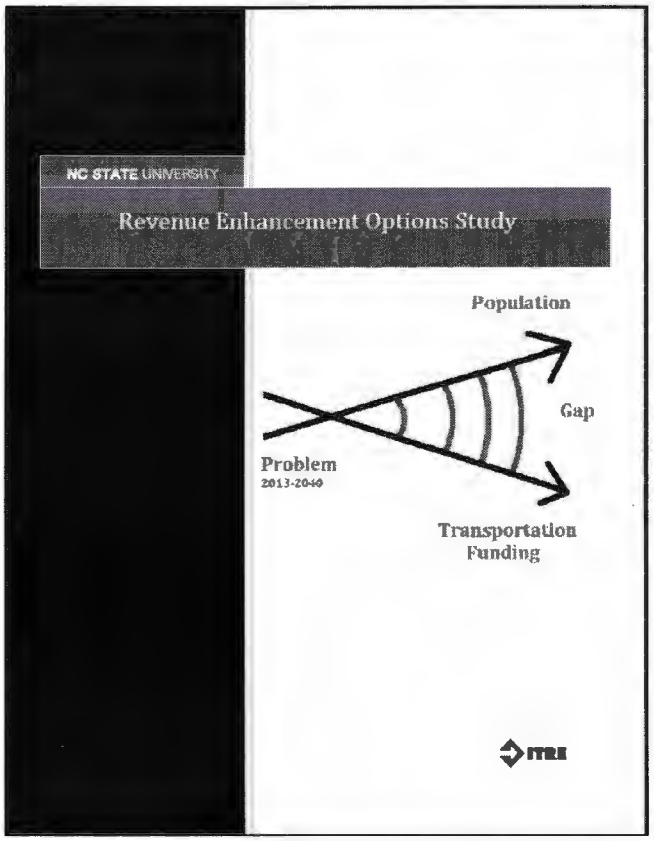
√ Implemented

2040 Plan - Revenue Enhancement Options

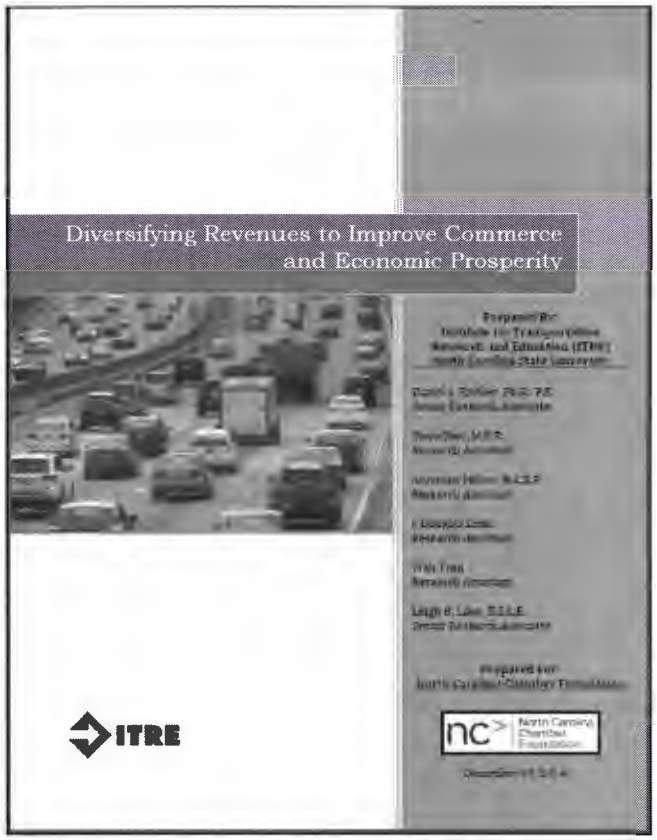
	Revenue Option	25 Year Yield (in $ billions)
√	Continue motor fuel tax indexing	19
√	Increase registration/license fees	6
√	Eliminate Highway Fund transfers	4
	Redirect vehicle lease fee to NCDOT	1
	Increase Highway Use Tax	3
	Local vehicle property tax	1
	Auto insurance surcharge	12
	Wholesale motor fuels tax	12
	Interstate tolling	42
	VMT Fee	27

√ Implemented

Recent Studies



Do we have a crisis?
Do we need a paradigm shift?
What are our best options?
What are our next steps?
Annotated Bibliography Supplement

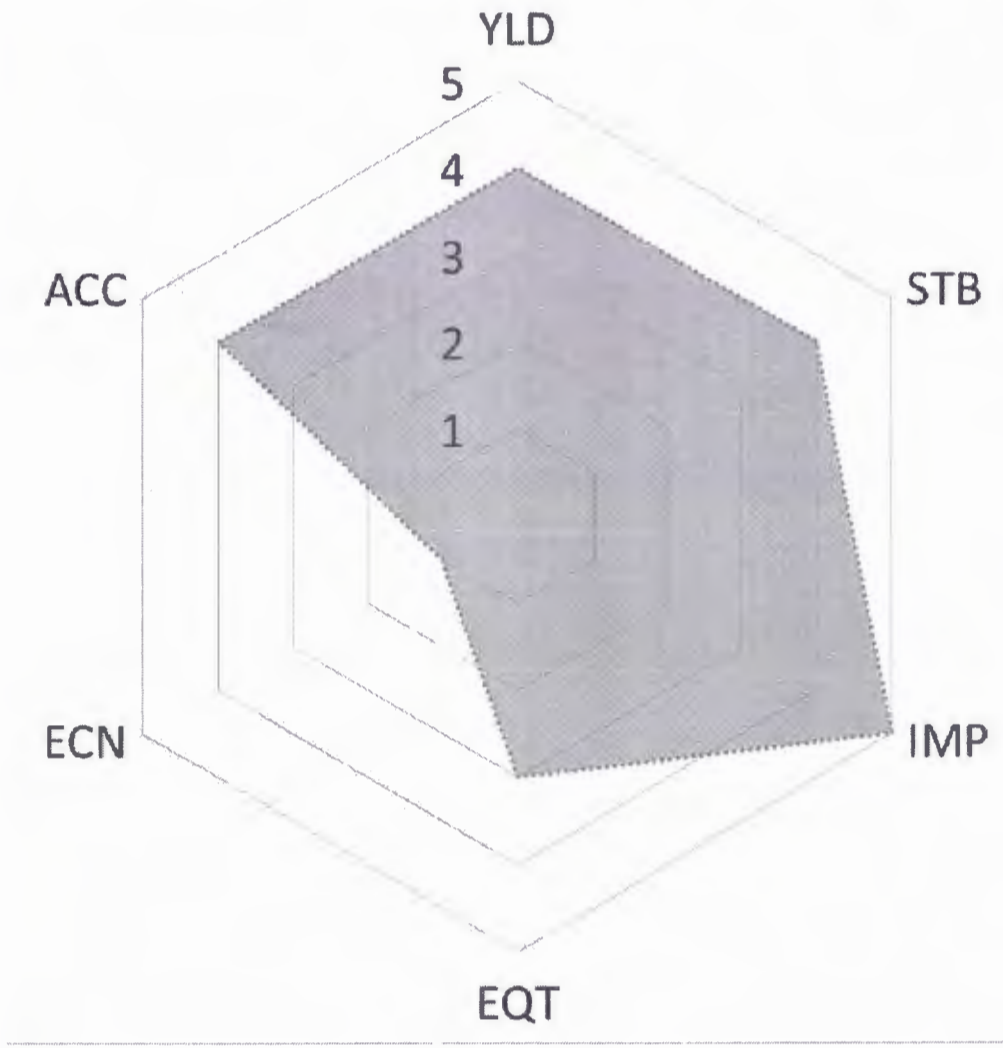


Benefits of Infrastructure Investment
Infrastructure Spending Impacts
Annual Driving Expenses
Criteria for Ranking Revenue Options

Recent Studies – ITRE Revenue Options

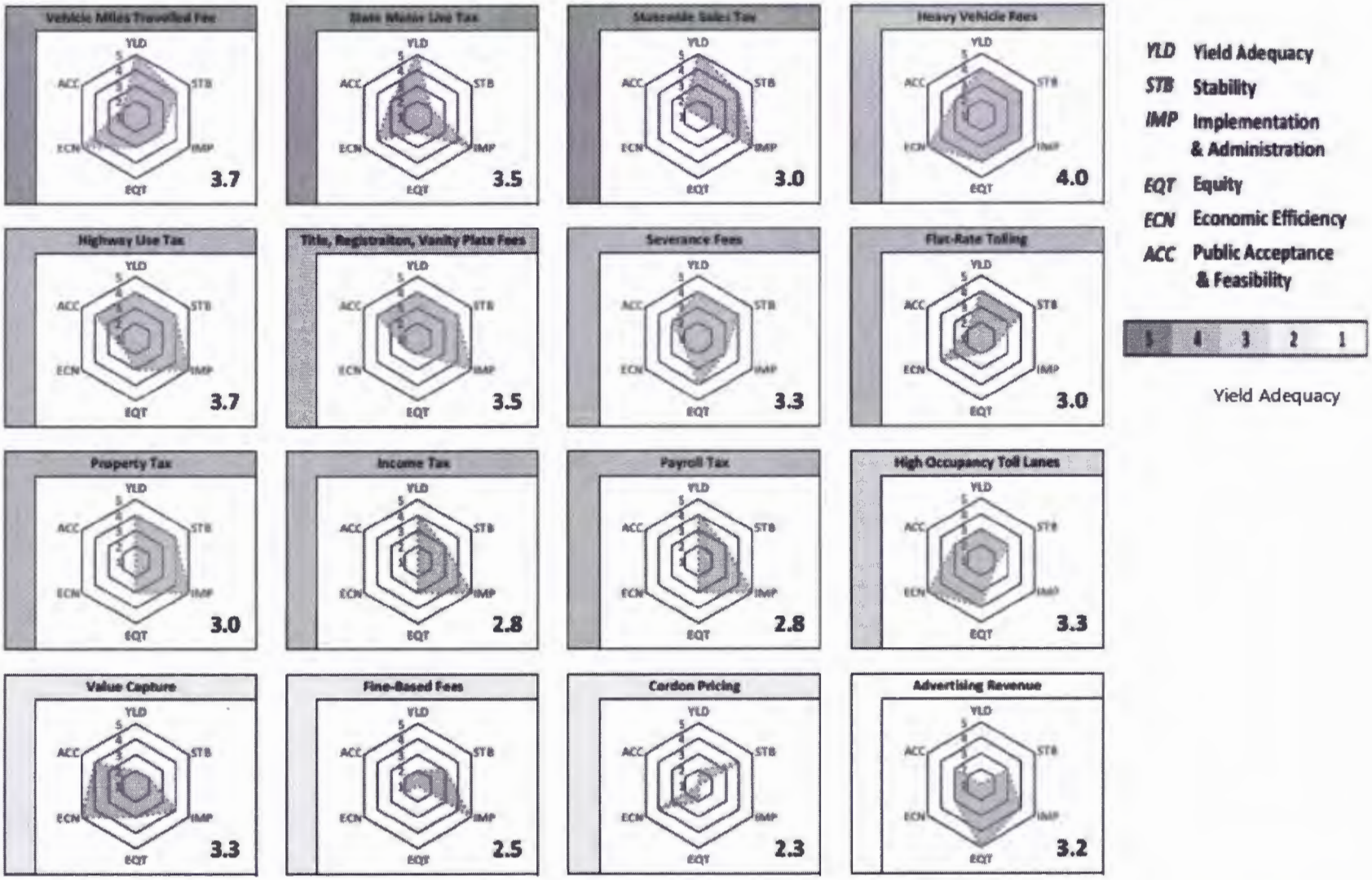
16 options for revenue generation in North Carolina:	
• Vehicle Miles Traveled Fee	• High-Occupancy Toll Lanes
• Fine-based Fees	• Property Tax
• Heavy Vehicle Fees	• Statewide Sales Tax
• Severance Fees	• Income Tax
• Vehicle Title, Registration, Vanity Plate Fees	• Cordon Pricing (Priced Zones)
• Highway Use Tax	• Payroll Tax
• State Motor Fuels Tax	• Advertising Revenue
• Flat-rate Tolling	• Value Capture

Recent Studies – ITRE Revenue Ranking Criteria



ABR	Criteria
YLD	Yield Adequacy
STB	Stability
IMP	Implementation and Administration
EQT	Equity
ECN	Economic Efficiency
ACC	Public Acceptance and Feasibility
Score	Ranked on 1 to 5 scale

Recent Studies – ITRE Revenue Options Evaluation



Source: Institute for Transportation Research and Education

State Revenue Sources: All

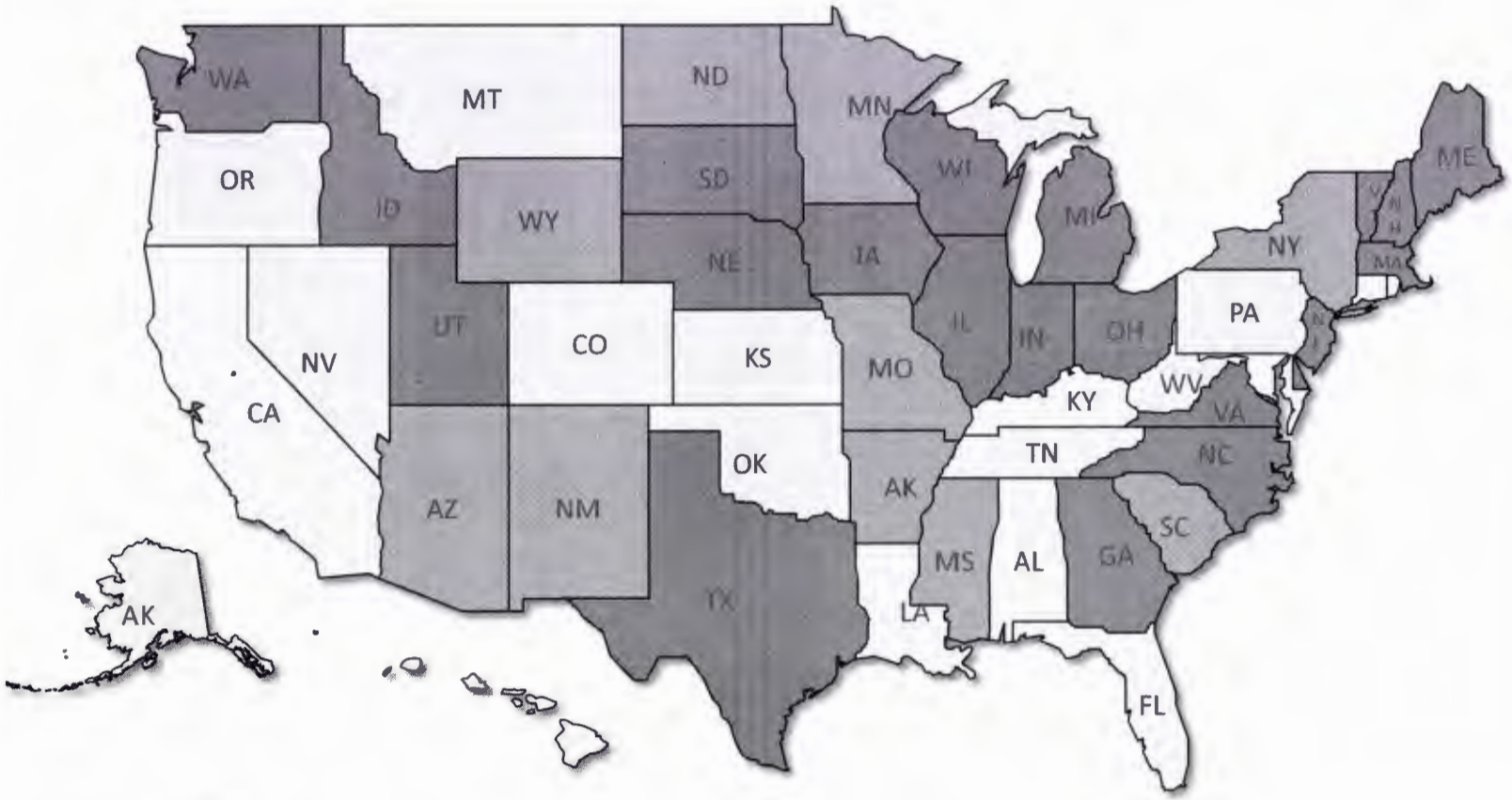


States are Seeking Transportation Funding and Finance

Traditional Funding Options	Less Traditional Options
• Gas taxes • Other taxes on motor fuels • Motor vehicle fees • Tolls	• Distance-based fee • Taxes on alternative fuels
Finance Solutions that borrow against or otherwise leverage revenues	
• Bonds • Federal credit assistance	• State infrastructure banks • Public-private partnerships

36

2014 – 16 State Transportation Funding Initiatives

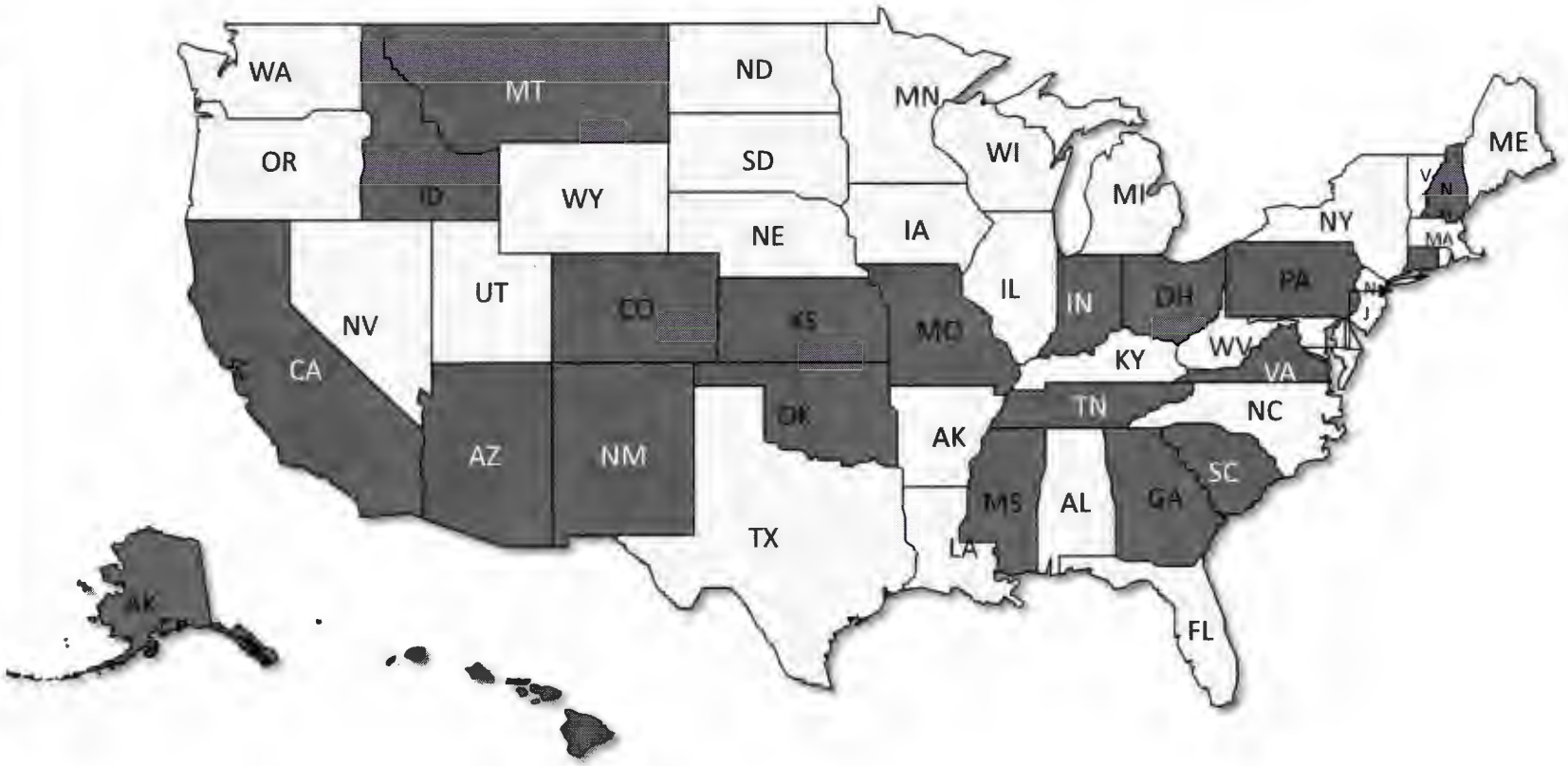


Recurring Revenue Approved

One-time Revenue Approved

Non-Funding Legislation Approved

State Transportation Funding Initiatives (2/23/2017)
59 Transportation Funding-Related Bills in 21 States



Transportation Revenues Not Collected in NC

- **General Fund** *(Alaska, Arizona, Arkansas, Colorado, Georgia, Hawaii, Idaho, Indiana, Massachusetts, Michigan, Missouri, New York, North Dakota, Oregon, Tennessee, Wisconsin, Wyoming, DC)*
- **Rental Auto sales tax** *(Alaska, Arizona, Colorado, Florida, Hawaii, Iowa, Minnesota, Missouri, New Jersey, New Mexico, New York, South Dakota, Utah, Vermont, Virginia, Washington, west Virginia)*
- **Property Leases or Sales** *(Alaska, California, Colorado, Delaware, Indiana, Oregon, Rhode Island, Washington)*
- **State Sales Tax** *(Arkansas, Kansas, Nebraska, Utah, Virginia, Wisconsin)*
- **Weight-distance tax** *(Kentucky, New Mexico, New York, Oregon)*
- **Fines** *(Connecticut, Minnesota, Maine)*
- **Impact fees** *(Vermont)*
- **Gaming** *(Massachusetts)*
- **Documentary Revenue Stamp** *(Florida)*
- **Casino taxes** *(Mississippi)*

Source: National Conference of State Legislatures
Transportation Governance and Finance Report

Transportation Revenues Not Collected in NC (Continued)

- **Vehicle-miles travelled tax** (pilot) *(California, Oregon, Minnesota)*
- **Property Rental/Lodging Fees** *(Georgia, Hawaii)*
- **Income Tax** *(Oklahoma)*
- **Tobacco revenue tax** *(Idaho)*
- **Mineral royalties/taxes** *(Wyoming)*
- **Oil/Petroleum tax** *(Mississippi, Nevada, New York, Texas, Puerto Rico)*
- **Locomotive fuel tax** *(Mississippi, Wyoming)*
- **Cap-and-Trade Program Revenues** *(California)*
- **Wholesale Liquor Revenues** *(Maine)*
- **Corporate Income Taxes** *(Maryland)*
- **Aircraft Registration Fees** *(Wisconsin)*

Source: National Conference of State Legislatures
Transportation Governance and Finance Report

Select Updated Transportation Revenue Potential

Revenue Option	States Where Revenue Option Collected (if applicable)	NC Potential Revenue (Yr)
General Fund	Alaska, Arizona, Arkansas, Colorado, Georgia, Hawaii, Idaho, Indiana, Massachusetts, Michigan, Missouri, New York, North Dakota, Oregon, Tennessee, Wisconsin, Wyoming, DC	Varies
Rental Auto sales tax	Alaska, Arizona, Colorado, Florida, Hawaii, Iowa, Minnesota, Missouri, New Jersey, New Mexico, New York, South Dakota, Utah, Vermont, Virginia, Washington, West Virginia	8% $65m*
State Sales Tax	Arkansas, Kansas, Nebraska, Utah, Virginia, Wisconsin	1/4% ≈ $300m
Document Revenue Stamp	Florida	1¢/500 Value $0.6m*
Aircraft Registration Fees	Wisconsin	$1 ≈ $7,000
Property Leases or Sales	Alaska, California, Colorado, Delaware, Indiana, Oregon, Rhode Island, Washington	
Vehicle Property Tax		1¢/100 Value ≈$8m*

*Revenue Collection in Place

Transportation Revenue Trivia

Existing Revenue Sources	Current Rate	Rate Change	Annual Revenue Generation ($M)	Estimated Annual Cost to Average User
Gasoline Motor Fuel Tax	34.3 cpg	1 cent	45.0	7.50
Diesel Motor Fuel Tax	34.3 cpg	1 cent	10.0	100.00
Driver License	$5.00/yr	$1.00/yr	7.0	1.00
License Plate	$36.00/yr	$1.00/yr	7.0	1.00
Highway Use Tax (HUT) – rate	3%	1%	250.0	50.00*
HUT – Out of State cap	250	None	0.2	200.00*
HUT - >26,000 pound vehicles	2,000	3,000	10.0	1,000.00*
HUT - >26,000 pound vehicles	2,000	None	20.0	1,600.00*
HUT – short term leases**	8%		65.0	**
Auto Repair/parts sales taxes**	4.75%		365.0	**

* User Cost Shown in for one time ** Deposited in the General Fund

Highway Fees – Logo and TODS

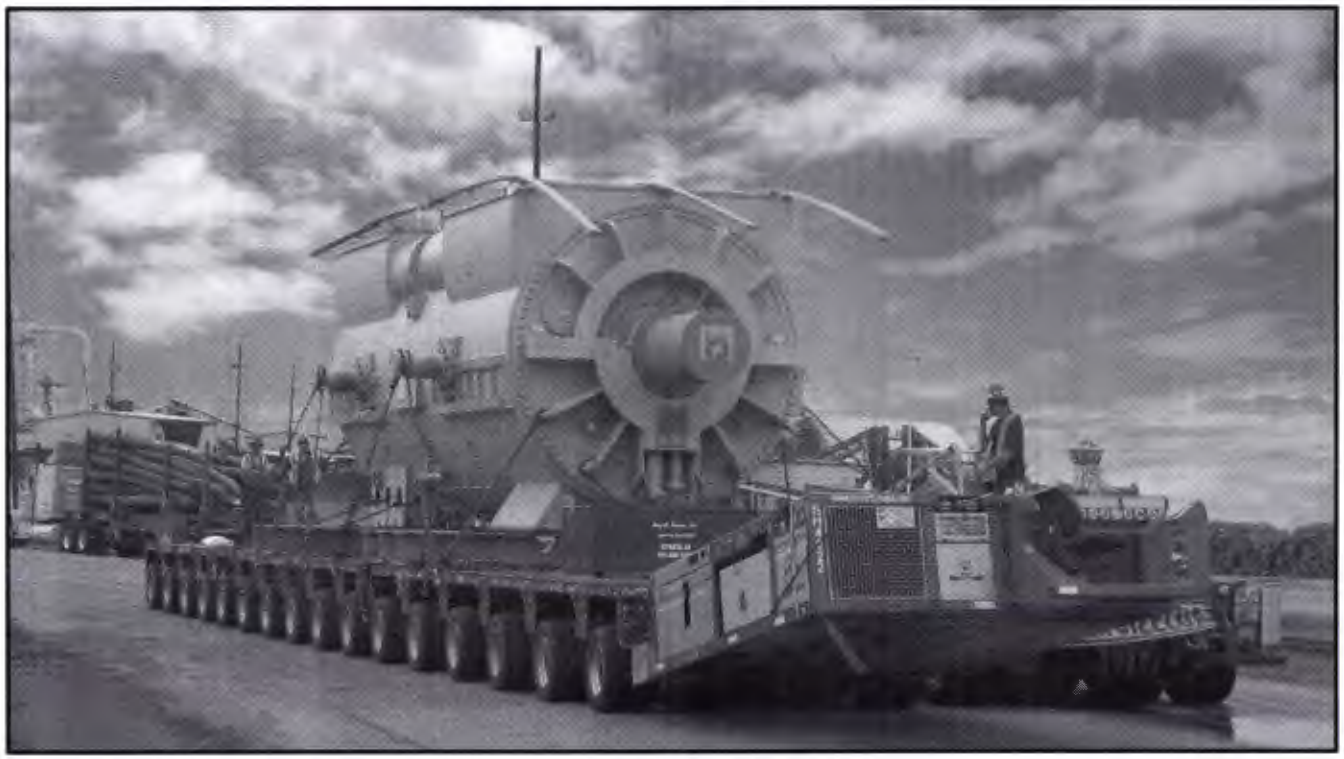
- Logo
  - Current fee for a business is $300 per logo per year
  - Typical interchange with 4 logos is $1200 per year

- Tourist Oriented Directional Signing (TODS)
  - Current fee is $200 per year per sign



Highway Fees - Oversize Overweight Permits

- Current fee is $12 per oversize dimension on a single trip permit
- Program generates $5M - $6M annually
- Cost to administer program ~$1.5M annually
- Dollars put towards reducing number of load posted roads & bridges



Highway Fees

- Driveway Permits
  - $50 per commercial driveway

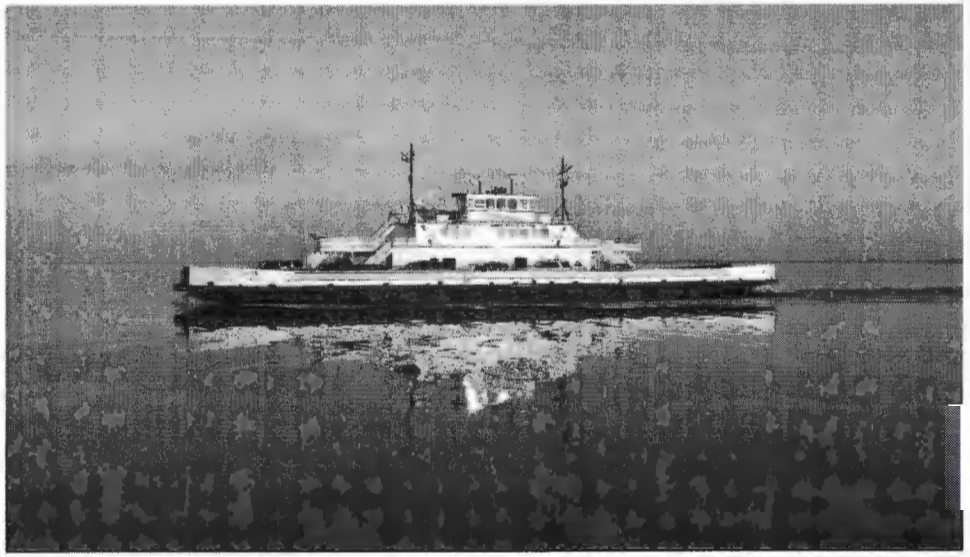
- Outdoor Advertising
  - $120 Sign Permit - $60 annual renewal
  - Selective Vegetation Removal Program



Sponsorship - Ferries

- On Board Wi-Fi:
  - Technology tried on a trial basis in 2015. Vendor could not supply adequate service on the sound routes
  - Seeking new vendor with suitable technology

- Increased Vending and Concession Items
  - Expanding vending and concessions recognizing minimal increased revenues



Sponsorship - Highways

- Incident Management Assistance Control (IMAP)
  - The sponsorship of the IMAP vehicles has generated approximately $500,000 annually
  - This requires wrapping the vehicles and placing acknowledgment signs along the roadways that are serviced by the IMAP vehicles



- Sponsor-A-Highway Program
  - Acknowledgement with signs along the highway
  - Currently 219 one-mile sections
  - Litter removed at sponsor's expense



ATTACHMENT 2



State Transportation

Revenue Sources, Reliance, & Responses

Joint Appropriations Committee on Transportation

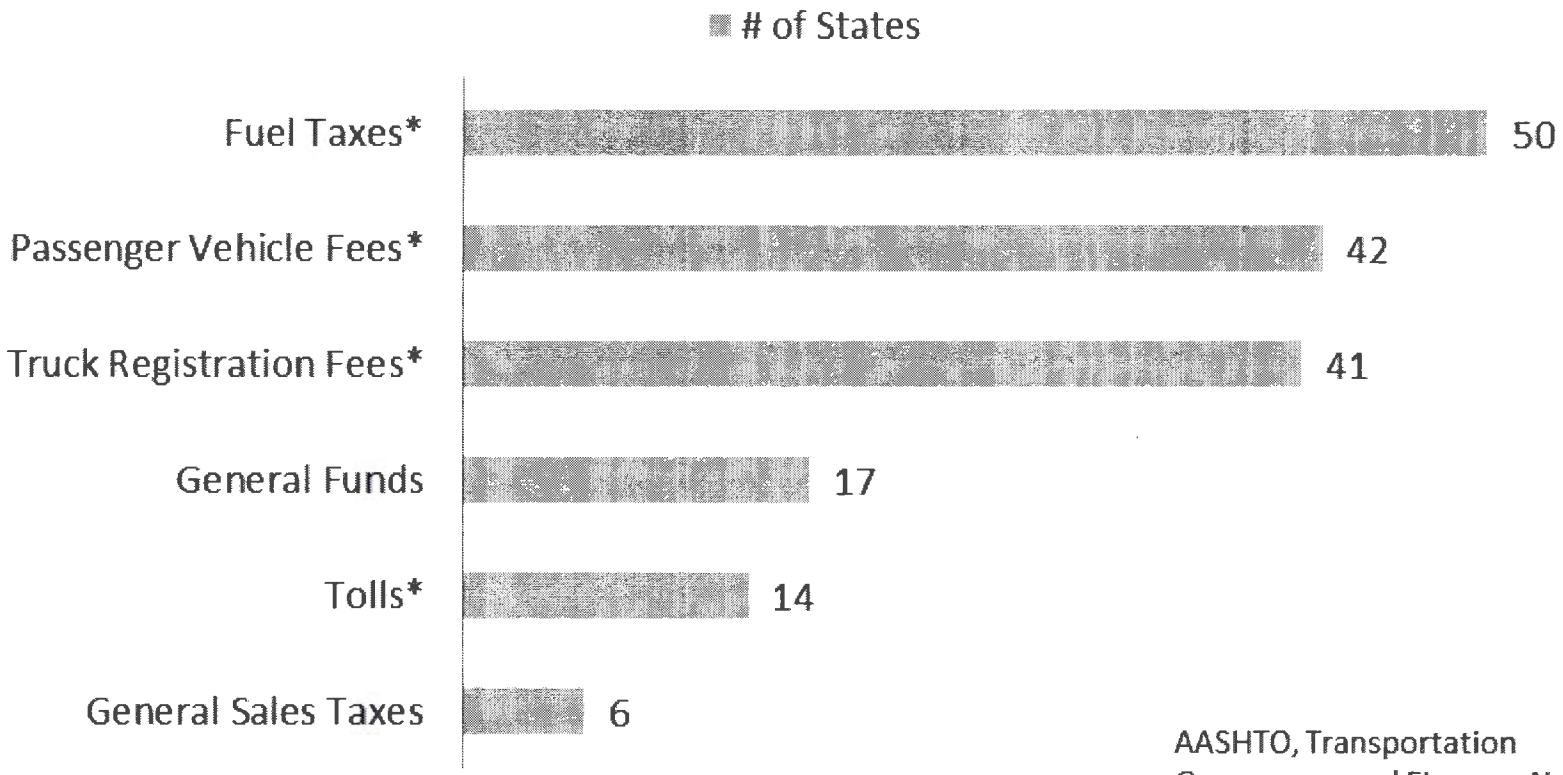
March 9, 2017

FISCAL RESEARCH DIVISION
A Staff Agency of the North Carolina General Assembly

Agenda

- Revenue sources commonly used by states
- Reliance of states on revenue sources
- Responses by states to revenue needs

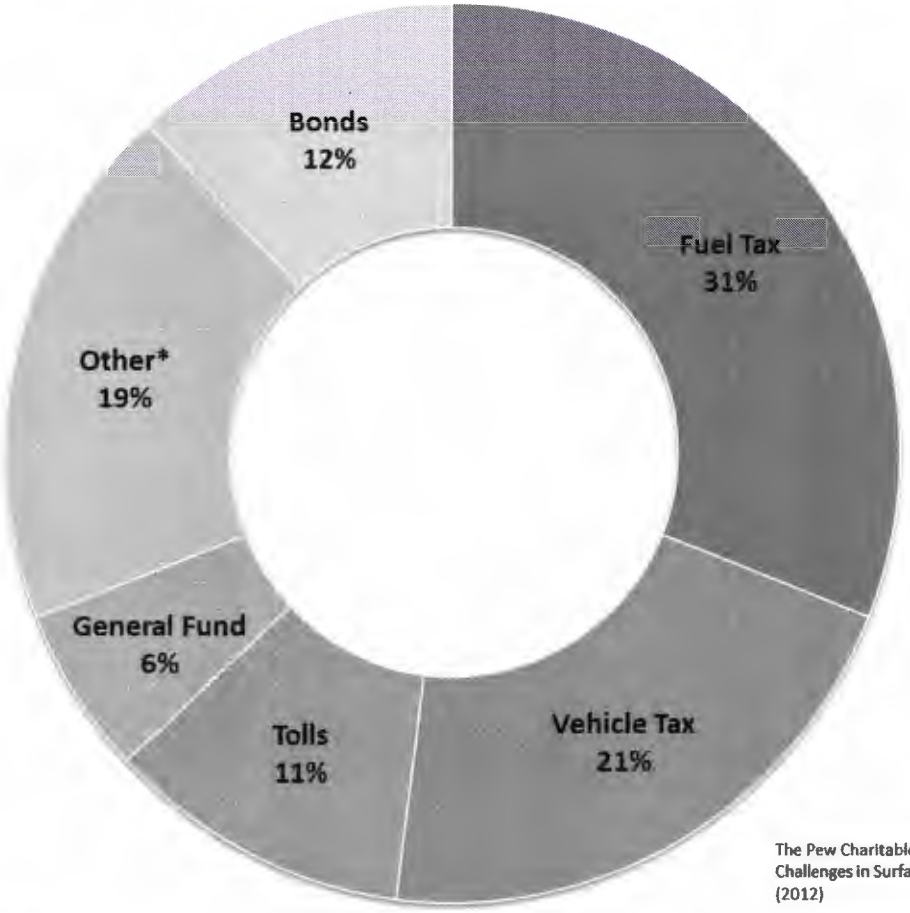
Revenue sources commonly used by states



**Revenue sources currently used in North Carolina*

AASHTO, Transportation Governance and Finance, November 2016

Reliance of states on revenue sources

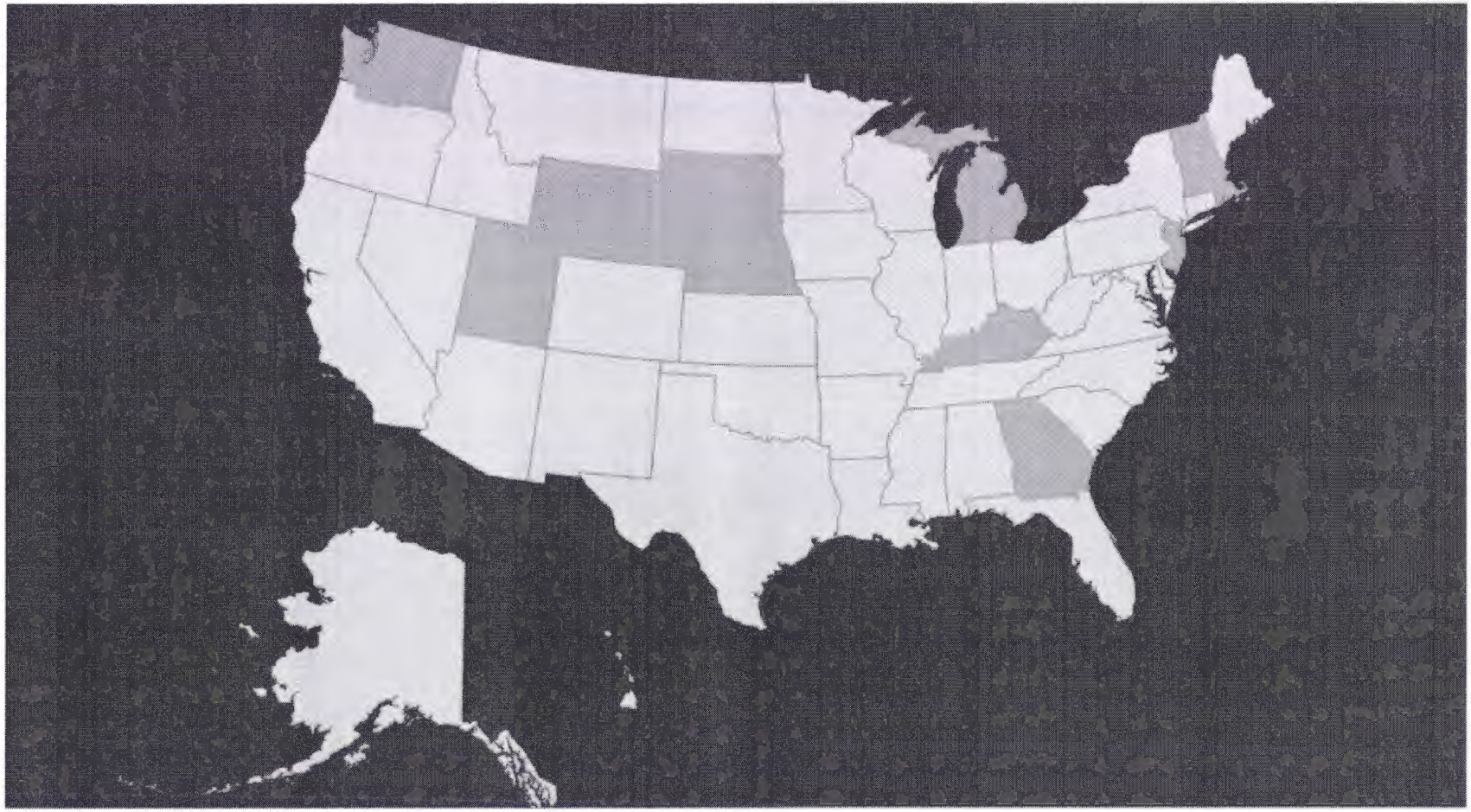


The Pew Charitable Trusts. Intergovernmental Challenges in Surface Transportation Funding (2012)

*Other taxes, fees, investment income

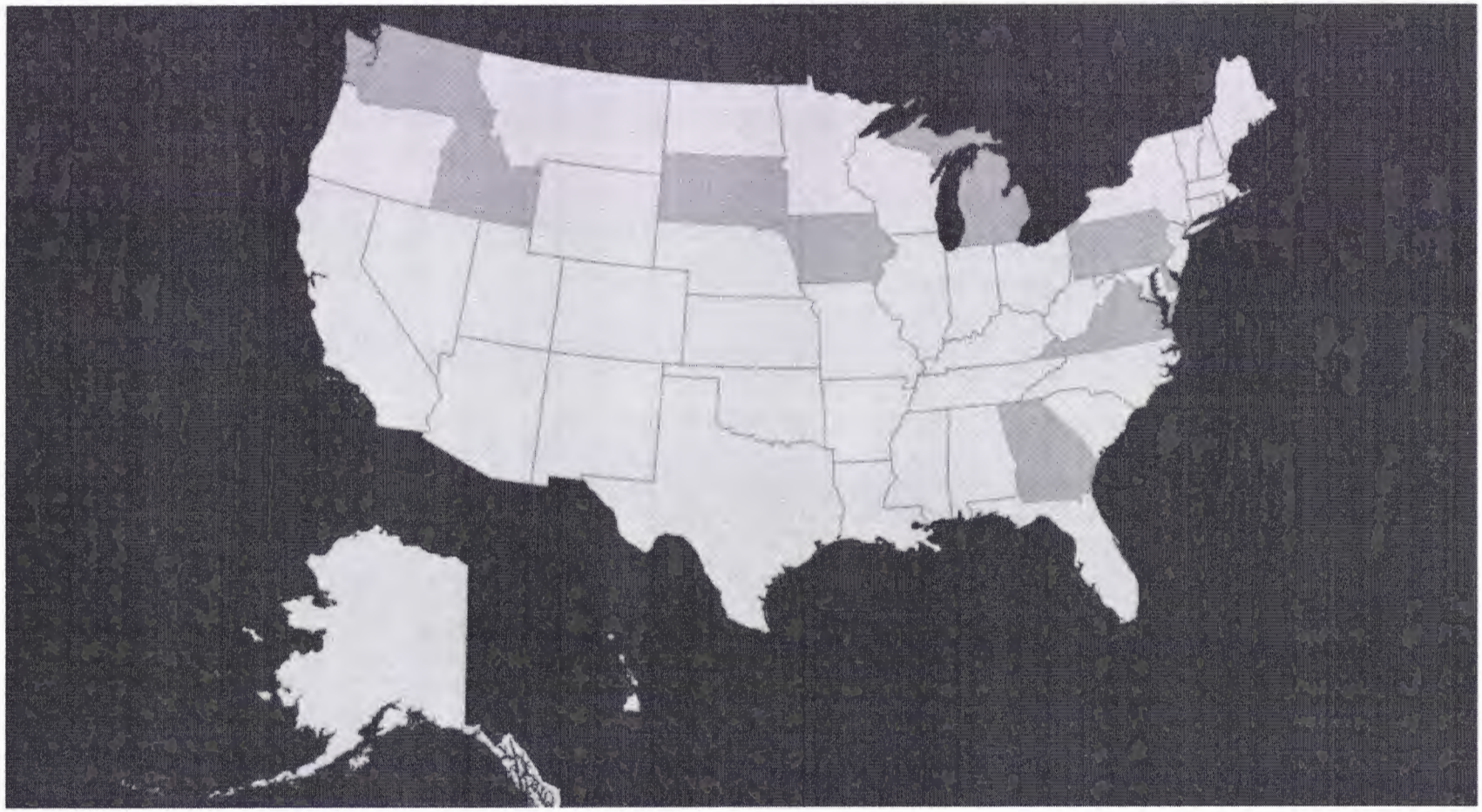
Between 2012 and 2016…

13 States increased cpg motor fuel tax rates



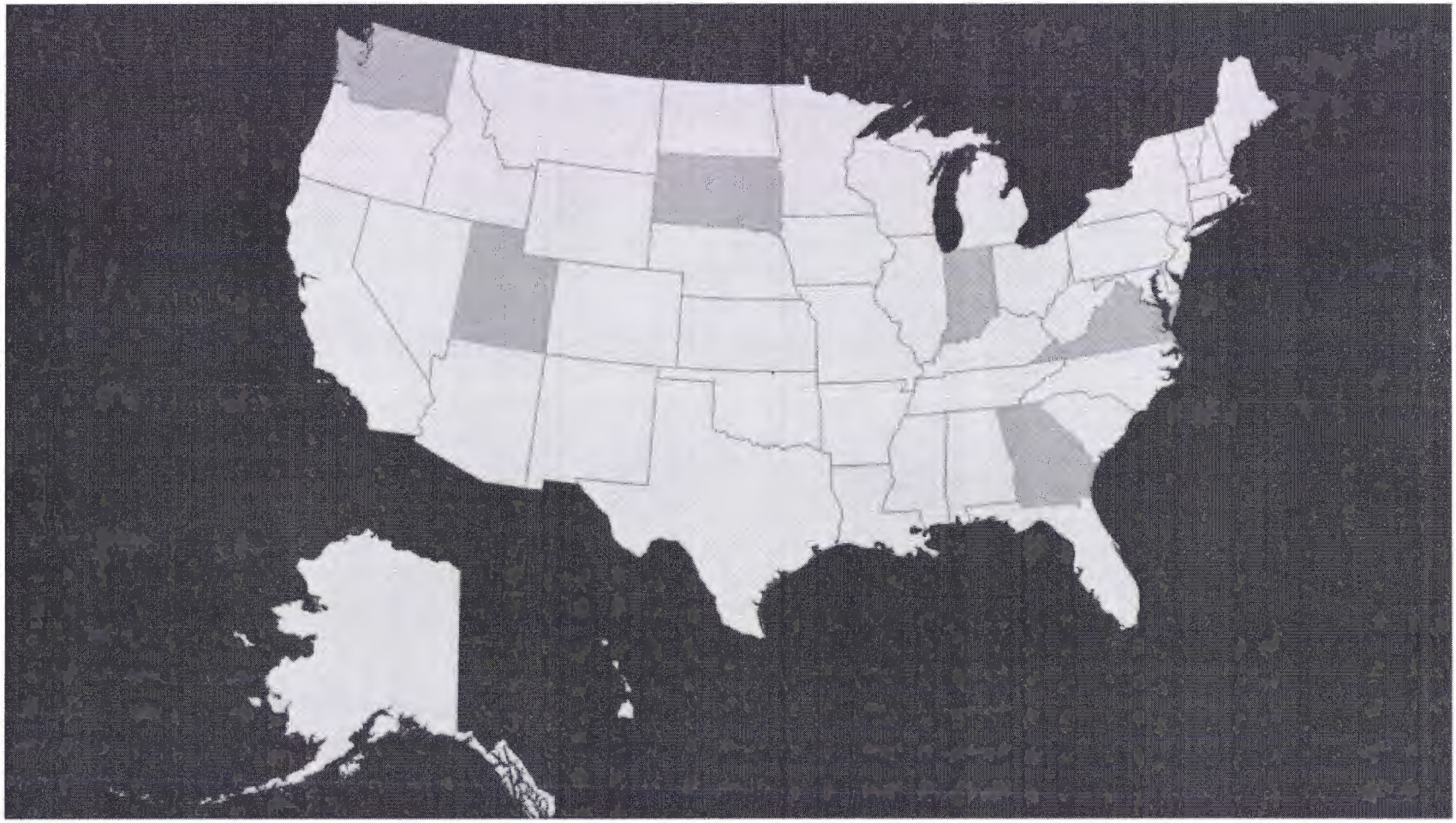
Between 2012 and 2016…

9 States increased vehicle sales taxes and/or fees



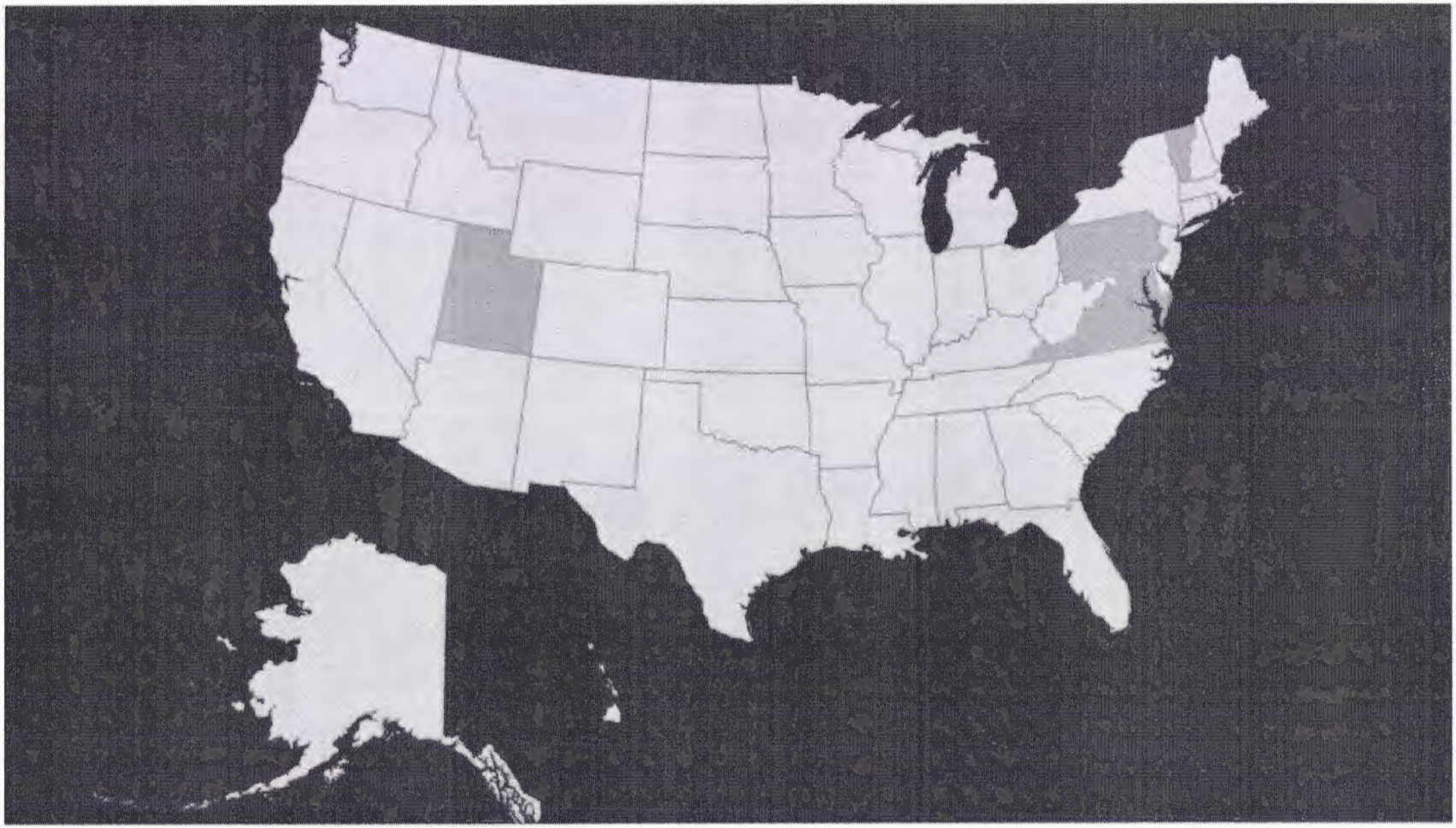
Between 2012 and 2016…

6 States authorized local sales taxes for transportation



Between 2012 and 2016…

5 States converted or added a sales tax on motor fuels





Susan Tyler

susan.tyler@ncleg.net

(919) 733-4910

House Pages
Assignments
Thursday, March 09, 2017

Committee	Room	Time	Staff	Comments	Member
Appropriations, Transportation	1027/1128	8:30 AM	Jacob Harris		Rep. Ted Davis
			Shaun Robinson		Rep. Speaker Tim Moore

NCGA

NORTH CAROLINA GENERAL ASSEMBLY

Appropriations on Department of Transportation

March 9, 2017

Room 1027/1128 LB

8:30 AM

Senate Sergeant-at-Arms:

Frances Patterson

Tom Burroughs

House Sergeant-at-Arms:

Joe Crook

David Leighton

Russell Salisbury

Senate Pages Attending

COMMITTEE: Apps: DOT **ROOM:** 1027

DATE: 3-9 **TIME:** 8:30

PLEASE PRINT LEGIBLY!!!!!!!!!!!!!....*or else!!!!!*

Page Name	Hometown	Sponsoring Senator
1. Hunter Gunnell	New London	McInnis
2. Holly Hutcheson	Durham	Woodard
3.		
4.		
5.		
6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

Appropriations on Department of Transportation

March 9, 2017 – Room 1127/1128 LB – 8:30 AM

PLEASE SIGN IN BELOW

NAME	FIRM OR AGENCY
M. Bason	Bayc
Jay White	NCDOT
[illegible]	RARC · LPA · NCRMA
BERRY Jenkins	CAROLINAS AGC
[illegible]	SELC
Jay Stem	NCAA
Joe McClees	McClees Consulting
Phoebe Landon	MWC
[illegible]	NS
Laura Lansford	NC DOR
[illegible]	BP
Dena Fenton	City of Charlotte
Heather Robinson	NCRMA
Martha Bakard	PPAB
Dan Collier	SEANC
Butch Gunnells	N/C Bev
Debbie Smith	Ocean Isle Beach mayor
Wendy Kelly	Town carolina

Joint Committee on Appropriations, Transportation
Tuesday, March 14, 2017 at 8:30 AM
Room 1027/1128 of the Legislative Building

MINUTES

The Joint Committee on Appropriations, Transportation met at 8:30 AM on March 14, 2017 in Room 1027/1128 of the Legislative Building. Representatives Garrison, Iler, G. Martin, Presnell, Strickland, Torbett, and Watford attended. Senators J. Davis, Dunn, Ford, McInnis, and Meredith attended.

Representative John A. Torbett, Chair, presided.

2017 Transportation Debt Affordability Study was presented by
Dora Fazzini, Director, NC Capital Facilities Finance Agency
State and Local Government Finance Division
Department of State Treasurer (see attached and on committee website)
North Carolina Turnpike Authority was presented by
Beau Memory, Executive Director, NC Turnpike Authority
North Carolina Department of Transportation (see attached and on committee website)
GARVEE Bonds and the State Infrastructure Bank was presented by
David Tyeryar, Chief Financial Officer
North Carolina Department of Transportation(see attached and on committee website)

The meeting adjourned at 10:00am.

Representative John A. Torbett, Chair
Presiding

Viddia Torbett, Committee Clerk

Joint Appropriations Committees on Transportation

March 14, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis
Senator Wesley Meredith

Representative Frank Iler
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett, Chairing

1. Call to Order

2. 2017 Transportation Debt Affordability Study

   - Dora Fazzini, Director, NC Capital Facilities Finance Agency
     State and Local Government Finance Division
     Department of State Treasurer

3. North Carolina Turnpike Authority

   - Beau Memory, Executive Director, NC Turnpike Authority
     North Carolina Department of Transportation

4. GARVEE Bonds and the State Infrastructure Bank

   - David Tyeryar, Chief Financial Officer
     North Carolina Department of Transportation

Next meeting: Ferry Division - Wednesday, March 15, 8:30 a.m.

NORTH CAROLINA
Department of Transportation



GARVEE Bonds, TIFIA and State Infrastructure Bank

David Tyeryar, CFO, Fiscal Management Division

March 14, 2017

Transportation
Traditional Financing Techniques

1. Cash to Capital or "Pay-as-you-go"

2. General Obligation Debt
   - Backed by full faith and credit of State

3. Transportation Revenue Backed Borrowing
   - Backed by some portion of State Transportation Revenues

Transportation
Innovative Financing Techniques

Project Revenue Backed Borrowing

- Backed by revenues of specific project – TriEx and Monroe Bypass
- Borrowing from the US Department of Transportation

Transportation Infrastructure Finance and Innovation Act (TIFIA)

- Backed by revenues of specific project – TriEx and Monroe Bypass
- Borrowing from the US Department of Transportation

Private Investment

- Privately owned roads
- Public Private Partnerships (P3)

Grant Anticipation Revenue Vehicle (GARVEE)

State Infrastructure Bank (SIB)

- Capitalized with Federal Revenue

State Transportation Infrastructure Bank (STIB)

- Capitalized with State Revenue

North Carolina GARVEE Legislation

GARVEE (Grant Anticipation Revenue Vehicle) Bonds

- Revenue bond where debt service is paid *solely from future federal revenues*
- Provides up front funding for major highway projects

GARVEE Act

- North Carolina General Statute § 136-18 (12b) as codified by Session Law 2005-403
- Authorized the issuance of bonds to accelerate federally-funded projects
- Finances improvements to the Federal Highway System
- Allows for Recurring Bond Issuance

Debt Limits (Either/Or Test)

- Outstanding Principal may not exceed total Federal Transportation Funds authorized in the prior Federal Fiscal Year or
- Total Debt Service may not exceed 15% of the expected Annual Federal Transportation Revenue

"Evergreen" Program

- Flexibility in project selection and substitution

GARVEE Program

- Bonds were issued in multiple series:
  - Issued:
    - 10/17/2007 $287.6 million
    - 08/05/2009 $242.5 million
    - 12/28/2011 $145.5 million
    - 01/26/2012 $179.5 million
    - 05/28/2015 $264.9 million

  Ratings: A2/AA/A+
  Average Interest Cost: 2.993%

- Bonds structured with overall level debt service to achieve maximum coverage levels
  - 2007, 2009 and 2011 - 12 year planned amortization
  - 2012 - 7 year planned amortization
  - 2015 - 15 year planned amortization

- Total Outstanding Debt as of October 31, 2016 - $675.3 million

Summary of GARVEE Project Funding

Description	STIP #	Prior Years Bonds Including Premium	Future Years GARVEE Bonds	Total Project Costs	Percentage of Cost
I-40/NC 801 Interchange	B-3637	10,094,181		11,697,265	86%
Oregon Inlet Repair	B-5014A	11,745,207		16,877,774	70%
I-85 in Rowan County	I-2304AC	122,175,372		151,420,687	81%
Asheville New Route North of SR3548	I-2513B & RW, I-2513C & RW		369,250,000	492,400,000	75%
I-40 in Wake County	I-4744	40,418,572		51,455,250	79%
US 70 Havelock Bypass	R-1015		120,000,000	160,000,000	75%
Winston-Salem Northern Interchange	R-2247EB		75,000,000	113,000,000	66%
New Bern By-pass	R-2301A	31,118,939		41,210,934	76%
US-17 in Beaufort	R-2510C	3,201,121		8,019,425	40%
Goldsboro By-pass	R-2554BA	68,152,567		68,808,739	99%
Mid-Currituck Bridge	R-2576		129,000,000	411,303,000	31%
US-311/Future I-74	R-2606B	89,360,000		104,734,142	85%
Wilmington By-pass	R-2633AA	31,050,000		70,353,545	44%
Wilmington By-pass	R-2633BA/BB	150,000,000		214,253,971	70%
US 74 Shelby Bypass	R-2707D & RW, R-2707E & RW		68,550,000	91,402,000	75%
Southern Wake Freeway	R-2721		75,000,000	300,102,000	25%
Rolesville By-pass	R-2814B	28,067,500		52,311,443	54%
Rocky Mount Connector	R-2823	31,317,889		33,489,750	94%
Southern Wake Freeway	R-2828		168,000,000	465,302,000	36%
Monroe By-pass	R-3329 & RW	158,716,033		581,687,303	27%
Independence Blvd	U-209B	38,542,170		155,252,748	25%
Fayetteville Outer Loop	U-2519AA/AB		120,000,000	160,200,000	75%
Greensboro Western Loop	U-2524C	102,375,000		141,225,047	72%
Winston-Salem Northern	U-2579AA/AB		120,000,000	212,700,000	56%
Winston Salem Loop	U-2579B	47,625,000		161,699,947	29%
Winston-Salem Northern Beltway	U-2579C & RW		42,513,750	68,785,000	62%
Winston Salem Northern Beltway	U-2579D/E/F		125,600,000	167,475,000	75%
NC 119 in Alamance County	U-3109A		30,000,000	49,100,000	61%
New Route in Alamance	U-3110B	10,543,946		12,747,586	83%
30 projects prior years bonds	Various	254,066,030		351,802,052	72%
Totals		1,228,569,527	1,442,913,750	4,920,816,608	

Transportation
State Infrastructure Bank

The *State Infrastructure Bank (SIB)* is an investment fund that offers loans and other types of financial assistance to transportation facilities and projects that will contribute to meeting the State's transportation goals.

- Established by Session Law 1997-428
- G.S. 136-18 allowed for NCDOT to establish, administer and receive federal funds for the SIB
  - Federal funds in the amount of $1,020,000 along with state match of $255,000 were used to capitalize the SIB in March 1998
- March 2014 - OSBM gave approval for NCDOT to transfer $240,000 from airport development appropriations to create an aviation SIB for airport related projects.
- Session Law 2004-124 included language to create a State SIB by appropriating $750,000 to be used by municipalities and local governments for transportation facilities and projects.

Transportation SIB - Eligible Uses

- Federal SIB projects must be Title 23 or Title 49 eligible.
- Projects can include local transit and highway capital programs for new construction, improvement, renovation and rehabilitation, etc.
  - ❖ Local agencies that provide transportation services, such as cities, counties and not-for-profit transportation authorities can apply. Funds can be used for local match for these entities as well.
- Applicants complete an application form, a loan agreement and must provide a business plan and collateral.
- Interest rate has typically been 4%, but is set at the time of the loan based on the Treasurer's interest rate in effect at the time of the loan

Transportation SIB - Loan Terms

- Loans of less than $2M may not have terms in excess of ***3 years*** beyond the completion of the project.
- Loans of $2-$5M may not have terms in excess of ***5 years*** beyond completion of the project.
- Loans of $5-$10M may not have terms in excess of ***10 years*** beyond completion of the project.
- Loans in excess of $10M may not have terms in excess of ***30 years*** beyond completion of the project.

State Transportation Infrastructure Bank (STIB) Opportunities

Considerations –

- How to capitalize STIB
- Eligible transportation projects
- Eligible borrowers
- Guidelines governing loans
- Available revenues to repay borrowings
- Role of Treasurer and Local Governments Commission (LGC)
- Role of NCDOT

State Transportation Infrastructure Bank (STIB) Opportunities

Direct Loan Programs

- Revolving loan program is repaid to make additional loans
  - STIB assumes substantial risk
  - Money "recycles" very slowly
- Enhance viability for projects by financing a portion of a project on a long term super-subordinate debt basis
  - Behind senior and subordinate debt
- Provide low cost pre-construction financing on a short-term basis
  - Repaid from the proceeds of the permanent construction financing and then loaned again
  - STIB assumes risk during feasibility study phase
- Pay interest on other debt during construction and early years of operations
  - STIB assumes risk during construction and initial operating years
  - Behind senior and subordinate debt

State Transportation Infrastructure Bank (STIB) Opportunities

Leveraged Loan Programs – Option 1: STIB Bonds

- Diversified loan portfolio
- Large number of borrowers
- State pledges annual loan repayment revenue to repay STIB bonds
  - Credit rating depends on the loan portfolio
  - State backstop could enhance STIB debt
- Money "recycles" faster than an unleveraged direct loan program

Leveraged Loan Programs – Option 2: Credit Enhancement

- Make no loans
- STIB capitalization put into a stand-by reserve in case project revenues fall short
- Project sponsors borrow money for their projects
  - STIB stand-by reserve stands behind project sponsor debt
  - Works like credit insurance
  - Set up as lines-of-credit for projects to fund shortfalls
    - Cannot double commit reserve

Transportation Infrastructure Finance and Innovation Act (TIFIA)

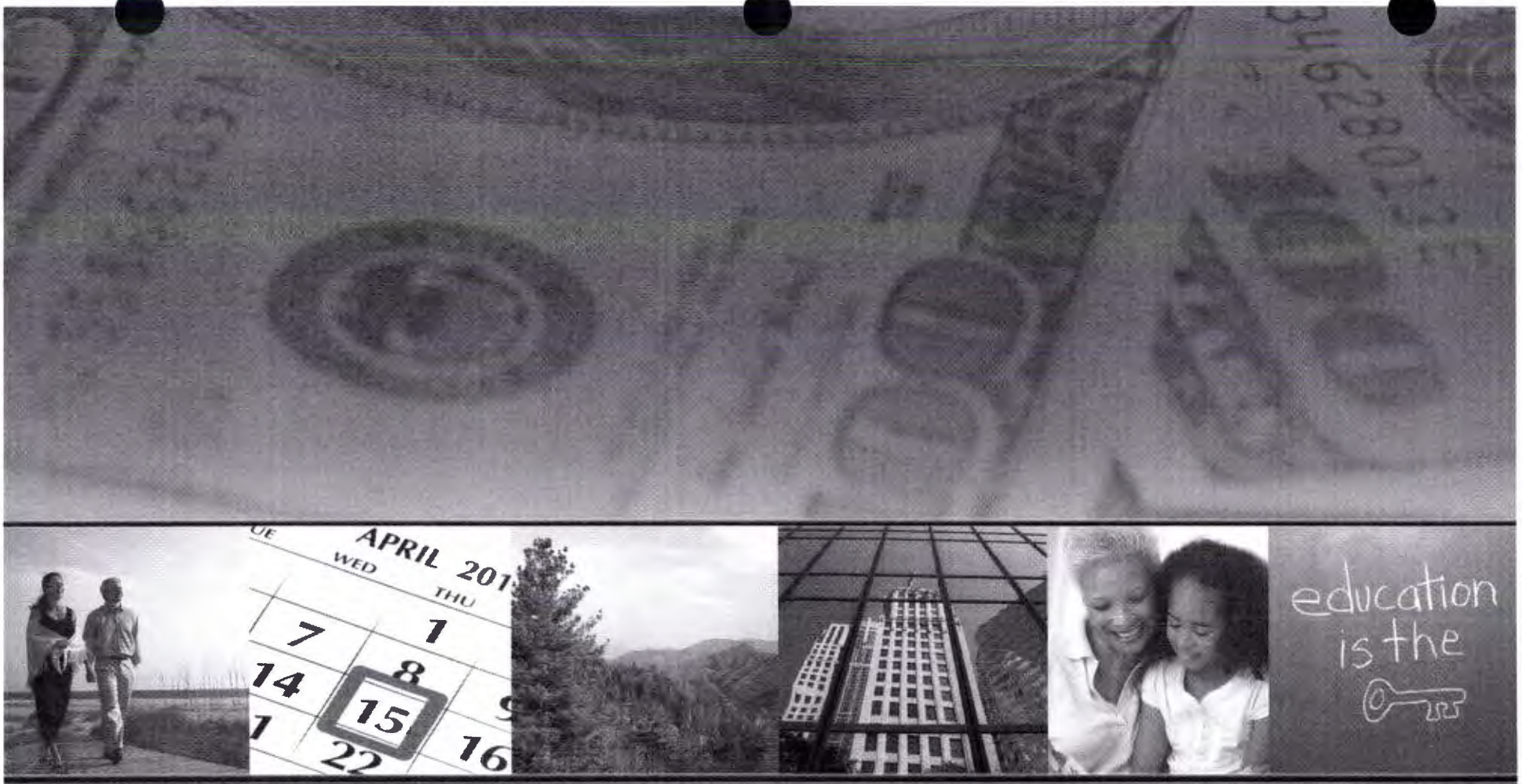
Triangle Expressway (TriEx)

- Outstanding Balance $430.4 M
- Interest rate 4.25%
- First payment January 1, 2016
- Anticipated Final Maturity January 1, 2041
- Investment grade rated – Fitch

Monroe Expressway

- $166.5 M loan
- 3.08% interest rate
- First payment January 1, 2021
- Final maturity July 1, 2053
- Investment grade rated – Moody's and S&P

Questions?



Transportation Debt Affordability 2017

North Carolina Department of State Treasurer

Learn. Invest. Grow. Prosper.

Debt Affordability Advisory Committee

The Committee is legislatively directed to:

- Annually advise the Governor and the General Assembly of the estimated debt capacity of the General Fund for the upcoming ten years
- Annually advise the Governor and the General Assembly of the estimated debt capacity of the Highway and Highway Trust Fund ("Transportation" funds) for the upcoming ten years
- Recommend other debt management policies it considers desirable and consistent with the sound management of the State's debt



Study makes no recommendations regarding the use of available debt capacity.

Study is due February 1.

Debt Affordability Advisory Committee

Membership

- Dale R. Folwell, CPA, State Treasurer, Chair
- Charles Perusse, State Budget Officer
- Ronald Penny, Acting Secretary of Revenue
- Beth Wood, State Auditor
- Linda Combs, State Controller

Senate Appointees

- Frank Aikmus
- Bradford Briner

House Appointees

- Gene Chianelli
- Tom Turner

Review: What is Debt Affordability?

The amount of debt that may be prudently authorized and issued in a given period *without* negatively affecting the credit position or impairing the budget flexibility of the issuer.

- The amount of debt that is affordable ("capacity") is finite
- Capacity can be measured and compared
- Issuance beyond a prescribed level can erode credit ratings
- The State measures its available capacity using tax-supported debt: self-supporting debt is excluded

Transportation Debt

GARVEES

- Supported solely by federal $ (NO State back up)
- 5 issues $1,120 million provided funding for 56 projects
- Total program capacity +/- $1 billion
- Fed reauthorization key

GAP Funding

- Budget authorization for up to $49 million per year to "pay debt service or related financing costs" for 2 NCTA projects, TriEx and Monroe Connector
- NCTA maximizes the amount of debt issued supported by these funds

"Availability Payments"

- Represents contractor provided financing similar to installment purchase contracts. This also includes commitments under P3 agreements. Counts as debt for capacity calculations.

Outstanding Transportation Debt by Type at 6/30/16

Tax-Supported Debt*	(millions)
Highway Fund Supported GO Bonds	$198.4
"GAP Funding" Supported NCTA Revenue Bonds	$741.3
"Availability Payments" & DRAM (total of payment amounts)	$75.0
Total Transportation Tax-Supported Debt	$1,014.7

Non Tax-Supported Debt	(millions)
GARVEEs (Grant Anticipation Revenue Vehicle Bonds)	$675.3
Toll Supported NCTA Revenue Bonds(includes TIFIA)	$621.6
Total Transportation Non Tax-Supported Debt	$1,296.9
Total Transportation Debt	$2,311.6

* Tax-supported debt includes debt supported by state (not federal) highway revenues, for example motor fuels tax and vehicle registration fees.

Transportation Debt Affordability

- Highway and Highway Trust Fund capacity combined
- All State-level transportation revenues used (DOT projection)
- Federal revenues, toll revenues (and any related toll-supported debt) and GARVEES are excluded
- "GAP Funding" for NCTA projects ($49 million/year), availability payments and commitments under a DRAM are included
- Guideline adopted: amounts used for transportation-related debt support should not exceed 6% of the State's transportation revenues

Transportation Model Highlights

10-Year Model Horizon

All State –level Transportation Revenues included

Repayment of existing debt and NCTA bond support incorporated
(GARVEE debt service excluded)

Assumes future debt issued at 6.15% for 25 year term(conservative)

Guideline adopted based on analysis of peers (mostly southeastern) developed in consultation with DOT.

General Fund Model Results

General Fund - New Policy

Alternate Debt Capacity using 4.5% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2017	2018	2019	2020	2021
$ to Unfunded Liabilities	$153.3	$140.4	$139.0	$158.2	$206.1
Total Additional Debt Capacity per Year *	$1,268.3	$56.3	$39.7	$40.9	$42.2
Debt Capacity Available each and every Year	$181.0	$181.0	$181.0	$181.0	$181.0

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.

Transportation Model Results

Transportation

Net Tax-Supported Debt Capacity using 6.0% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2017	2018	2019	2020	2021
Total Additional Debt Capacity per Year *	$1,363.6	$6.8	$0.0	$884.0	$0.0
Debt Capacity Available Each and Every Year	$270.3	$270.3	$270.3	$270.3	$270.3

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year. GAP Funding for North Carolina Turnpike Authority projects assumed to total $49 million annually.

Combined GF and Transportation Results

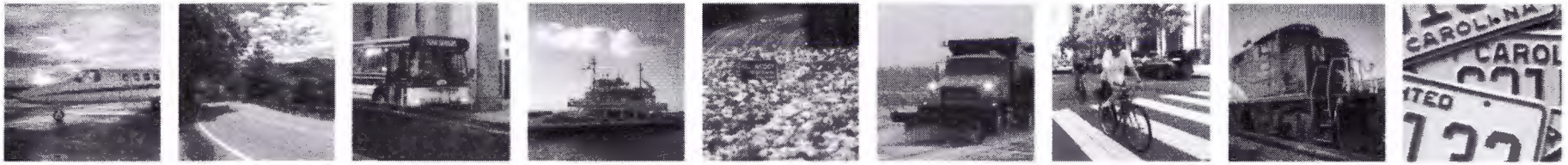
General Fund and Transportation Funds
Combined Debt Service / Revenue Percentages

Fiscal Year	2017	2018	2019	2020	2021
General Fund	3.29%	3.37%	3.40%	3.34%	3.16%
Transportation *	3.12%	2.96%	2.95%	3.06%	1.32%
Combined	3.27%	3.31%	3.34%	3.30%	2.91%

Note: Percentages are based on forecasted revenues and debt service.

* GAP Funding for North Carolina Turnpike Authority projects assumed to total $49 million annually.

NORTH CAROLINA
Department of Transportation



Joint Appropriations Subcommittee on Transportation

North Carolina Turnpike Authority

Beau Memory | March 14, 2017

Benefits of Tolling:

- Funding source
  - Supplements traditional transportation funding
  - Can accelerate major transportation projects
- "Stable" revenue source allowing for:
  - Bond financing
  - Private-sector financing
- Voluntary user fee
- Dedicated project maintenance funds
- Potential congestion management tool

For a Toll Project to Work:

- Demonstrated benefit to public
  - Increased regional mobility
  - Reduced travel times
  - Efficient leveraging of transportation funding
  - Boosted economic development
- Non-tolled alternative
- Supplemental funding source
  - Difference between project cost and toll revenue
  - Supplemental funding, public or private equity, etc.

Legislation Review

§ 136-89.183.(a)(2)

- "…the Turnpike Authority is authorized to design, establish, purchase, construct, operate, and maintain no more than eleven projects..."

§ 136-18(39a)(a)

- "The Department of Transportation or Turnpike Authority, as applicable, may enter into up to three agreements with a private entity as provided under subdivision (39) of this section for which the provisions of this section apply."

Turnpike Projects

- Subject to STI Prioritization
- Require approval by local planning organizations
- Must have an existing and non-tolled alternative route
- Tolling limited to new capacity

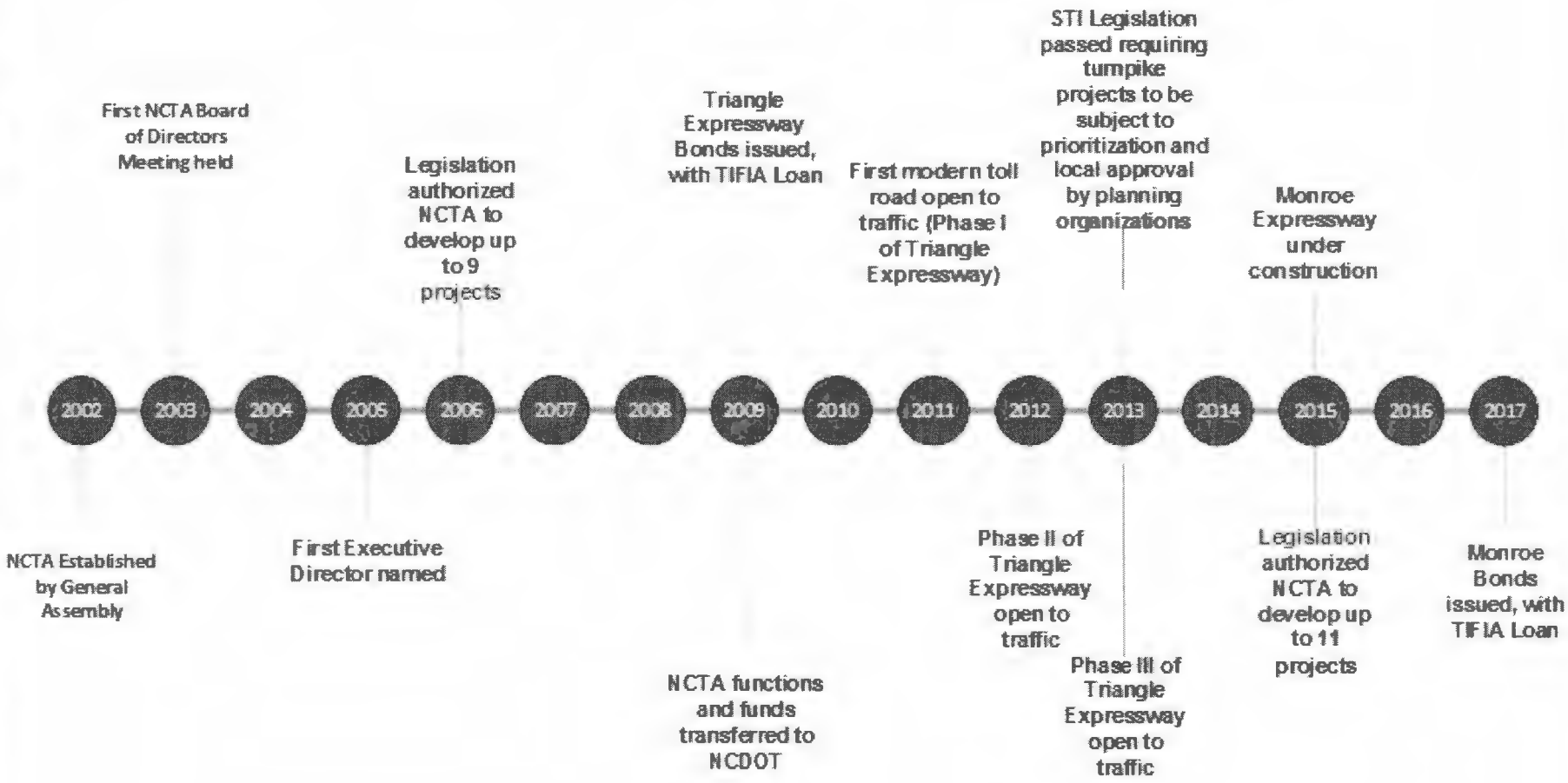
Turnpike Revenue

- Revenues from a turnpike facility must stay on that turnpike facility
- Tolls must be removed once bonds have been repaid
- Toll collection process guided by toll enforcement legislation

Turnpike Funding

- Toll revenue bonds, TIFIA loans, state appropriation bonds, and STIP funds
- Supplemental funding determined via the prioritized STIP
- Encourages local funding participation

NCTA History/Timeline



NCTA Overview

Responsibilities:

- Assist NCDOT during study, design and construction of turnpike projects
- Maintain and operate toll collections systems (including toll technology systems, back office, storefront, call center, payment processing, etc.)
- Fund and manage maintenance of project facilities (including potholes, snow removal, mowing, etc.)
- Manage NC Quick Pass® Customer Service Center
- Coordinate and support financing activities: development of cost estimates (capital and operations), Traffic & Revenue studies, plans of finance, compliance and reporting requirements, etc.

NCTA Board Structure

- Established by General Assembly in 2002

- Governed by a 9-member Board of Directors
  - 4 members appointed by the Governor
  - 4 members appointed by the NCGA (2 by Senate President Pro-Tempore, 2 by Speaker of the House)
  - North Carolina Secretary of Transportation

NCTA Board Authority

- The power to fix, revise, charge, and collect tolls and fees for the use of the Turnpike Projects pursuant to NCGS § 136-89.183 (a)(5);
- To issue bonds or notes of the NCTA pursuant to NCGS § 136-89.183(a)(6);
- To invest the proceeds of bonds or notes of the NCTA that are pending disbursement or other idle funds of the Authority in any investment authorized by NCGS § 159-30 pursuant to NCGS § 136-89.183 (6a); and
- To exercise such additional powers as shall be necessary for the financing of Turnpike Projects through compliance with the associated bond documentation, including complying with any arbitrage, rebate or other federal tax filings and providing for secondary market disclosure; provided any such additional power may be subjected to conditions, including the involvement and participation of other portions of the North Carolina Department of Transportation, which are stated within the bond documentation and executed by the Secretary acting as the Secretary.

NCTA Administrative Funding

Highway Trust Fund:

- FY17 Authorized Budget: $0.81M
  - Funds 4 NCTA positions plus certain other expenses such as financial advisors and annual CAFR audit
  - Must be repaid to NCDOT with interest

Previous Administrative Funding Budget

- FY09 Authorized Budget: $6.35M
- FY10 Authorized Budget: $4.78M
- FY11 Authorized Budget: $5.18M
- FY12 Authorized Budget: $3.03M
- FY13 Authorized Budget: $1.92M
- FY14 Authorized Budget: $1.77M
- FY15 Authorized Budget: $0.80M
- FY16 Authorized Budget: $0.93M

NCTA Staff

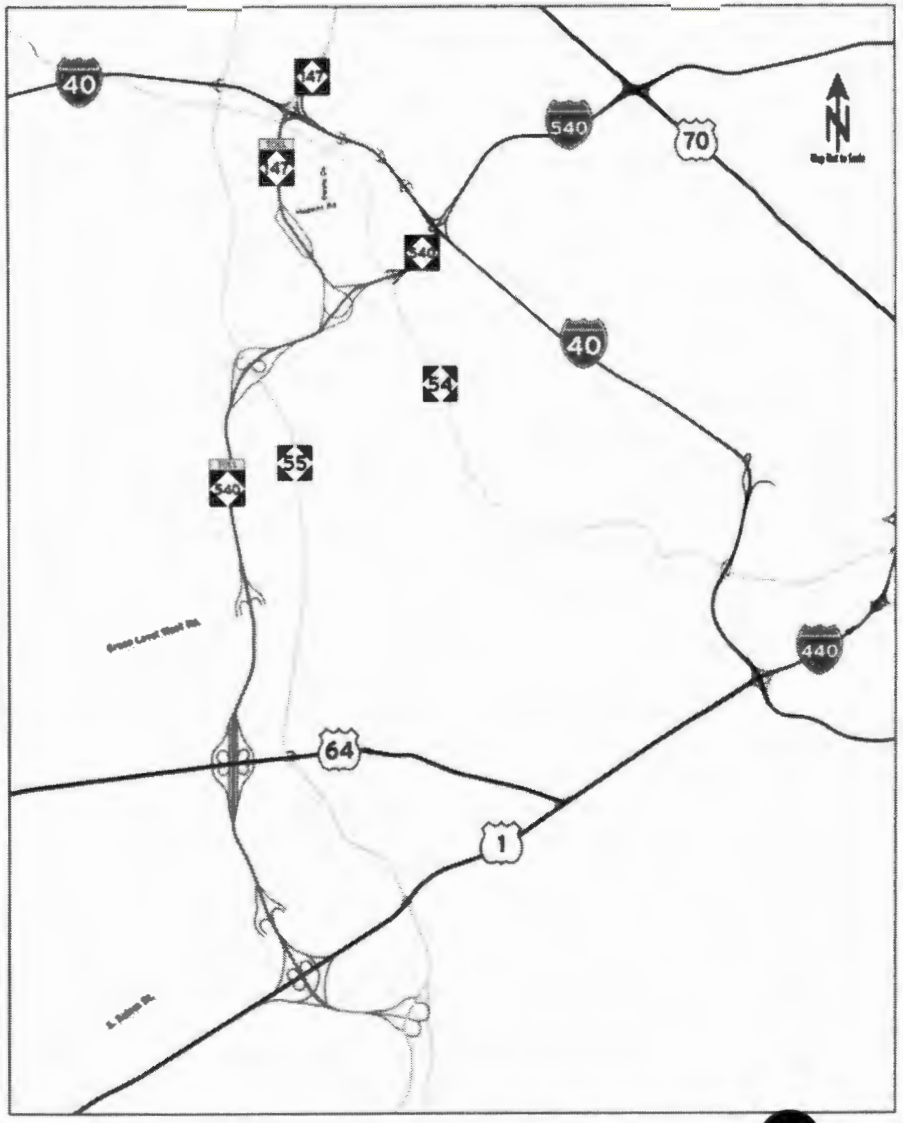
Total NCTA staff of 13 (4 vacancies)

- Executive Director
  - Deputy Director
  - Project Controls Engineer
    - Regional Toll Road Manager (vacant)
  - Director of Toll Road Operations
    - Toll System Collection Manager
    - Roadside Toll Collection System Manager
    - Customer Service Center Manager (vacant)
    - Customer Service Center Manager (vacant)
  - Director of Finance & Budget
  - Director of Community Affairs
  - Director of Business Affairs (vacant)
  - Office Manager

Turnpike Authority Projects Overview

Triangle Expressway

- NC's 1st modern toll road
- 18.8 mi between I-40 (near Durham) and NC 55 Bypass (near Holly Springs)
- Phased Opening
  - Phase I: December 8, 2011
  - Phase II: August 3, 2012
  - Phase III: January 2, 2013
- Modern all-electronic tolling facility
- Capital Expenditures ~ 5% under budget
- Weekday Traffic Growth ~ 21% (YOY)
- $3.13 trip with Quick Pass (~ $0.18/mile)



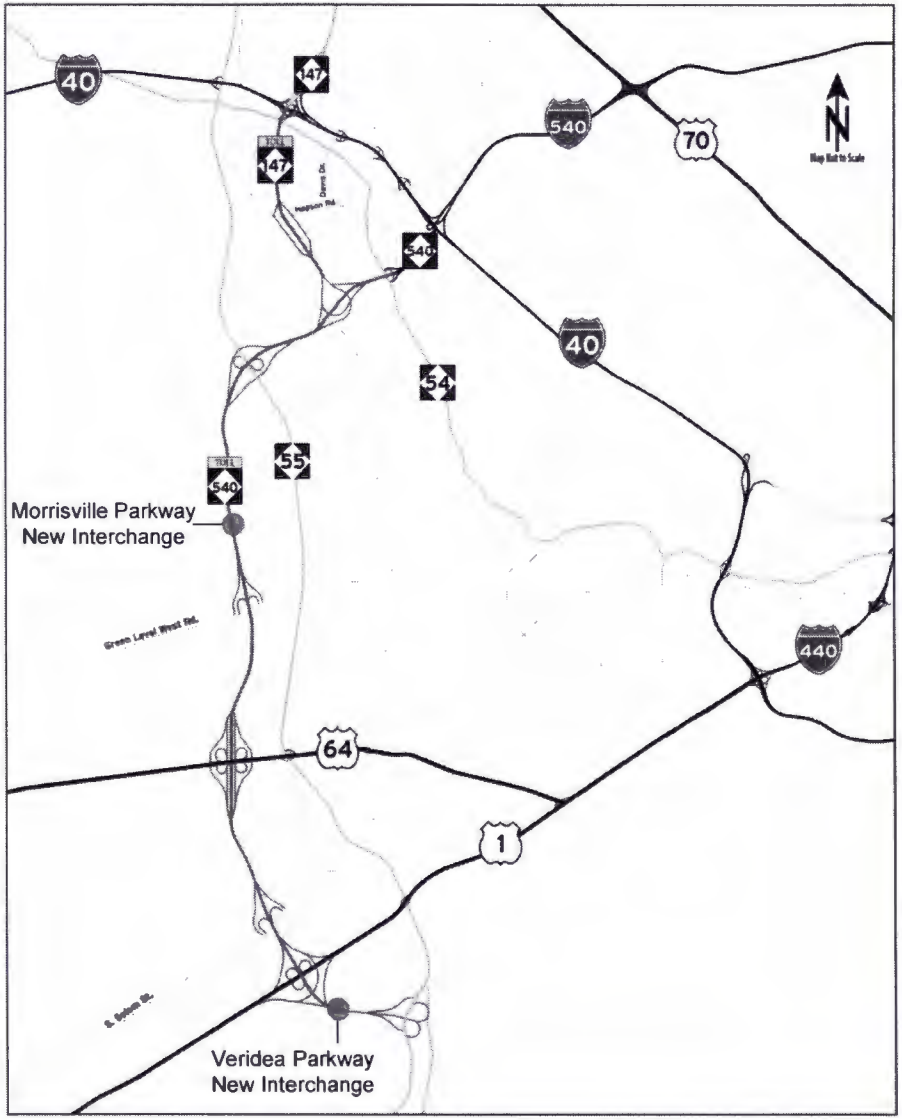
Triangle Expressway

Morrisville Parkway Interchange

- Cooperative effort between NCTA, NCDOT, and Town of Cary
- Open to traffic (Late 2018)

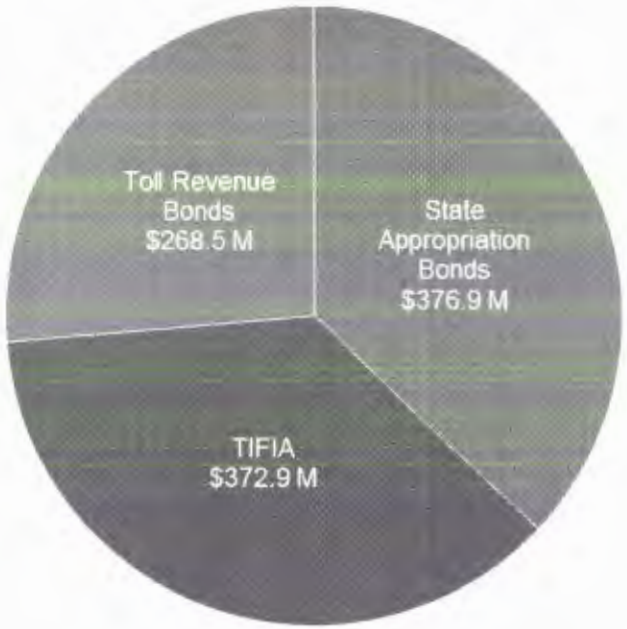
Veridea Parkway Interchange

- Design-Build contract was awarded June 26, 2015 for $18.4 million
- Open to traffic (March 2017)

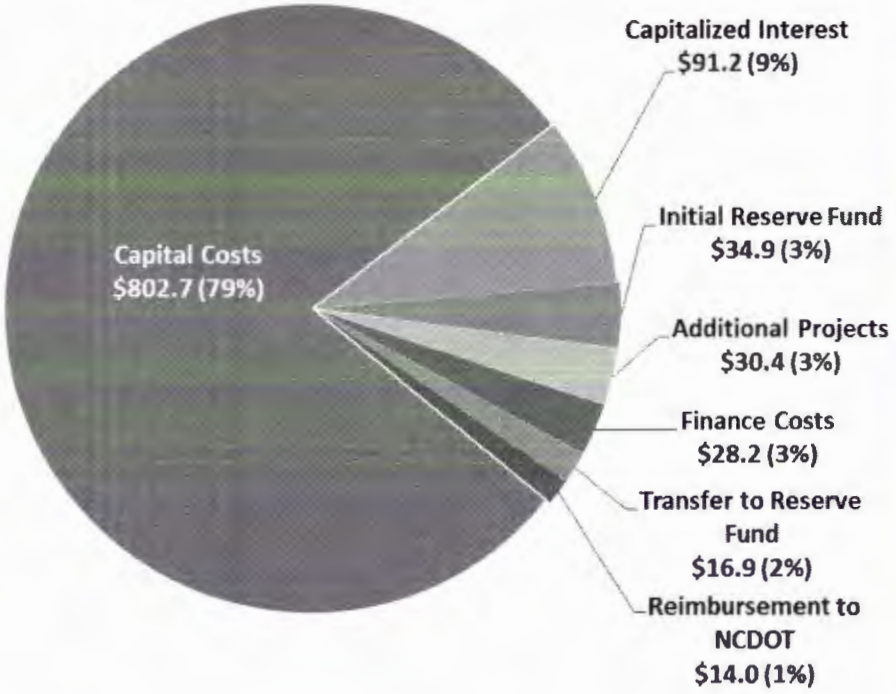


Triangle Expressway

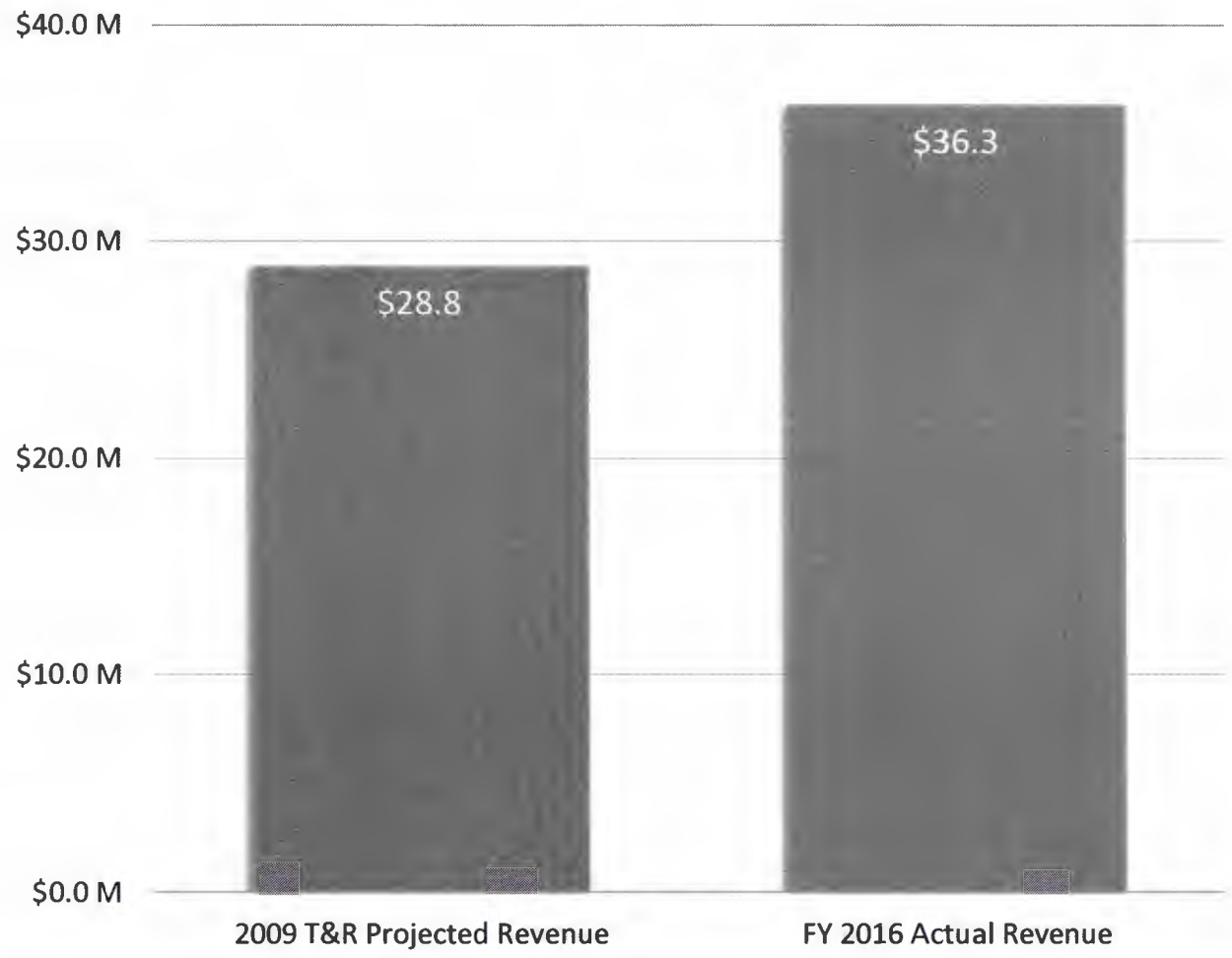
Sources:



Uses:

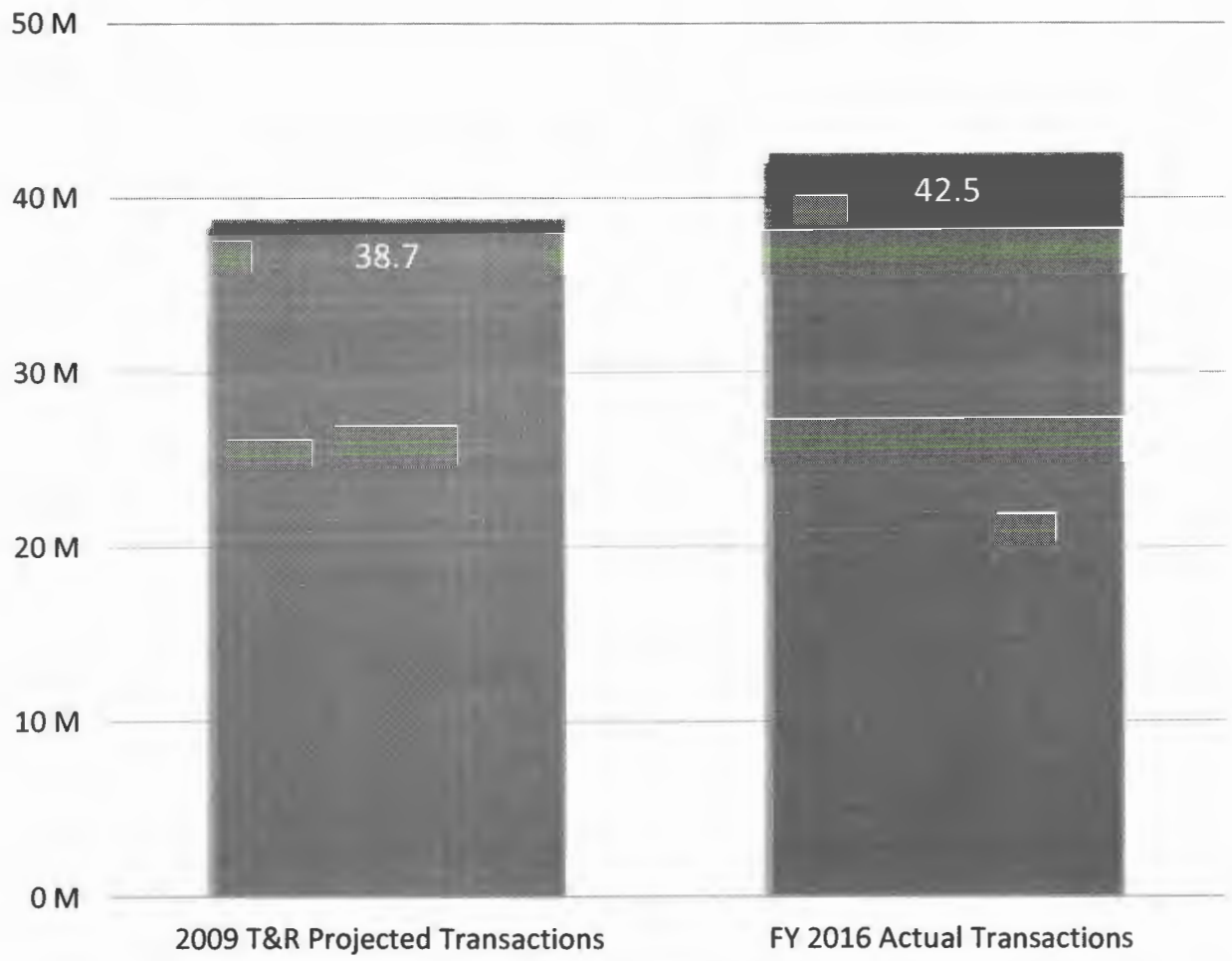


Triangle Expressway Revenues



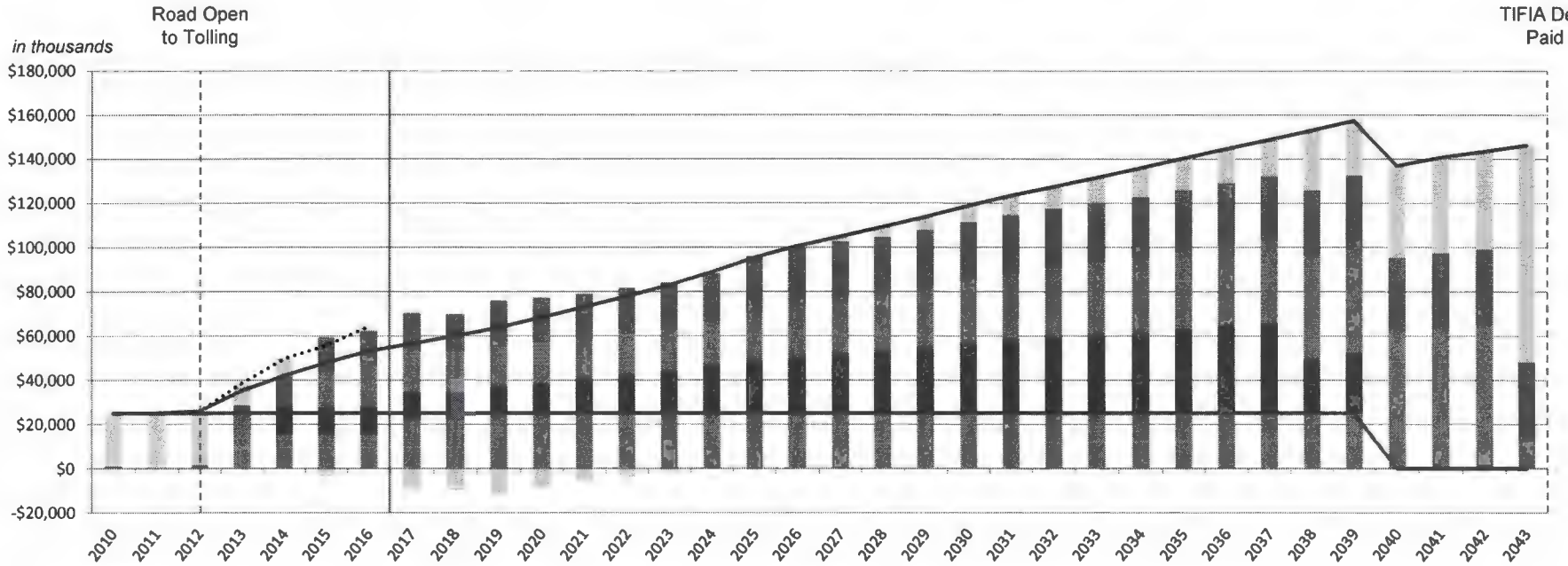
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Triangle Expressway Transactions



This information is unaudited and for informational purposes only

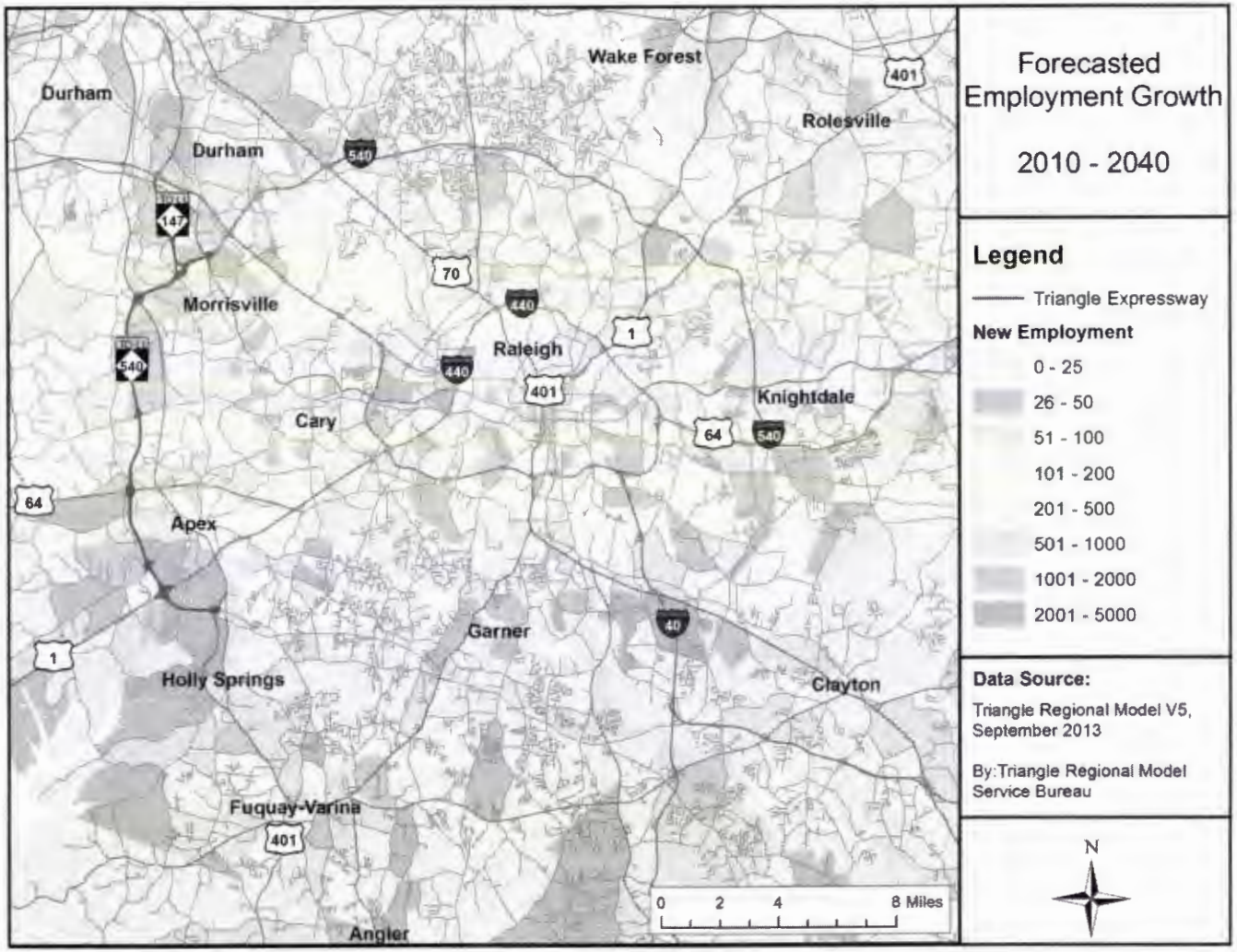
Triangle Expressway Revenues



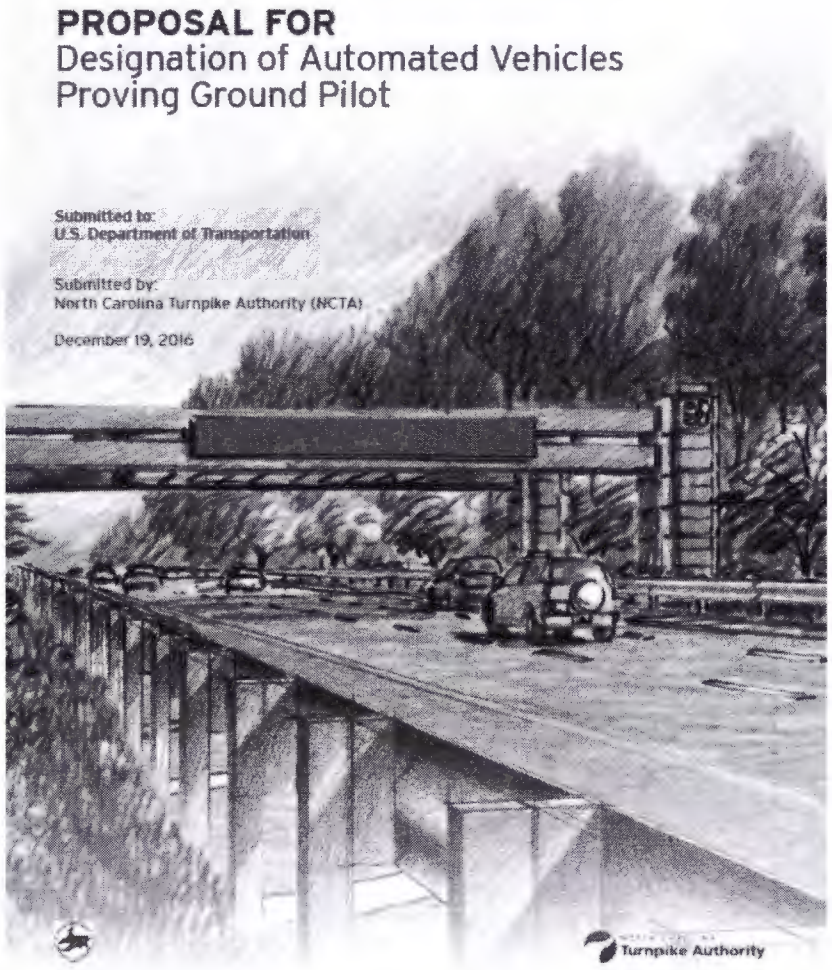
- Net Appropriation Bonds Debt Service
- Senior Lien Parity Reserve Deposits
- O&M Costs
- R&R Reserve Deposits
- Residual Revenues/(General Reserve Fund Draws)
- Actual Toll Revenues plus State Appropriated Revenues*
- Net Senior Toll Revenue Bonds Debt Service
- TIFIA Payments
- O&M Reserve Deposits
- TIFIA Reserve Deposit
- State Appropriated Revenues
- Projected Toll Revenues plus State Appropriated Revenues*

This information is unaudited and for informational purposes only

Triangle Expressway Corridor Growth:



Automated Vehicle Proving Ground



- 10 out of 60 applicants chosen
- Partners
  - NC State University
  - UNC – Chapel Hill
  - Duke University
  - NC A&T University
  - UNC – Charlotte
  - The Regional Transportation Alliance
  - NCDOT
- NCTA maintains control to safeguard safety and reliable customer service

NC Quick Pass®



NC Quick Pass®

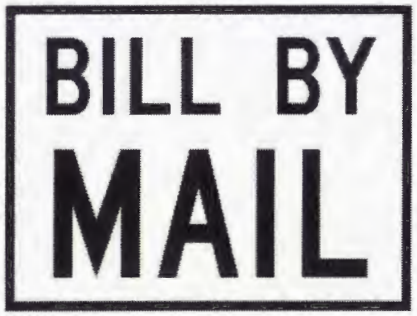
- Prepaid account
- Two Transponder Options:
  - NC Quick Pass
  - NC Quick Pass E-Zpass
- 35% savings on tolls



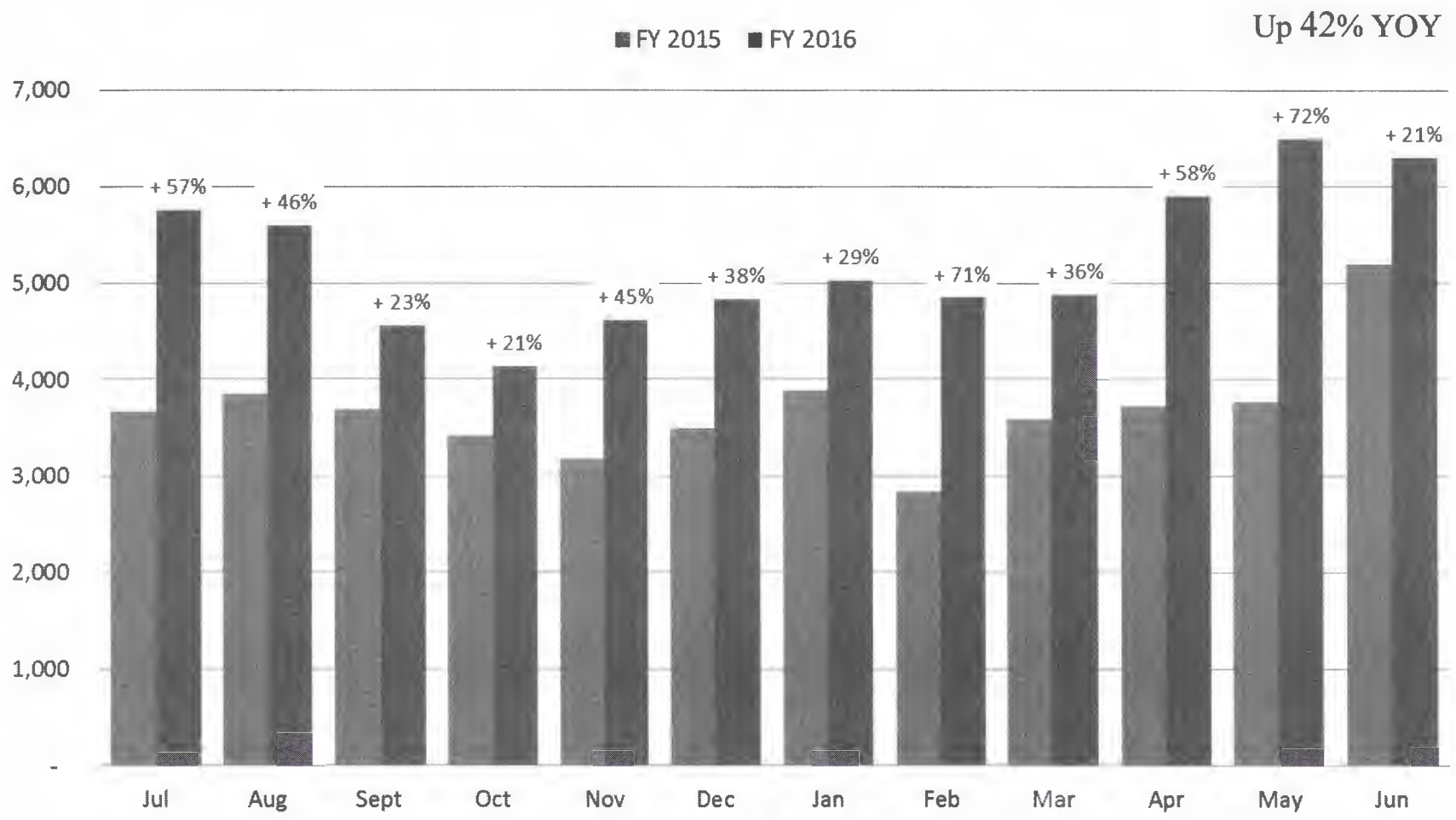
Holiday promotion: December 1st through January 31st

Bill By Mail

- Post-paid
- License plate image recognition
- Higher toll rate due to increased processing costs



NC Quick Pass® Transponders Sold



Community Outreach

Participate in community events along the corridor to expand public awareness about NC Quick Pass®



HollyFest NC Quick Pass® Booth









Town of HollySprings Retweeted

NC Turnpike @TriangleExpress · Oct 27

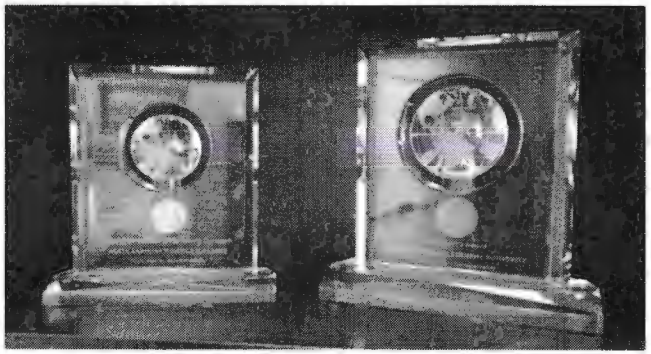
#NCQuickPass will be in attendance at this year's HollyFest 2016 on Sat., Oct. 29 from 10 am-4 pm ow.ly/uP0O305ACA9 @ToHollySprings

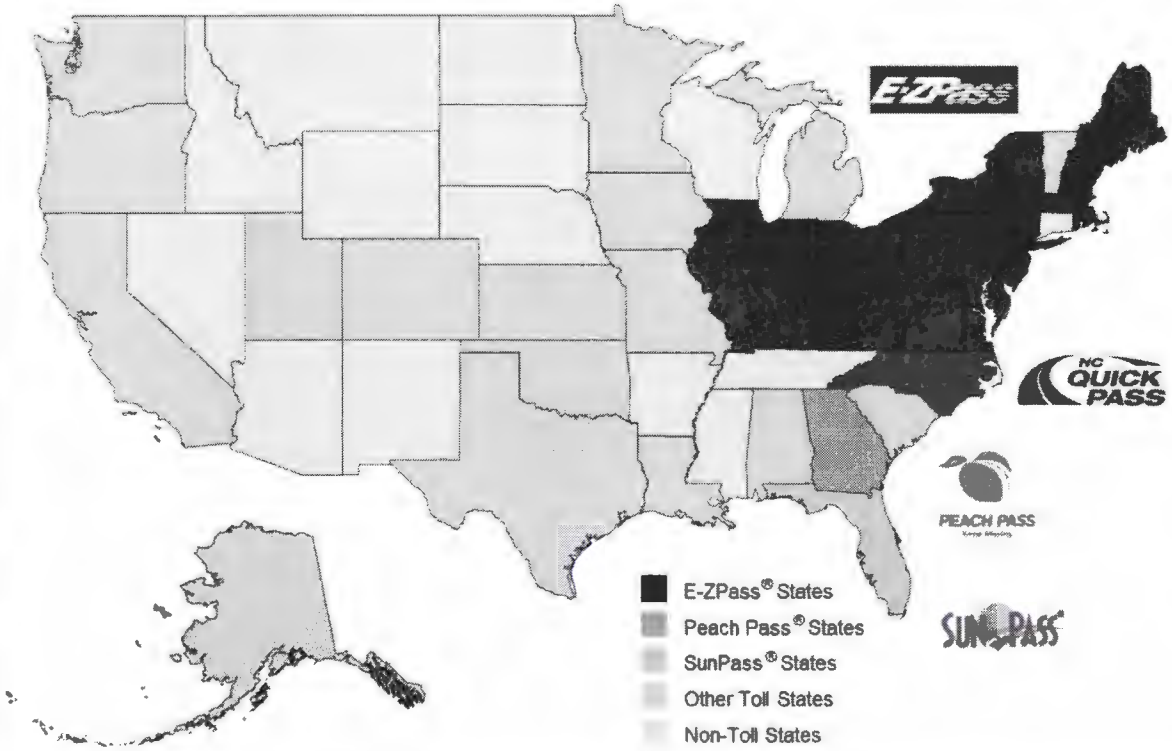
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Customer Service

- Most interoperable electronic toll collection system in the nation
- Interoperable with nearly 50 agencies
- Working on agreements with Texas, Oklahoma, & South Carolina





- 2016 IBTTA National Toll Excellence Award for Customer Service & Marketing Outreach
- 2016 IBTTA President's Award

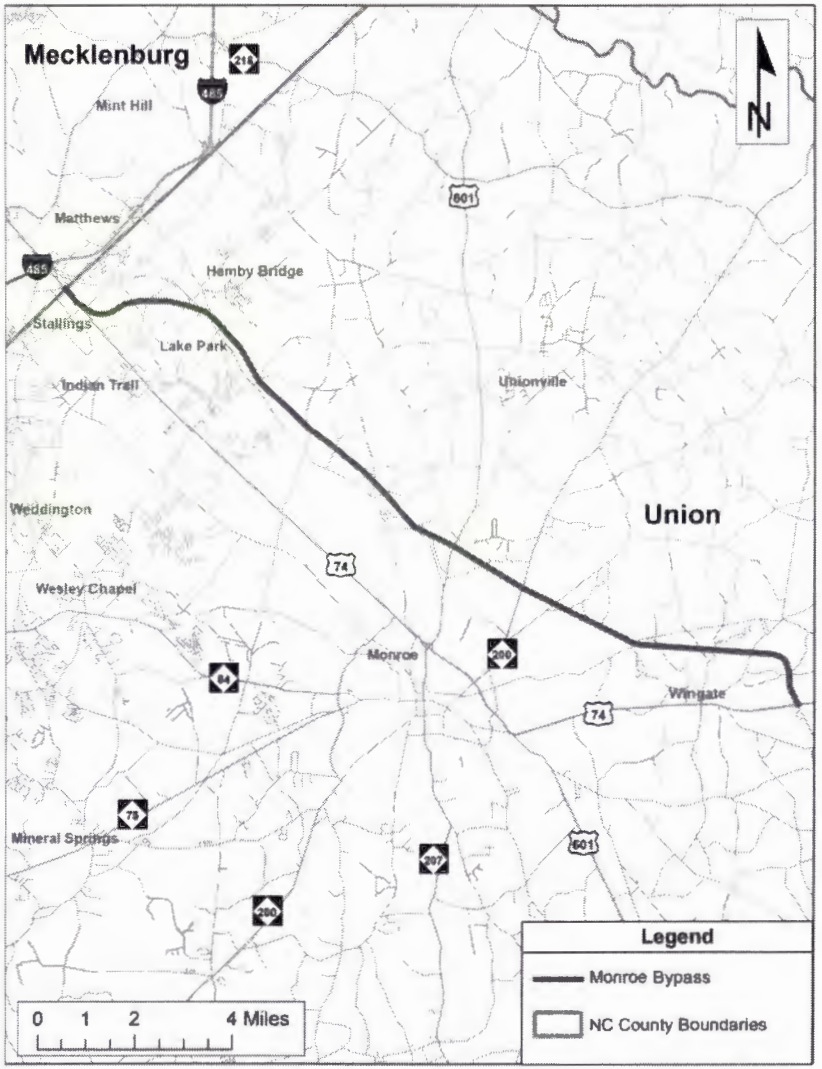
Monroe Expressway

Project Data

- R-3329
- 19.8 mi of new location
- I-485 to US 74

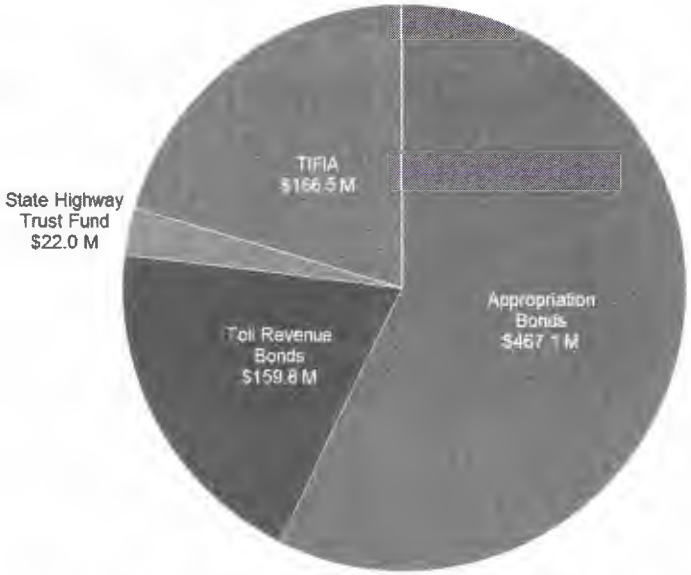
Upcoming Milestones

- Right of Way Completion (2017)
- Open to Traffic (2018)
- Final Completion (2019)



Monroe Expressway

Sources:



CAPITAL ITEMS	BUDGET	EXPENDITURES	COMPLETE
DESIGN-BUILD CONTRACT	$ 453,598,883	$ 315,714,327	69.6%
LANDSCAPING	$ 5,909,217	$ 18,960	0.3%
CEI BY SUMMIT	$ 18,182,982	$ 5,957,307	32.8%
UTILITIES	$ 4,759,188	$ 1,414,919	29.7%
DIESEL FUEL AND AC RESERVES	$ 13,884,391	$ (1,234,566)	-8.9%
RIGHT OF WAY	$ 147,269,475	$ 104,142,931	70.7%
TOLL INTEGRATION	$ 23,950,050	$ 1,096,347	4.6%
ADMINISTRATION AND RESERVES	$ 63,316,315	$ 5,747,426	9.1%
TOTALS	**$ 730,870,501**	**$ 432,857,651**	**59.2%**

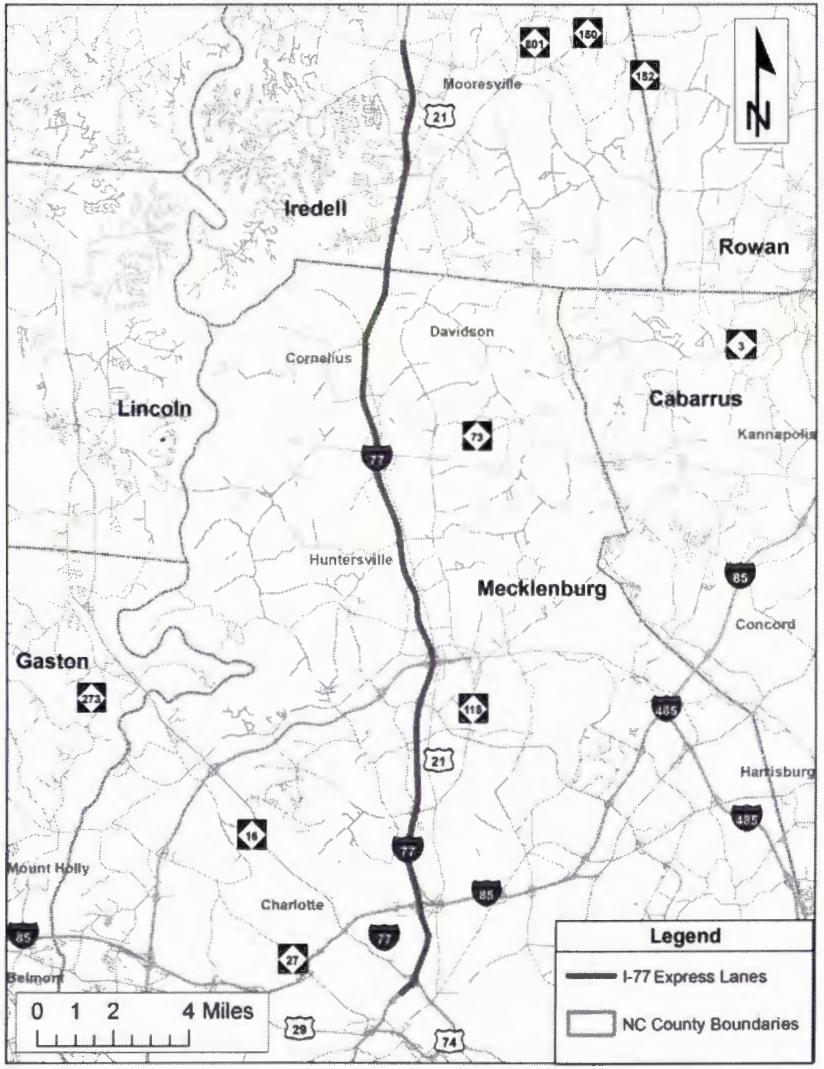
I-77 Express Lanes

Project Data

- I-5405
- 26.0 mi new capacity & HOV conv.
- I-277 to NC 150

Upcoming Milestones

- Phase I open to traffic (2017)
- Substantial Completion (2019)
- Final Completion (2019)



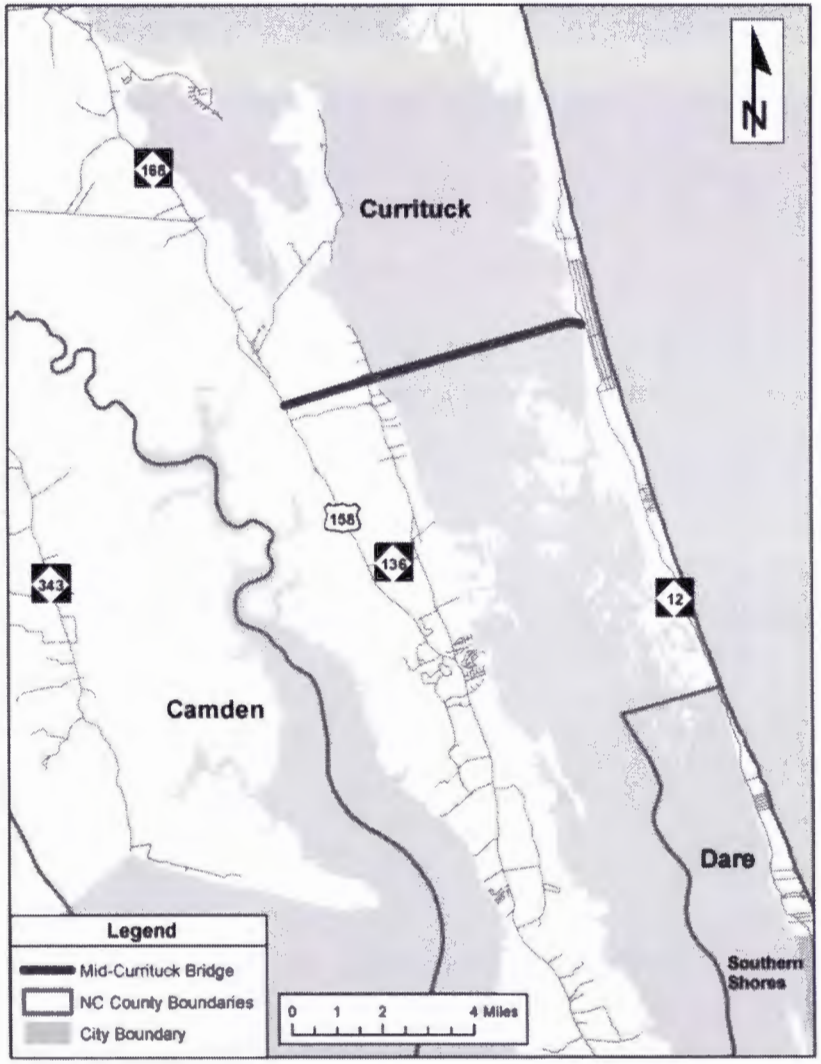
Mid-Currituck bridge

Project Data

- R-2576
- 7.0^{mi} of new location
- Spans Currituck Sound connecting the Currituck County mainland with its Outer Banks

Upcoming Milestones

- Complete financial feasibility study (2017)
- Begin ROW Acquisition (2017)
- Begin Construction (2017)



Toll Projects in Draft STIP

- Draft STIP (FY 2017 - FY 2027) Submitted January 2017
- Final STIP approval: June 2017

STIP #	Project	Limits	ROW	Construction
I-5507	I-485 Express Lanes	I-77 to US-74	FY 2017	FY 2017
R-2576	Mid-Currituck Bridge	Bridge spanning Currituck Sound	FY 2017	FY 2017
U-5526A	US 74 Express Lanes (Phase I)	I-277 to Wallace Lane	FY 2017	FY 2018
R-2721	Complete 540	NC 55 to US 401	FY 2020	FY 2020
R-2828	Complete 540	US 401 to I-40	FY 2020	FY 2020
U-2509	US 74 Express Lanes (Phase II)	I-485 to Conference Drive	FY 2020	FY 2020
I-5718	I-77 Express Lanes	I-485 to I-277	FY 2024	FY 2027
I-5702	I-40 Express Lanes	US 15/501 to Wade Avenue	FY 2026	FY 2026
R-2829	Complete 540	I-40 to US 64	FY 2027	FY 2027

Thank you

NORTH CAROLINA
Department of Transportation



GARVEE Bonds, TIFIA and State Infrastructure Bank

David Tyeryar, CFO, Fiscal Management Division

March 14, 2017

Transportation
Traditional Financing Techniques

1. Cash to Capital or "Pay-as-you-go"

2. General Obligation Debt
   - Backed by full faith and credit of State

3. Transportation Revenue Backed Borrowing
   - Backed by some portion of State Transportation Revenues

Transportation
Innovative Financing Techniques

Project Revenue Backed Borrowing

- Backed by revenues of specific project – TriEx and Monroe Bypass
- Borrowing from the US Department of Transportation

Transportation Infrastructure Finance and Innovation Act (TIFIA)

- Backed by revenues of specific project – TriEx and Monroe Bypass
- Borrowing from the US Department of Transportation

Private Investment

- Privately owned roads
- Public Private Partnerships (P3)

Grant Anticipation Revenue Vehicle (GARVEE)

State Infrastructure Bank (SIB)

- Capitalized with Federal Revenue

State Transportation Infrastructure Bank (STIB)

- Capitalized with State Revenue

North Carolina GARVEE Legislation

GARVEE (Grant Anticipation Revenue Vehicle) Bonds

- Revenue bond where debt service is paid *solely from future federal revenues*
- Provides up front funding for major highway projects

GARVEE Act

- North Carolina General Statute § 136-18 (12b) as codified by Session Law 2005-403
- Authorized the issuance of bonds to accelerate federally-funded projects
- Finances improvements to the Federal Highway System
- Allows for Recurring Bond Issuance

Debt Limits (Either/Or Test)

- Outstanding Principal may not exceed total Federal Transportation Funds authorized in the prior Federal Fiscal Year or
- Total Debt Service may not exceed 15% of the expected Annual Federal Transportation Revenue

"Evergreen" Program

- Flexibility in project selection and substitution

GARVEE Program

- Bonds were issued in multiple series:
  - Issued:
    - 10/17/2007 $287.6 million
    - 08/05/2009 $242.5 million
    - 12/28/2011 $145.5 million
    - 01/26/2012 $179.5 million
    - 05/28/2015 $264.9 million

  Ratings: A2/AA/A+
  Average Interest Cost: 2.993%

- Bonds structured with overall level debt service to achieve maximum coverage levels
  - 2007, 2009 and 2011 - 12 year planned amortization
  - 2012 - 7 year planned amortization
  - 2015 - 15 year planned amortization

- Total Outstanding Debt as of October 31, 2016 - $675.3 million

Summary of GARVEE Project Funding

Description	STIP #	Prior Years Bonds Including Premium	Future Years GARVEE Bonds	Total Project Costs	Percentage of Cost
I-40/NC 801 Interchange	B-3637	10,094,181		11,697,265	86%
Oregon Inlet Repair	B-5014A	11,745,207		16,877,774	70%
I-85 in Rowan County	I-2304AC	122,175,372		151,420,687	81%
Asheville New Route North of SR3548	I-2513B & RW, I-2513C & RW		369,250,000	492,400,000	75%
I-40 in Wake County	I-4744	40,418,572		51,455,250	79%
US 70 Havelock Bypass	R-1015		120,000,000	160,000,000	75%
Winston-Salem Northern Interchange	R-2247EB		75,000,000	113,000,000	66%
New Bern By-pass	R-2301A	31,118,939		41,210,934	76%
US-17 in Beaufort	R-2510C	3,201,121		8,019,425	40%
Goldsboro By-pass	R-2554BA	68,152,567		68,808,739	99%
Mid-Currituck Bridge	R-2576		129,000,000	411,303,000	31%
US-311/Future I-74	R-2606B	89,360,000		104,734,142	85%
Wilmington By-pass	R-2633AA	31,050,000		70,353,545	44%
Wilmington By-pass	R-2633BA/BB	150,000,000		214,253,971	70%
US 74 Shelby Bypass	R-2707D & RW, R-2707E & RW		68,550,000	91,402,000	75%
Southern Wake Freeway	R-2721		75,000,000	300,102,000	25%
Rolesville By-pass	R-2814B	28,067,500		52,311,443	54%
Rocky Mount Connector	R-2823	31,317,889		33,489,750	94%
Southern Wake Freeway	R-2828		168,000,000	465,302,000	36%
Monroe By-pass	R-3329 & RW	158,716,033		581,687,303	27%
Independence Blvd	U-209B	38,542,170		155,252,748	25%
Fayetteville Outer Loop	U-2519AA/AB		120,000,000	160,200,000	75%
Greensboro Western Loop	U-2524C	102,375,000		141,225,047	72%
Winston-Salem Northern	U-2579AA/AB		120,000,000	212,700,000	56%
Winston Salem Loop	U-2579B	47,625,000		161,699,947	29%
Winston-Salem Northern Beltway	U-2579C & RW		42,513,750	68,785,000	62%
Winston Salem Northern Beltway	U-2579D/E/F		125,600,000	167,475,000	75%
NC 119 in Alamance County	U-3109A		30,000,000	49,100,000	61%
New Route in Alamance	U-3110B	10,543,946		12,747,586	83%
30 projects prior years bonds	Various	254,066,030		351,802,052	72%
Totals		1,228,569,527	1,442,913,750	4,920,816,608	

Transportation
State Infrastructure Bank

The *State Infrastructure Bank (SIB)* is an investment fund that offers loans and other types of financial assistance to transportation facilities and projects that will contribute to meeting the State's transportation goals.

- Established by Session Law 1997-428
- G.S. 136-18 allowed for NCDOT to establish, administer and receive federal funds for the SIB
  - Federal funds in the amount of $1,020,000 along with state match of $255,000 were used to capitalize the SIB in March 1998
- March 2014 - OSBM gave approval for NCDOT to transfer $240,000 from airport development appropriations to create an aviation SIB for airport related projects.
- Session Law 2004-124 included language to create a State SIB by appropriating $750,000 to be used by municipalities and local governments for transportation facilities and projects.

Transportation SIB - Eligible Uses

- Federal SIB projects must be Title 23 or Title 49 eligible.
- Projects can include local transit and highway capital programs for new construction, improvement, renovation and rehabilitation, etc.
  - ❖ Local agencies that provide transportation services, such as cities, counties and not-for-profit transportation authorities can apply. Funds can be used for local match for these entities as well.
- Applicants complete an application form, a loan agreement and must provide a business plan and collateral.
- Interest rate has typically been 4%, but is set at the time of the loan based on the Treasurer's interest rate in effect at the time of the loan

Transportation SIB - Loan Terms

- Loans of less than $2M may not have terms in excess of ***3 years*** beyond the completion of the project.
- Loans of $2-$5M may not have terms in excess of ***5 years*** beyond completion of the project.
- Loans of $5-$10M may not have terms in excess of ***10 years*** beyond completion of the project.
- Loans in excess of $10M may not have terms in excess of ***30 years*** beyond completion of the project.

State Transportation Infrastructure Bank (STIB) Opportunities

Considerations –

- How to capitalize STIB
- Eligible transportation projects
- Eligible borrowers
- Guidelines governing loans
- Available revenues to repay borrowings
- Role of Treasurer and Local Governments Commission (LGC)
- Role of NCDOT

State Transportation Infrastructure Bank (STIB) Opportunities

Direct Loan Programs

- Revolving loan program is repaid to make additional loans
  - STIB assumes substantial risk
  - Money "recycles" very slowly
- Enhance viability for projects by financing a portion of a project on a long term super-subordinate debt basis
  - Behind senior and subordinate debt
- Provide low cost pre-construction financing on a short-term basis
  - Repaid from the proceeds of the permanent construction financing and then loaned again
  - STIB assumes risk during feasibility study phase
- Pay interest on other debt during construction and early years of operations
  - STIB assumes risk during construction and initial operating years
  - Behind senior and subordinate debt

State Transportation Infrastructure Bank (STIB) Opportunities

Leveraged Loan Programs – Option 1: STIB Bonds

- Diversified loan portfolio
- Large number of borrowers
- State pledges annual loan repayment revenue to repay STIB bonds
  - Credit rating depends on the loan portfolio
  - State backstop could enhance STIB debt
- Money "recycles" faster than an unleveraged direct loan program

Leveraged Loan Programs – Option 2: Credit Enhancement

- Make no loans
- STIB capitalization put into a stand-by reserve in case project revenues fall short
- Project sponsors borrow money for their projects
  - STIB stand-by reserve stands behind project sponsor debt
  - Works like credit insurance
  - Set up as lines-of-credit for projects to fund shortfalls
    - Cannot double commit reserve

Transportation Infrastructure Finance and Innovation Act (TIFIA)

Triangle Expressway (TriEx)

- Outstanding Balance $430.4 M
- Interest rate 4.25%
- First payment January 1, 2016
- Anticipated Final Maturity January 1, 2041
- Investment grade rated – Fitch

Monroe Expressway

- $166.5 M loan
- 3.08% interest rate
- First payment January 1, 2021
- Final maturity July 1, 2053
- Investment grade rated – Moody's and S&P

Questions?

VISITOR REGISTRATION SHEET

JT Committee on Appropriations, Transportation — 3/14/2017

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Leonard	NS
[illegible]	NCL
Ed [illegible]	BP
Jay Stem	NCAA
[illegible]	[illegible]
[illegible]	NCMA RMA NC - LPA.
[illegible]	NCDOT
BERRY Jenkins	CAROLINAS AGC
Kym Hunter	SELC
Brooke Landon	MWC
Katy Kingsbury	BP

VISITOR REGISTRATION SHEET

JT Committee on Appropriations, Transportation 3/14/2017

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Dan Palmeter	OSBM
David Collins	SEANC
Fred Bone	Bone: Assa
Joe McClees	McClees Consulting
Starnes	OST
Joy Hicks	NCDOT
[illegible]	NCDOT
[illegible]	LGA
H. TABAICO	NCDOT

Joint Appropriations Committee on Transportation
March 15, 2017
8:30 a.m.
Room 1027/1128 LB
Minutes

The Joint Appropriations Committee on Transportation met March 15, 2017at 8:30 a.m. in Room 1027/1128 LB with five Senators and eight Reprsentatives present.

Senator Tom McInnis presided.

Senator McInnis introduced himself, the Sergeant at Arms, and Pages

Susan Tyler, Fiscal Analyst, Fiscal Research Division North Carolina General Assembly presented the Ferry Base Budget Review with questions from members.

Sterling Baker, Multimodal & Special Projects Engineer
Department of Transportation presented the Ferry overview and answered questions from members.

Senator McInnis adjourned the meeting at 10:00am.

Senator Tom McInnis
Presiding

Libby Spain (Sen. Tom McInnis)
Committee Clerk

Department of Transportation

Ferry Administration

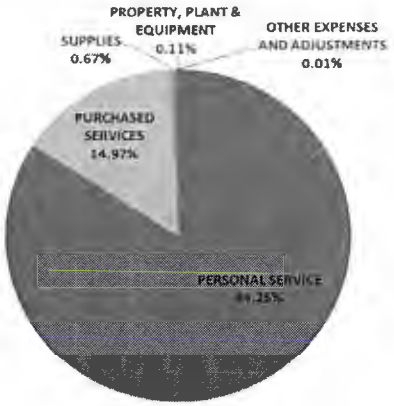
Fund Code: 7040

Purpose: The Ferry Division provides services to the traveling public in North Carolina, supporting seven permanent ferry routes and a fleet of 22 vessels across rivers and sounds throughout Eastern North Carolina. Additionally an eighth, emergency route, is activated to ensure continued access to Highway 12 when breaches along the Outer Banks impede transportation. Shown here is the administrative budget for this program.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$1,022,690	$1,097,882	$1,097,133	$ -	$1,097,133	$ -	$1,097,133
PURCHASED SERVICES	182,796	194,917	194,917	-	194,917	-	194,917
SUPPLIES	7,478	8,740	8,740	-	8,740	-	8,740
PROPERTY, PLANT & EQUIPMENT	-	1,379	1,379	-	1,379	-	1,379
OTHER EXPENSES AND ADJUSTMENTS	713	100	100	-	100	-	100
INTRA-GOVERNMENTAL TRANSFERS	-	-	-	-	-	-	-
Total Requirements	**$1,213,677**	**$1,303,018**	**$1,302,269**	**$ -**	**$1,302,269**	**$ -**	**$1,302,269**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	-	-	-	-	-	-	-
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Appropriation	**$1,213,677**	**$1,303,018**	**$1,302,269**	**$ -**	**$1,302,269**	**$ -**	**$1,302,269**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	13	13	13	0	13	0	13
Total FTE		**13**	**13**	**13**	**0**	**13**	**0**	**13**

Department of Transportation

Ferry Operations

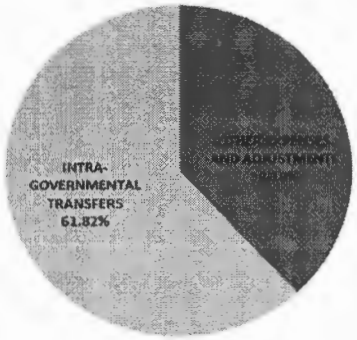
Fund Code: 7825

Purpose: Ferry Operations provides services to the traveling public and citizens of North Carolina through the operation of 22 ferries over 7 routes across rivers and sounds in coastal eastern North Carolina. Additionally an eight, emergency route, is activated to ensure continued access to Highway 12 when breaches along the Outer Banks impede transportation. Ferry Operations serves as an extension of the North Carolina highway network providing the sole access to island villages in addition to providing an alternate means of transportation and access for vehicles, bicycles, and pedestrians. This is one of two funds that support ferry operations.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
PURCHASED SERVICES	-	-	-	-	-	-	-
SUPPLIES	-	-	-	-	-	-	-
PROPERTY, PLANT & EQUIPMENT	-	-	-	-	-	-	-
OTHER EXPENSES AND ADJUSTMENTS	12,997,128	15,908,453	26,133,866	(8,500,000)	17,633,866	(8,500,000)	17,633,866
INTRA-GOVERNMENTAL TRANSFERS	26,666,766	38,772,653	28,547,240	-	28,547,240	-	28,547,240
Total Requirements	**$39,663,894**	**$54,681,106**	**$54,681,106**	**$(8,500,000)**	**$46,181,106**	**$(8,500,000)**	**$46,181,106**
PARTICIPATION REVENUE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GRANTS RECEIPTS	81,580	-	-	-	-	-	-
FEES,LICENSES & FINES	2,111,516	5,000,000	5,000,000	(2,500,000)	2,500,000	(2,500,000)	2,500,000
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 2,193,096**	**$ 5,000,000**	**$ 5,000,000**	**$(2,500,000)**	**$ 2,500,000**	**$(2,500,000)**	**$ 2,500,000**
Net Appropriation	**$37,470,798**	**$49,681,106**	**$49,681,106**	**$(6,000,000)**	**$43,681,106**	**$(6,000,000)**	**$43,681,106**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	0	0	0	0	0	0	0
Total FTE		**0**	**0**	**0**	**0**	**0**	**0**	**0**

Increase/Decrease Detail- NR Items Removed

Passenger-only Hatteras/Ocracoke Ferry and Capital Improvements	$ (6,000,000)
Revised requirements due to revised receipt projections from tolled ferry routes	$ (2,500,000)
Revised receipt projections to reflect historical averages from tolled ferry routes	$ 2,500,000
Total	**$ (6,000,000)**

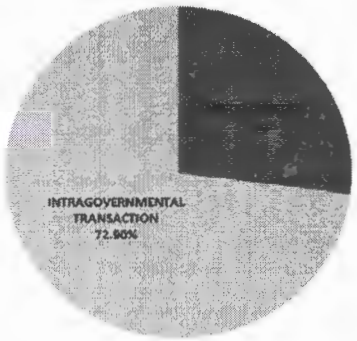
Department of Transportation

Ferry

Fund Code: 7615

Purpose: This fund supports the operational expenditures of the three ferry districts, ferry dredging operations, the ferry shipyard, and the ferry maintenance program.

Source of Funds



Expenditure of Funds



FTE		Actual	Certified	Authorized	Incr/Decr	Total	Incr/Decr	Total
Account Code	**Account Title**	**2015-16**	**2016-17**	**2016-17**	**2017-18**	**2017-18**	**2018-19**	**2018-19**
531XXX	PERSONAL SERVICES	451	452	451	0	451	0	451
Total FTE		**451**	**452**	**451**	**0**	**451**	**0**	**451**

2016-17 Session Significant Budget Actions- Money Items

- Established recurring funding for a new system-wide reserve account for the replacement of ferry vessels, $4,000,000 R.
- Provided $6,000,000 non-recurring funding to initiate passenger-only service between Hatteras and Ocracoke, for capital improvements to the North Carolina Shipyard, and for the reconstruction or rehabilitation of terminal ramp, gantry, and bulkhead infrastructure.

2016-17 Session Significant Budget Actions- Special Provision

- S.L. 2016-35.1 (a) amended G.S. 136-82 to continue the collection of tolls on currently tolled routes and prohibits the future imposition of tolls on routes which are currently toll-free, except for the new Hatteras-Ocracoke passenger-only route. Established a systemwide reserve account for ferry replacement vessels and authorizes the Ferry Division to charge $150 for priority boarding passes for commercial vehicles.
- S.L. 2016-35.1 (b) authorized the use of $6 million in non-recurring funds for terminal infrastructure and capital improvements, including up to $3.7 million to initiate the passenger-only service between Hatteras and Ocracoke. Additionally, $4 million recurring is directed to the new systemwide reserve account for vessel replacement.

2017-20 Session Significant Issues

- Ferry Division's narrow application of STI Law.
- Accumulation of money in route-based reserves.
- Hatteras/Ocracoke passenger-only ferry.
- Vessel rehabilitation program (internal vs. external).

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FERRY DIVISION MONTHLY UPDATE REPORT FOR JAN 2017

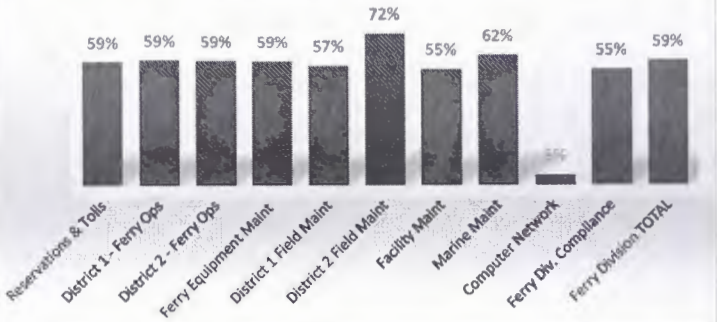
Ridership (Vehicles)

Ferry Routes	CY17 JAN	CY16 JAN	DELTA	FY17 YTD	FY16 YTD	DELTA
Currituck - Knotts Island	945	1,173	-19.4%	10,404	11,580	-10.2%
Hatteras - South Dock	5,955	6,394	-6.9%	144,123	152,081	-5.2%
Swan Quarter - Ocracoke	1,392	1,256	10.8%	19,382	19,887	-2.5%
Cedar Island - Ocracoke	1,321	1,214	8.8%	26,639	27,455	-3.0%
Aurora - Bayview	3,742	4,040	-7.4%	28,992	29,102	-0.4%
Cherry Branch - Minnesott	13,065	13,197	-1.0%	112,753	111,107	1.5%
South Port - Fort Fisher	9,859	10,070	-2.1%	114,616	113,352	1.1%
Emergency Ferry Rt.			N/A			N/A
Monthly Total	36,279	37,344	-2.9%	456,909	464,564	-1.6%
Schedule Maintained	94.3%	97.9%	-3.7%	95.9%	95.1%	0.8%

Budget (Operations & Maintenance)

Departments	FY2017 Spending Plan	FY17 Expenditures through JAN 2017
Reservations & Tolls	$ 560,435.00	$ 328,687.95
District 1 - Ferry Ops	$ 11,206,342.00	$ 6,664,320.49
District 2 - Ferry Ops	$ 8,755,690.00	$ 5,173,658.24
Ferry Equipment Maint	$ 13,365,661.00	$ 7,866,732.89
District 1 Field Maint	$ 589,121.00	$ 335,054.25
District 2 Field Maint	$ 495,918.00	$ 356,522.13
Facility Maint	$ 492,364.00	$ 271,695.64
Marine Maint	$ 1,205,432.00	$ 744,482.92
Computer Network	$ 3,757.00	$ 191.07
Ferry Div. Compliance	$ 1,650,280.00	$ 907,904.85
Ferry Division TOTAL	$ 38,325,000.00	$ 22,649,250.43

Percent of Planned Budget Spent



Status of Capital Reserves Funds

Routes	WBS	WBS Balance as of	JAN 2017
FER Sys Cptl All Routes	16SP.501.1	$	64,628.00
FER D1 Currituck-Knotts Island Cap Reserve	16SP.511.1	$	26,074.08
FER D1 Hatteras Inlet Cap Reserve	16SP.512.1	$	194,385.89
FER D1 Swan Quarter - Ocracoke Island Cap Reserve	16SP.513.1	$	1,503,321.92
FER D1 Ocracoke Island of OI-Cedar Island Cap Reserve	16SP.514.1	$	1,374,594.56
FER D2 Pamlico River Route Cap Reserve	16SP.521.1	$	28,969.06
FER D2 Cherry Branch - Minnesott Beach Cap Reserve	16SP.522.1	$	146,820.32
FER D2 Cedar Island of OI - Cedar Island Cap Reserve	16SP.523.1	$	1,374,594.61
FER D3 South Port - Fort Fisher Cap Reserve	16SP.531.1	$	3,088,758.66
FER Shipyard Capital Reserve	16SP.43	$	1,430,068.46
Total		$	-

Missed Trips Summary for Month Reporting

Ferry Routes	Scheduled	Missed	A	B	C	D
Currituck - Knotts Island	352	74	74	0	0	0
Hatteras - South Dock	2,160	0	0	0	0	0
Swan Quarter - Ocracoke	186	22	20	2	0	0
Cedar Island - Ocracoke	186	20	18	0	2	0
Aurora - Bayview	434	43	30	13	0	0
Cherry Branch - Minnesott	1,654	133	133	0	0	0
South Port - Fort Fisher	868	42	31	11	0	0
Monthly Total	**5,840**	**334**	**306**	**26**	**2**	**0**

Missed Trips Legend: A-Weather, B-Mechanical, C-Inspections, D-Other

Shipyard Capital Reserve Brief

Expenditures	JAN 2017	Cumulative
16SP.43.1	$16,522.00	$375,804.22
Receipts	**JAN 2017**	**Cumulative**
16SP.43.2	$224.69	$1,703,618.70

Commitment Line Items	Value
Dessicant Dryer Package (Air Power)	$53,545.34
Heavy Duty Mobility Gear - multiple	$105,264.81
Undergound bores-materials (Contracted)	$13,374.27
Machining tools	$58,902.00
Ultra High Pressure Units	$195,302.00
Total Commitments	**$426,388.42**

Upcoming priorities	Estimate
Water tower restoration	$500,000.00
Replace 30 year old chiller system	$100,000.00

Pending Receipts	Amount

Updates or Comments

AIS / Radar (Port Security Grant) 9 of 28 done (32%) on schedule - target date 8/31/18.

Security Gate at Aurora (Port Security Grant) purchasing stage

VOIP Phone Systems (Division wide transition to DIT - Enterprise Managed Service

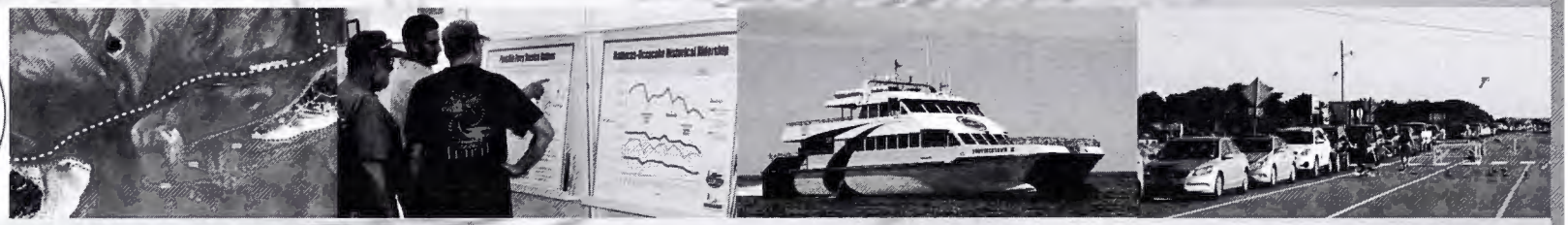
Visual Alert Messaging System - ADA

(New Freedom Funds- five (5) vessels - on schedule

NORTH CAROLINA FERRY SYSTEM

NC Nothing Compares NORTH CAROLINA

Report of the Ocracoke-Hatteras Passenger Ferry Feasibility Study



Passenger Ferry Feasibility Study
OCRACOKE-HATTERAS

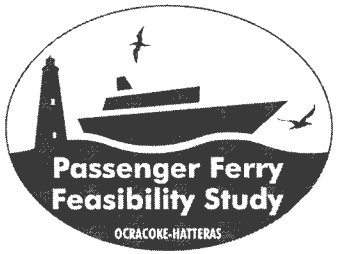
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA FERRY SYSTEM

VOLKERT ATKINS ITRE







Acknowledgements

The study team would like to offer our sincere thanks to the following groups for their assistance with the development of this study:

North Carolina Department of Transportation (NCDOT) Ferry Division
NCDOT Highway Division 1
NCDOT Bicycle and Pedestrian Division
NCDOT Public Transportation Division
NCDOT Transportation Planning Branch
North Carolina Department of Cultural Resources
Graveyard of the Atlantic Museum
Hyde County
Dare County
National Parks Service
United States Coast Guard
Ocracoke Civic and Business Association
The residents of Hatteras and Ocracoke Villages

Study Team

VOLKERT

Volkert
Will Letchworth, PE – Project Manager
Wally Bowman, PE
Lacy Love, PE
Courtney Love, EI
Doug Petry
Cade Bowman
Sarah McCauley
Lisa Brockmeier

ATKINS

Mark Boggs, PE
Bill Barlow
Steve Pophal, PLA
Larry Levis, AIA
Jim Trogdon, PE

ITRE

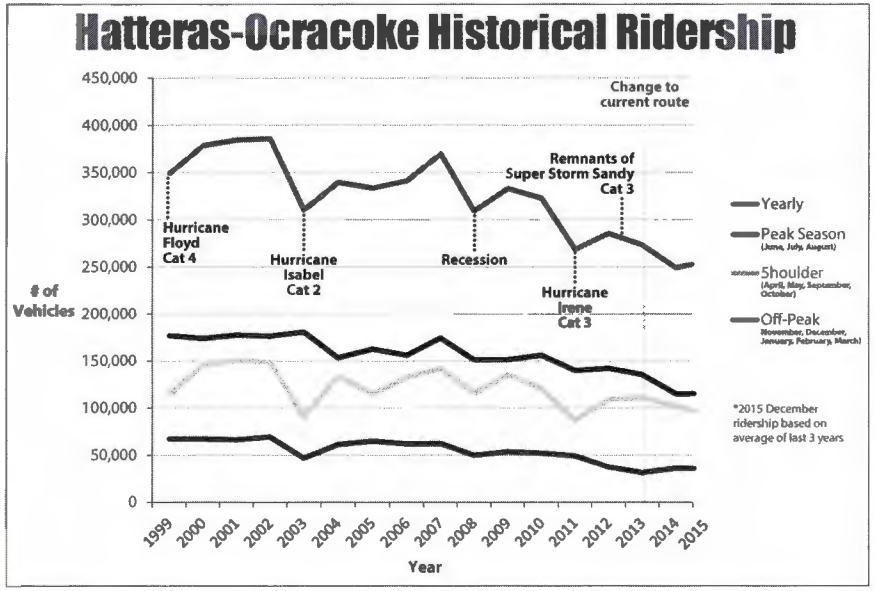
Daniel Findley, PhD, PE
Tracy Anderson
Steven Bert

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Executive Summary

In 2013, shoaling in the Hatteras Inlet forced the North Carolina Department of Transportation Ferry Division (Ferry Division) to use a longer, deeper route between Hatteras and Ocracoke, which increased crossing times from approximately 40 minutes on the original short route to 60 minutes on the current long route. The impacts of using the longer route have been dramatic–decreasing daily crossings in each direction to from 53 to 36, increasing fuel and labor costs, creating long queues at the ferry terminal, and making it extremely difficult for visitors to the Outer Banks to make a day trip to Ocracoke. Local business owners have indicated that many have seen a 20 to 25 percent loss in revenue, which most attribute to fewer "day-trippers." The projected loss of between 31,000 and 50,000 visitors to Ocracoke in the peak months could be attributed to the lower levels of service caused by the longer route.



The purpose of this study is to examine the feasibility of options to meet the current and forecasted demand for visitors to Ocracoke and to increase the level of service on the Hatteras-Ocracoke route. Aided by a steering committee consisting of NCDOT and local representatives, the ferry study team identified five alternatives for improving ferry services between Hatteras and Ocracoke:

1. Return to the original route
2. Increased departures on the current route
3. Encouragement of walk-on traffic on current ferries
4. Passenger ferry to South Dock
5. Passenger ferry to Silver Lake

The analysis of each alternative was based on a myriad of data sources. The Ferry Division provided information on current vessels and their characteristics, crew requirements, historical yearly, monthly, and daily ridership data, and access to all Ferry Division facilities for assessment by the study team. The study team surveyed local businesses owners via an online survey, implemented a passenger survey on Thursday, June 11th through Sunday, June 14th, and collected wait time and turnaround data on June 11th and June 13th. The Ferry Division also arranged a trial run of the Provincetown III, a 149-passenger diesel-powered catamaran, to test the operating characteristics of the vessel in the waters between Hatteras and Ocracoke. The analysis was guided by a series of five steering committee meetings and two public meetings.



Alternative 1: The study team found that returning to the original route is problematic due to the unstable channel and limited funds for dredging. The team recommends that the Ferry Division continue to monitor the channel and pursue returning to the original route if environmental conditions change.



Alternative 2: To return to 2012 departure levels, the Ferry Division would need to add 17 departures to the current schedule, which represents three additional vessels and $45 million in capital costs, and would add additional vessels to the already congested channel.



Alternative 3: The Ferry Division would need to add 50,000 passengers per year one way to get back to 2012 levels, and the current vessels have limited passenger amenities to support pedestrian-only travelers. It is feasible to place charter buses on existing vessels to increase the passenger capacity of each run, with the charter buses picking up travelers at the Hatteras Terminal and discharging passengers in Ocracoke Village. This alternative would require terminal improvements at Hatteras and Sliver Lake. The study team considers this to be a feasible option but recognizes that passenger demand would likely be much lower than a passenger ferry, as it is a less attractive and convenient service.



Alternative 4: A passenger ferry to south dock would involve operating one or more dedicated passenger ferries along the existing Hatteras-Ocracoke Route. Additional terminal facilities would be needed at the Hatteras and South Dock terminals. The trial run of the Provincetown III indicated that this route would not take advantage of the vessel's speed, resulting in a similar crossing time to the current vehicle ferry. This option would also create concerns with additional vessels in the current channel and would require a lengthy transit connection to Ocracoke Village.



Alternative 5: A single passenger ferry has the capability of returning passenger counts to 2010 levels and passengers can be moved between Hatteras and Ocracoke at a much cheaper per-passenger cost than on a vehicle ferry. The option of running to Silver Lake separates the passenger ferry traffic from the vehicle ferry traffic, increasing safety. Based on the survey and wait time data, the study team estimates that 25% of current ferry riders would take the passenger ferry and would be willing to pay approximately $15 per round trip for the service. This option would require terminal improvements at Hatteras and Ocracoke and transit infrastructure to accommodate passengers without cars. Based on the economics of operating the passenger ferry and the strong public support for the ferry, the steering committee recommended that this option be studied further.

Based on the steering committee's recommendation, the study team performed a comprehensive analysis of a passenger ferry, examined the potential ridership and revenue, and developed recommendations for vessels, staffing, and infrastructure. The study team recommends the following:

Recommendations Summary

In summary the study team recommends the following:

- **Two approximately 100-passenger ferries** capable of cruising at approximately 25 knots.
- Using **Rollinson Channel** to access the Pamlico Sound and **Big Foot Slough** to access Silver Lake.
- **Eight round trips per day** with the first departure from Hatteras at 8:00 AM with the last departure from Ocracoke at 8:30 PM May through September.
- A **$15 round trip fare** per passenger.
- **Online and application-based ticketing.**
- Construction of an **open-sided terminal immediately adjacent to the existing Hatteras Terminal.**
- **Parking and passenger drop off** in the existing lot adjacent to the Hatteras Terminal. **Additional parking** located in the existing Graveyard of the Atlantic Museum parking or in a newly constructed lot adjacent to this facility with shuttle service to the Hatteras Terminal.
- **A system of signage**, including a variable message sign, at the approach to the Hatteras Terminal.
- **A floating platform** that allows for berthing of two vessels and side loading/unloading at Hatteras and Ocracoke.
- **Ocracoke docking** immediately adjacent to the existing Sound Class ferry docks.
- **A temporary terminal** located immediately adjacent to the National Parks Service Ocracoke Visitors Center.
- **A permanent terminal** in this same location that will accommodate the Ferry Division, NPS, and Hyde County.
- **A comprehensive signing package** to disperse passengers from the Ocracoke Terminal.
- **A loop transit system on Ocracoke** with 20-30 minute headways.
- **An LTV transit system** to connect the Ocracoke Terminal with the South Dock terminal and provide access to attractions outside of Ocracoke Village.
- **Pedestrian improvements** in the curve along NC 12 just south of Water Plant Road.
- **Coordination with local businesses** to provide golf cart and bicycle rental.

Based on these recommendations, the study team developed a 25-year implementation time frame that calls for an initial two-vessel service with an expansion to additional vessels in Year 5 and Year 12, and developed a 20-year business plan of capital and operating costs that include approximately $8.35 million in capital and vessel procurement costs in Years 1 and 2 to begin service, which would carry an annual ridership of approximately 74,800 round-trip passengers.

In summary, the study team finds that a passenger ferry between Hatteras and Ocracoke provides the capacity to return ridership to the levels seen before the switch to the current long route, and can do so at a significantly lower cost to the Ferry Division than through the use of vehicle ferry. With appropriate infrastructure on Hatteras and Ocracoke, many visitors to the island can accomplish their trip without the need for a vehicle, which will provide environmental benefits, increase safety on the island by removing cars, and increase the economic vitality of the island.

Introduction

Eastern North Carolina's seemingly endless landscape of rivers, inlets, and sounds have meant that maritime transportation has been a part of life as long as people have lived here. The current North Carolina Ferry System traces its roots back to the mid-1920s, when Captain J.B. "Toby" Tillett began a tug and barge service across Oregon Inlet.

In 1934, the North Carolina Highway Commission began subsidizing Tillett's business in order to keep tolls affordable to the ever-increasing number of residents and visitors in the area. Beginning eight years later, the Highway Commission fully reimbursed Tillett in order to eliminate the tolls. This continued until Tillett's business was sold to the state in 1950.

The first "official" route of the North Carolina Ferry System (NCFS) was established in 1947, when a private ferry across Croatan Sound between Manns Harbor and Roanoke Island was purchased from T.A. Baum.

Today, the NCFS runs 2 boats on seven regular routes across five bodies of water: Currituck and Pamlico Sounds, and the Cape Fear, Neuse, and Pamlico Rivers. North Carolina ferries transport about 850,000 vehicles and two million passengers a year, making it the second largest state-run ferry system in the United States, carrying visitors, residents, commuters, and school children. Two of the routes (Hatteras-Ocracoke and Ocracoke-Cedar Island) are officially part of The Outer Banks Scenic Byway.

Coastal North Carolina is a unique place. Once a remote region whose waters were home to both pioneers and pirates, the Outer Banks is now a place famous for sunny stretches of sandy beaches, world-class fishing, charming coastal towns, and remarkable scenic beauty. The NCDOT Ferry System makes this area much more accessible for visitors. The island village of Ocracoke has no roadway accessibility and can only reached by air or water. Scheduled water transportation to the island is provided exclusively by the NCFS. The increased ease of access provided by the NCFS to these otherwise remote coastal North Carolina areas has allowed tourism on the Outer Banks to thrive.



Purpose of This Study

In 2013, shoaling in the Hatteras Inlet forced the North Carolina Department of Transportation Ferry Division (Ferry Division) to use a longer, deeper route between Hatteras and Ocracoke, which increased crossing times from approximately 40 minutes on the original short route to 60 minutes on the current long route. While the Ferry Division is continuing to work with the Army Corps of Engineers to dredge the original channel, efforts since 2013 to permanently open the channel have been futile.

The impacts of using the longer route have been dramatic. The number of daily crossings in each direction has decreased to 36, down from 53 when the short route was in use. During most of the summer of 2014, only six vessels were available, meaning that any downtime directly affected schedules, as there was no backup vessel. The longer route also added an additional $7,000+ in fuel and labor costs per day. The M/V Ocracoke was recently reintroduced into service after an engine refit, which added a backup vessel, however the number of berthing facilities and the width of the channel limit the total number of vessels that can be made available to the route. The reduction in total number of crossings has severely decreased the level of service on the Hatteras–Ocracoke route, the most heavily used route in the NCFS, and has drastically reduced the opportunity for visitors to the Outer Banks to make a day trip to Ocracoke.

Discussions with local business owners have indicated that many have seen a 20 to 25 percent loss in revenue, which most attribute to fewer "day-trippers" due to decreased ferry service.

The purpose of this study is to examine the feasibility of options to meet the current and forecasted demand for visitors to Ocracoke and to increase the level of service on the Hatteras–Ocracoke route. This study examines the economic and fiscal impact of ferry-related activities and forecasts demand and revenue for the Hatteras–Ocracoke route utilizing a system of vehicle and, potentially, passenger ferries. This study examines land and waterside options for providing a passenger ferry and provides capital and O&M costs over a 20-year time period for assets that would be developed and owned by NCDOT as well as assets that would need to be provided by local governments and private entities to ensure the success of the recommended option. The study provides guidance on implementation strategies, including any legislative changes that would need to be made, and provides prioritized recommendations in a 20-year business plan. The development of this plan was guided by a steering committee, composed of NCDOT staff, a diverse stakeholder committee of local governments and regulatory agencies, and the public by way of a robust public involvement program.

Vehicles queued to board the ferry at Hatteras

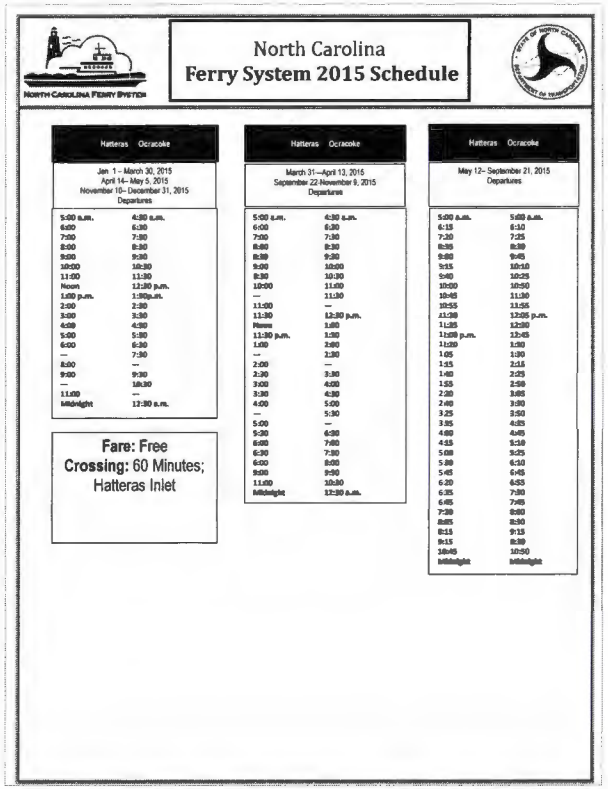


1. Context

This portion of the report details the existing conditions surrounding the current Hatteras – Ocracoke ferry route. It covers current and historical ridership data, user profiles based on a ridership survey conducted by the study team, results from a wait time analysis at the Hatteras ferry terminal, details on infrastructure at the Hatteras and Ocracoke terminals, environmental conditions in the ferry operating areas, the economic contribution of the ferry operations to the local economy, information on operating costs, a review of existing plans, and an analysis of peer systems.

A. Schedules

The Ferry Division currently varies the Hatteras-Ocracoke schedule seasonally, reflecting ridership demand, with fewer departures during the winter months and greater departures during the summer months. The summer schedule utilizes a fleet of 6 vessels to provide 36 round trips



North Carolina
Ferry System 2015 Schedule

Hatteras	Ocracoke
Jan 1 – March 30, 2015 April 14– May 5, 2015 November 10– December 31, 2015 Departures	
5:00 a.m.	4:30 a.m.
6:00	6:30
7:00	7:30
8:00	8:30
9:00	9:30
10:00	10:30
11:00	11:30
Noon	12:30 p.m.
1:00 p.m.	1:30p.m.
2:00	2:30
3:00	3:30
4:00	4:30
5:00	5:30
6:00	6:30
---	7:30
8:00	---
9:00	9:30
---	10:30
11:00	---
Midnight	12:30 a.m.

Fare: Free
Crossing: 60 Minutes; Hatteras Inlet

Hatteras	Ocracoke
March 31—April 12, 2015 September 22 November 9, 2015 Departures	
5:00 a.m.	4:30 a.m.
6:00	6:30
7:00	7:30
8:00	8:30
8:30	9:30
9:00	10:00
9:30	10:30
10:00	11:00
---	11:30
11:00	---
11:30	12:30 p.m.
Noon	1:00
11:30 p.m.	1:30
1:00	2:00
---	2:30
2:00	---
2:30	3:30
3:00	4:00
3:30	4:30
4:00	5:00
---	5:30
5:00	---
5:30	6:30
6:00	7:00
6:30	7:30
6:00	8:00
9:00	9:00
11:00	10:30
Midnight	12:30 a.m.

Hatteras	Ocracoke
May 12– September 21, 2015 Departures	
5:00 a.m.	5:00 a.m.
6:15	6:10
7:20	7:25
8:35	8:30
9:00	9:45
9:15	10:10
9:40	10:25
10:00	10:50
10:45	11:30
10:55	11:55
11:30	12:05 p.m.
11:35	12:30
11:50 p.m.	12:45
11:20	1:30
1:05	1:30
1:15	2:15
1:40	2:25
1:55	2:50
2:30	3:05
2:40	3:30
3:25	3:50
3:35	4:05
4:00	4:45
4:15	5:10
5:00	5:25
5:30	6:10
5:45	6:45
6:20	6:55
6:35	7:30
6:45	7:45
7:30	8:00
8:05	8:50
8:15	9:15
9:15	8:30
10:45	10:50
Midnight	Midnight

B. Ridership

Figure B-1 illustrates the historical vehicular loadings on the Hatteras – Ocracoke route from 1999 to 2014, including the loadings for each of the three seasons. Key events that caused a decrease in ridership include:

- September 1999, Hurricane Floyd, Category 4 hurricane
- September 2003, Hurricane Isabel made landfall on the Outer Banks as a Category 2 hurricane
- November 2011, remnants of Hurricane Irene (August 2011), Category 3 hurricane
- November and December 2012, remnants of Super Storm Sandy (October 2012), Category 3 hurricane

This data shows a steady decline in Hatteras-Ocracoke ridership of approximately 20 percent from 1999 to 2012.

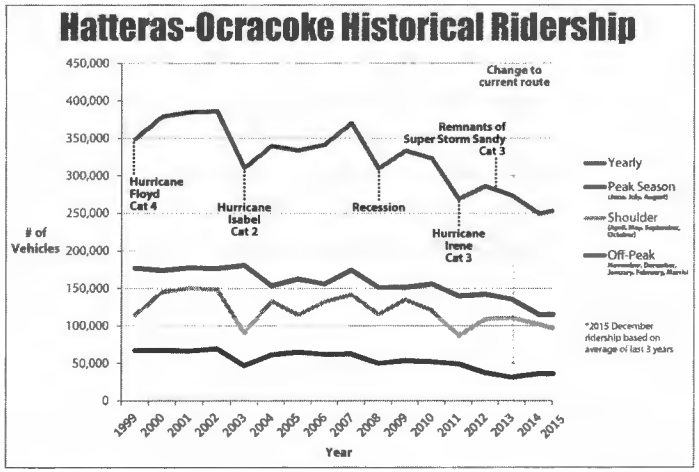
While this data indicates that overall ridership on the Hatteras-Ocracoke ferry has been decreasing, this overall decrease is consistent with the general trend of decreasing ridership on the ferry system. In the late 90s and early 2000s the ferry system was carrying between 1 and 1.2 million vehicles per year, but has now decreased to approximately 815,000 vehicles per year.

A more telling indicator of the effects of the switch to the longer route is the peak season ridership. This time period is most affected by the decrease in capacity, when many of the ferries are running with a full load during a large portion of the day. Between 2009 and 2013, ferry ridership decreased approximately 2.2 percent per year. Therefore, if the original route was being utilized in 2014 and 2015, the following volumes could be expected in the months of June, July, and August:

Year	Expected (vehicles)	Actual (vehicles)	Difference
2014	132,385	114,938	17,447
2015	129,459	118,532	10,927

The Ferry Division reports an average of 2.9 passengers per vehicle during the peak months, therefore this represents a loss of between 31,000 and 50,000 visitors to Ocracoke just during the peak months that could be attributed to the lower levels of service caused by the longer route.

Figure B-1



B. Ridership (continued)

Figures B-2 and B-3 show monthly vehicle and passenger ridership for the 2014-2015 fiscal year. The seasonality of traffic, particularly the difference in off-peak and peak ridership, is very apparent when viewing ridership at this level .

Figure B-4 shows passenger ridership for July of 2015. Of note in this figure is the variation in weekdays. This variation is primarily due to the schedule for rental properties in Hatteras. Turnover in rentals occurs on Saturday, so the majority of day trips occur several days after visitors to Hatteras arrive. Similarly, ridership declines on Friday, the day before checkout.

Figure B-2

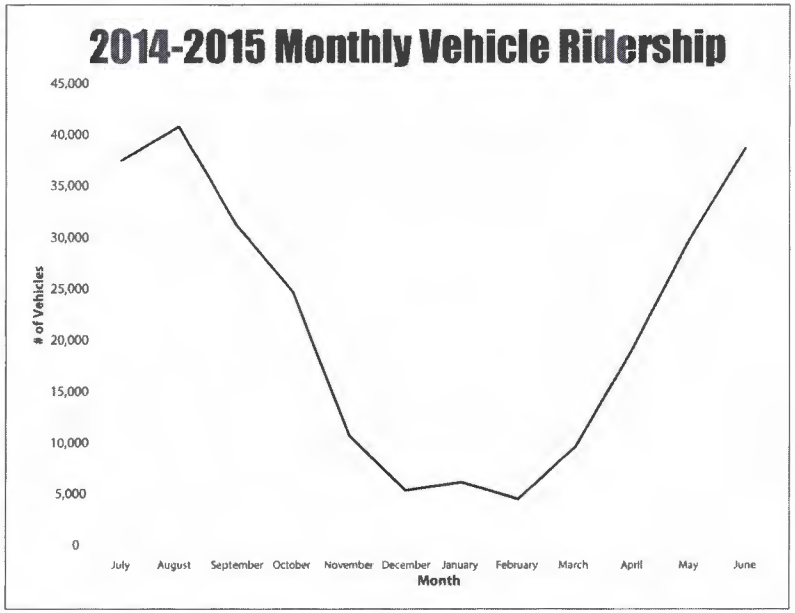


Figure B-3

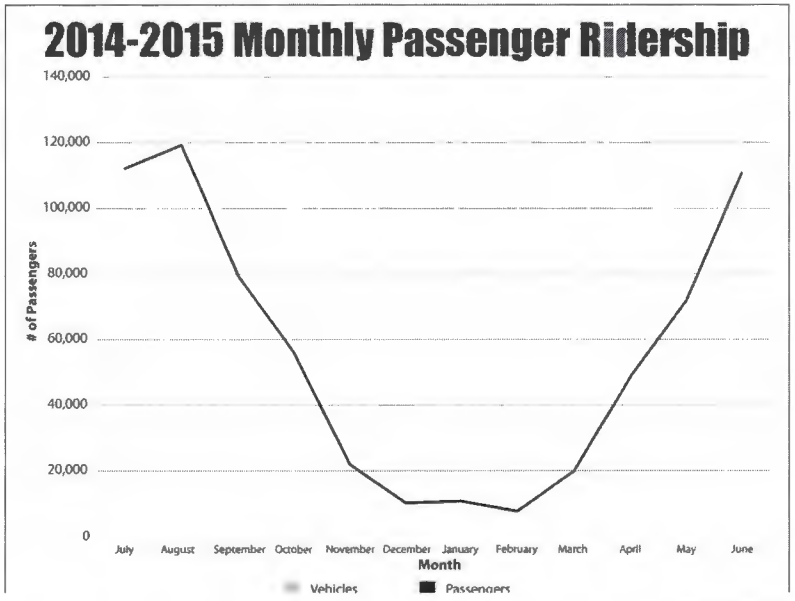
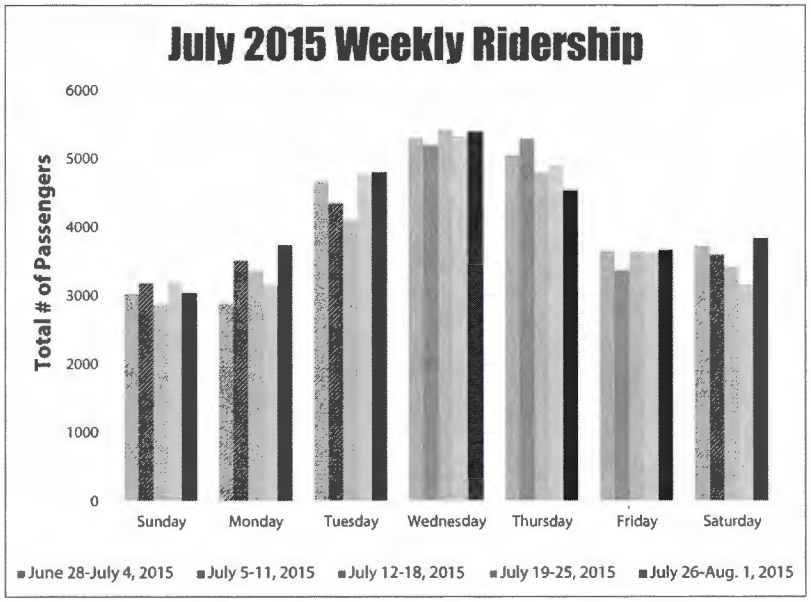
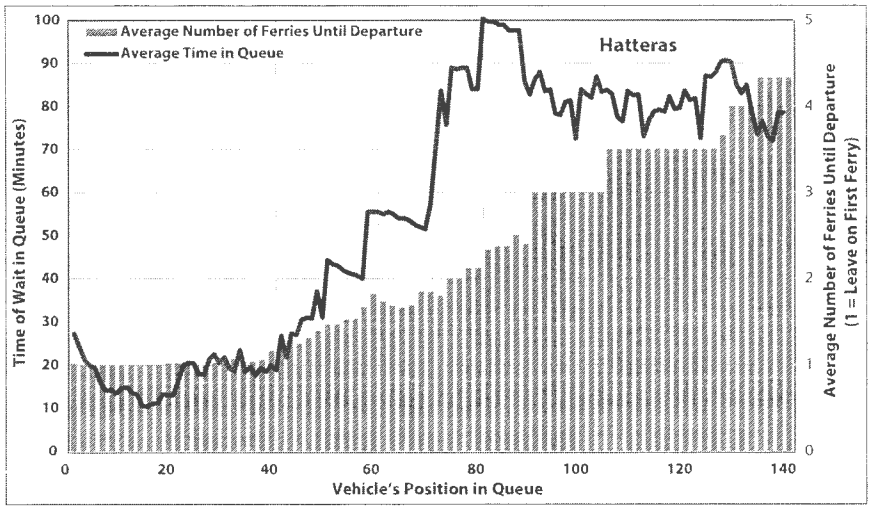


Figure B-4



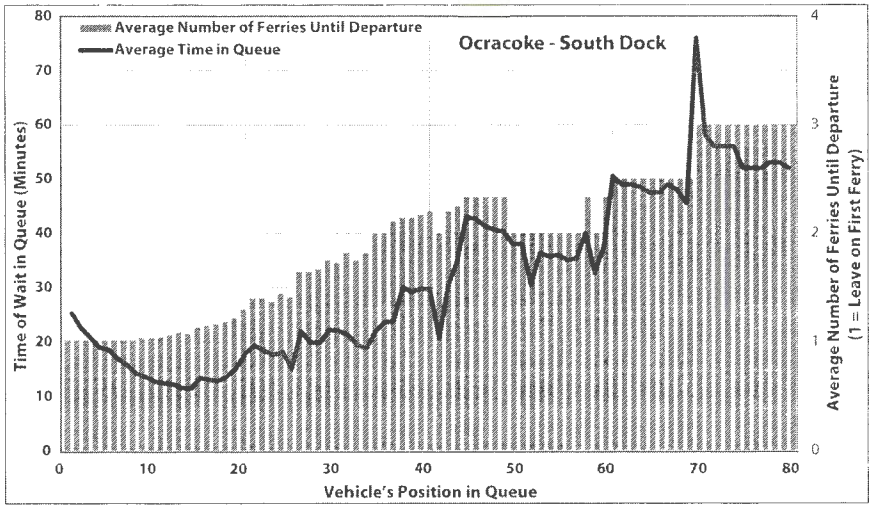
C. Wait Times and Unmet Demand

Figure C-1: Wait Time and Ferry Departures based on Vehicle Position in Queue at Hatteras



Source: ITRE

Figure C-2: Wait Time and Ferry Departures based on Vehicle Position in Queue at Ocracoke



Source: ITRE

Wait Time Study on Hatteras-Ocracoke Passenger Ferry Route

Wait times

A wait time study was conducted at each terminal on the Hatteras-Ocracoke route from June 11 to June 13, 2015 (6:30 AM on June 11 to 5:30 PM on June 13). For this study, the project team determined the wait time for each vehicle entering the queue at the terminals and evaluated how a vehicle's position in line would affect its wait time to board a ferry. The data demonstrated that a vehicle's initial number in the queue can be multiplied by 45 seconds to determine that vehicle's expected wait time (excluding the first dozen vehicles which are governed by their arrival time; R-squared of 0.87). For instance, vehicle 60 can expect to wait 45 minutes (60 vehicles x 45 seconds per vehicle).

The research team also analyzed how many ferries that vehicle would be required to wait for prior to making it through the line and getting onboard. Figure C-1 depicts the average wait time a vehicle experiences in the queue, based on its position. The blue line (on the left vertical axis) shows the average time in queue, while the vertical bars (on the right vertical axis) show the average number of ferries until departure. The exhibit also shows the average number of ferries a visitor sees depart before getting onboard.

An example of the details shown in the graph for vehicle number 100 (the 100th vehicle to enter the back of the waiting queue at the terminal) predict that the vehicle could expect to wait approximately 80 minutes before boarding a ferry and would likely depart on the third ferry. Figure C-2 displays similar information for Ocracoke's South Dock facility.

Unmet Travel Demand

During peak season there is sometimes a demand by tourists wishing to travel to Ocracoke that goes unmet by the current level of ferry service provision. This results in longer wait times and, in some instances, tourists abandoning their travel plans to visit Ocracoke. Among the 1,850 vehicles recorded at Hatteras waiting for the ferry to Ocracoke, 41 vehicles (2.2 percent) left the queue. Over the course of peak season in 2014, 57,428 vehicles traveled to Ocracoke from Hatteras. Assuming 2.2 percent of the total vehicles abandoned their trip (as demonstrated in the data collected) this results in approximately 1,273 vehicles not making the trip.

Approximately 9% of vehicles left the queue at Hatteras during the peak times. This loss of ridership directly results in lost visitor spending on Ocracoke.

However, the peak periods experience much higher wait times than off-peak times of the day. A total of 398 vehicles were present during the peak hours at Hatteras (Thursday from 8:55 AM to 2:25 PM). During that time period 37 vehicles (9.3 percent of the total) turned around and left the ferry terminal or left the queue. The queue spilled back beyond the range of the video cameras during a portion of the morning period, so the estimate of vehicles turning around is conservative. This loss of ridership directly results in lost visitor spending on Ocracoke.

D. Economic Activity

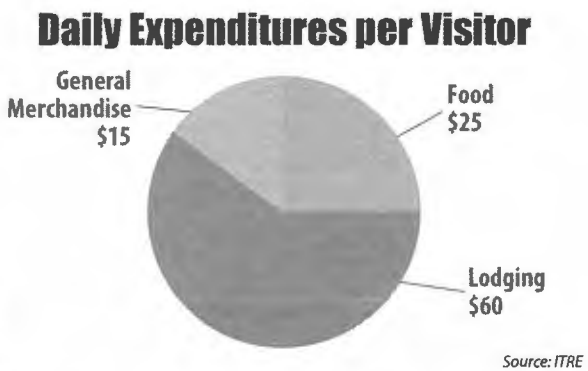
Introduction

North Carolina's Ferry Division is a key facilitator for economic activity in coastal communities. North Carolina ferries transport approximately 850,000 vehicles and two million passengers a year, making it the second largest state-run ferry system in the United States carrying visitors, residents, commuters, and school children.[1] The NCFS provides critical support for Ocracoke's economy, as the island is not served by any roads connecting to the mainland and transportation to the island is provided almost exclusively by ferry. There are three ferry routes that provide service to Ocracoke (Hatteras, Swan Quarter, and Cedar Island) with the Hatteras route transporting the majority of passengers (approximately 80 percent) to the island in 2014.

Economic Activity Supported

Ocracoke requires predictable and consistent ferry service to maintain a stable economy, and determining the relationship between ferry service provision and Ocracoke's economic activity was a component of this study. To estimate how ferry service supports economic activity, visitors using the Hatteras route were surveyed for their spending habits on Ocracoke Island and in the region. This route was chosen for surveys because it transports the vast majority of visitors to the island and is the focus of the overall study. Visitors were asked about lodging, food, and general merchandise expenditures that they may have made during their trip to Ocracoke. As Figure D-1 illustrates, the following daily expenditures were made by each person on average during the peak season:

Figure D-1



Source: ITRE

- $25 for food
- $60 for lodging
- $15 for general merchandise

Tourism expenditures directly support many businesses on the island and also contribute general economic activity for the larger economy of the island of Ocracoke. For example, an expenditure made at a restaurant directly supports wait staff earnings, indirectly supports the earnings of suppliers of food and beverages sold at that restaurant, and if the wait staff or food and beverage suppliers spend their earnings, it helps support the earnings of other workers on the island. For this study, survey data was paired with NCDOT ridership data and input into the Transportation Economic Development Impact System (TREDIS) to estimate the economic activity at the county level supported through tourism expenditures. Tourism expenditures supported approximately 850 jobs, $20 million in earned wages, and $32 million gross regional product for Hyde County in 2014 (see Figure D-2). In comparison, Hyde County's economy in 2014 consisted of approximately 2,230 jobs, $47.7 million in wages, and $58.4 million in gross regional product. [2]

Figure D-2: Hyde County Economic Activity Supported by Ocracoke Tourism Expenditures in 2014

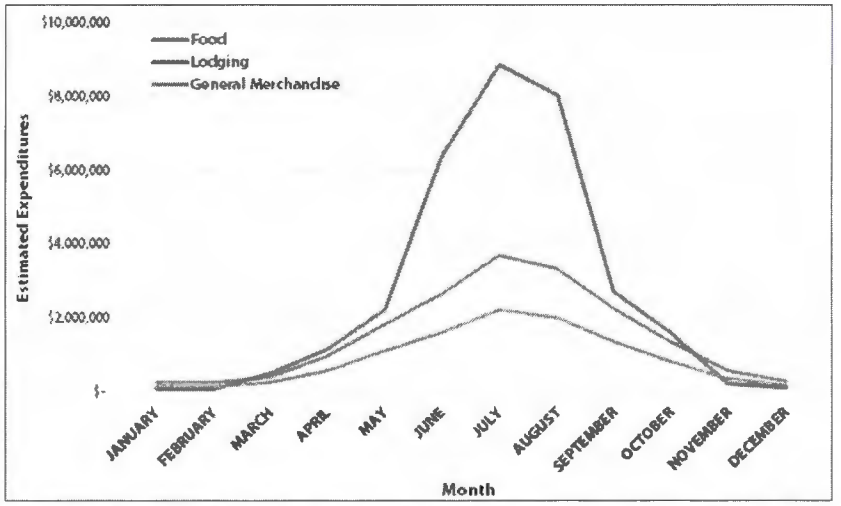
Jobs	Wages	Gross Regional Product
850	$20 million	$32 million

Source: TREDIS

Seasonality

Ocracoke island experiences "peak", "shoulder", and "off-peak" tourist seasons, where economic activity is greatest during peak season and lowest during off-peak season. Figure D-3 shows how seasonality affects the island's economic activity.

Figure D-3: Estimated 2014 Tourism Expenditures by Month



During peak season (June-August), food, lodging, and general merchandise expenditures were estimated to be approximately $38.9 million; during shoulder season (March-May and September-October) expenditures were approximately $19.2 million; and during off-peak season (November-February) expenditures were approximately $2.7 million.

As discussed in the previous section, assuming that 2.2 percent of vehicles totally abandoned their trip, this results in approximately 1,273 vehicles not making their trip, or approximately 3,700 people, which equates to approximately $370,000 in lost tourism expenditures over the course of a season just from visitors who arrived at the terminal planning to go to Ocracoke and then decided not to make the trip.

[1] "About the Ferry Division," NCDOT, http://www.ncdot.gov/ferry/about/ [2] North Carolina Department of Commerce employment levels were used as inputs into TREDIS.

E. Vessels



The NCFS's 21 vessels consist of five Sound Class vessels that serve the two longest ferry routes:

1. Cedar Island – Ocracoke
2. Swan Quarter – Ocracoke

Nine River Class vessels serve four river crossings:

1. Currituck – Knotts Island
2. Bayview – Aurora
3. Cherry Branch – Minnesott Beach
4. Southport – Fort Fisher

Seven vessels serve the Hatteras – Ocracoke route.

Sound Class vessels have a vehicle capacity of approximately 50 vehicles, River Class vessels have a vehicle capacity of approximately 40 vehicles, and Hatteras class vessels have a vehicle capacity of approximately 30 vehicles. Hatteras and River Class vessels are often used interchangeably on the Hatteras-Ocracoke ferry route based on demand. The vessel names, classification, and ages are listed at right.

	Name	Age (years)	Capacity (vehicles)
Sound Class			
	Silver Lake	50	50
	Carteret	26	50
	Cedar Island	21	50
	Swan Quarter	4	46
	Sea Level	3	50
River Class			
	Governor James B. Hunt	31	20
	Governor Daniel Russell	22	38
	Southport	19	38
	Neuse	17	38
	Floyd Lupton	16	38
	Ft. Fisher	15	38
	Stanford White	12	38
	Croatoan	12	38
	Hatteras	9	38
Hatteras Class			
	Kinnakeet	26	26
	Ocracoke	25	26
	CapePoint	25	26
	Chicomacomico	25	26
	Frisco	25	26
	Roanoke	22	26
	Thomas Baum	20	26



River Class Ferry

Hatteras Class Ferry





Sound Class Ferry

F. Facilities

Shipyard

The Manns Harbor shipyard is the largest state-owned and operated shipyard in the U.S. and is located on 17.25 acres along the Croatan Sound in Manns Harbor, NC. The shipyard is totally self-sufficient with its own electrical generating power plant and water system, and has the capabilities to work around the clock in any weather conditions. The shipyard is capable of conducting all maintenance, from basic dry docking to making any repairs required to meet U.S. Coast Guard regulations. The facility can also paint a vessel from top to bottom.

F. Facilities (continued)





Walkway to Hatteras Landing



Hatteras Terminal

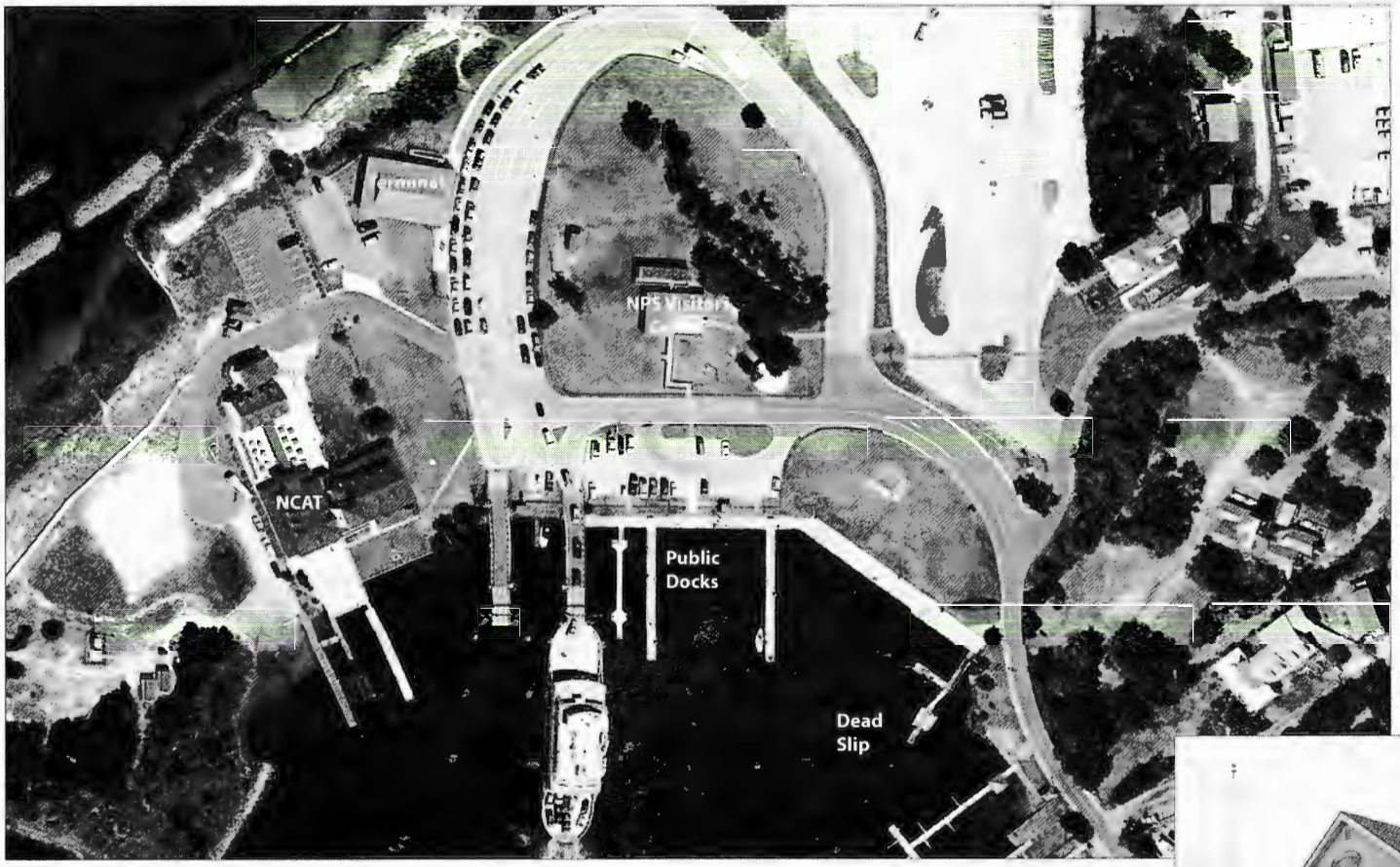


Interior of Hatteras Terminal

Hatteras Ferry Terminal

The Hatteras Ferry Terminal is located on the southern end of Hatteras Island. The terminal consists of two main buildings. The terminal facility houses a small waiting area with vending machines, restroom facilities, an ATM, and an informational section. The terminal also houses administrative offices and crew facilities. The second building houses a maintenance shop. A pedestrian pathway provides access to the adjacent Hatteras Landing shopping center. Passengers are separated from the secure portions of the facility by a chain link fence. Approximately 90 parking spaces are located immediately adjacent to the terminal for employees and short-term visitors. Approximately 30 additional spaces are located within the secured area on the water side of the terminal, adjacent to the maintenance facility. The terminal provides berths for 8 vessels, and docks for 3 vessels for loading/unloading.

F. Facilities (continued)



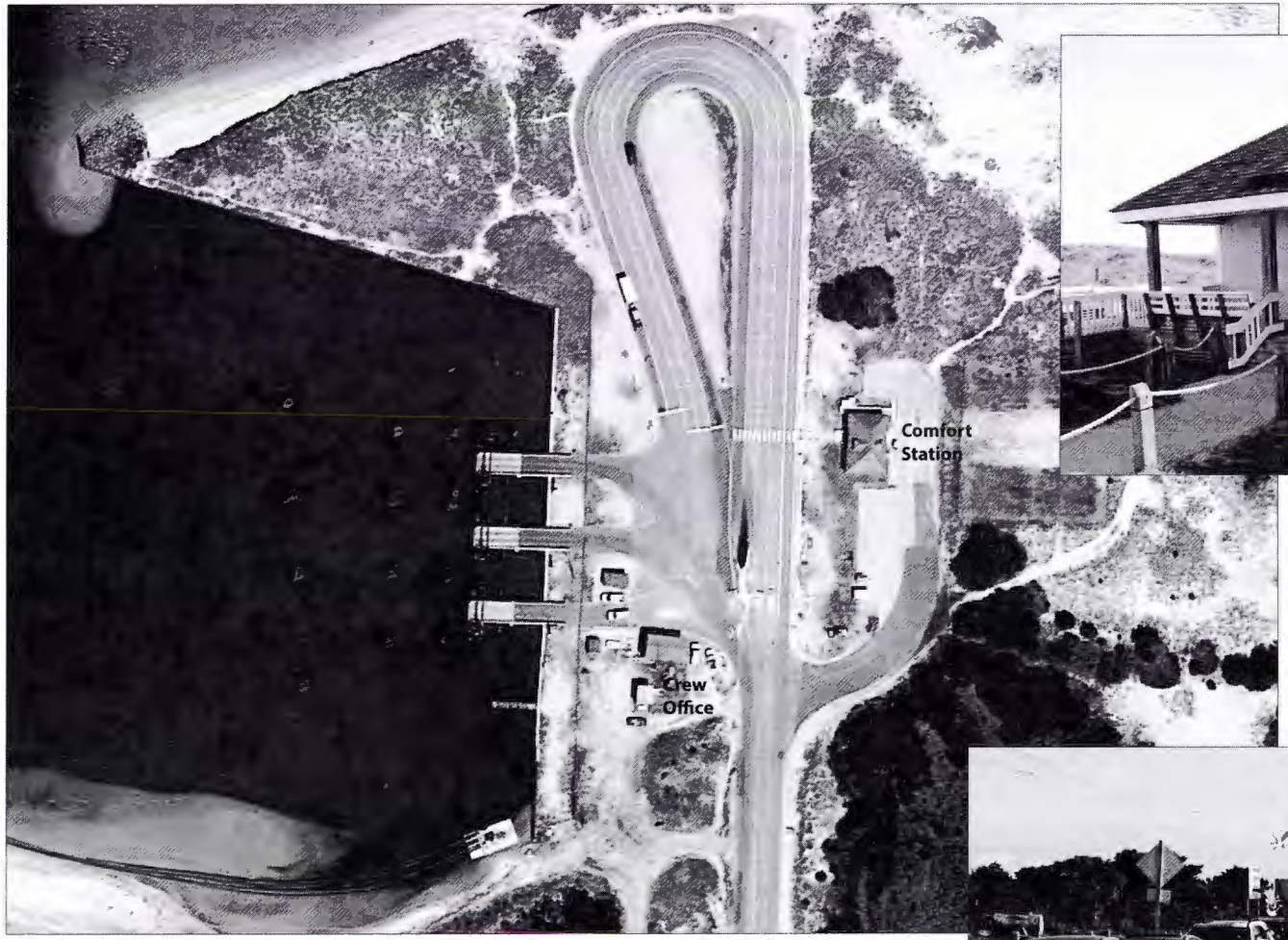
Ocacoke Terminal



Ocracoke Silver Lake Terminal

The Ocracoke Silver Lake Terminal is located on the southern end of Ocracoke Island immediately adjacent to Silver Lake. The terminal currently serves the sound class ferries going to/from Swan Quarter and Cedar Island and consists of two main buildings. Similar to the Hatteras Terminal, the terminal facility houses a small waiting area with vending machines, restroom facilities, and ATM, and an informational section. The second terminal building houses crews quarters and administrative facilities. Approximately 16 parking spaces are provided immediately adjacent to the terminal building. The terminal provides a dead slip for one sound class ferry and docks for two vessels for loading/unloading. The Ocracoke Silver Lake Ferry Terminal is immediately adjacent to the Cape Hatteras National Seashore Ocracoke Visitor Center and public docks.

F. Facilities (continued)





South Dock Restroom Facility



Vehicles queueing at South Dock

Ocracoke South Dock Terminal

The Ocracoke South Dock Terminal is located on the northern end of Ocracoke Island. The terminal consists of two main buildings. On the south side of the terminal is restroom facility with vending machines and a small amount of outdoor seating. The second building is a small facility for Ferry Division staff and crew. Approximately 25 parking spaces are located next to the restroom facilities. The terminal provides berths for two vessels, and docks for three vessels for loading/unloading.

G. Environmental Conditions

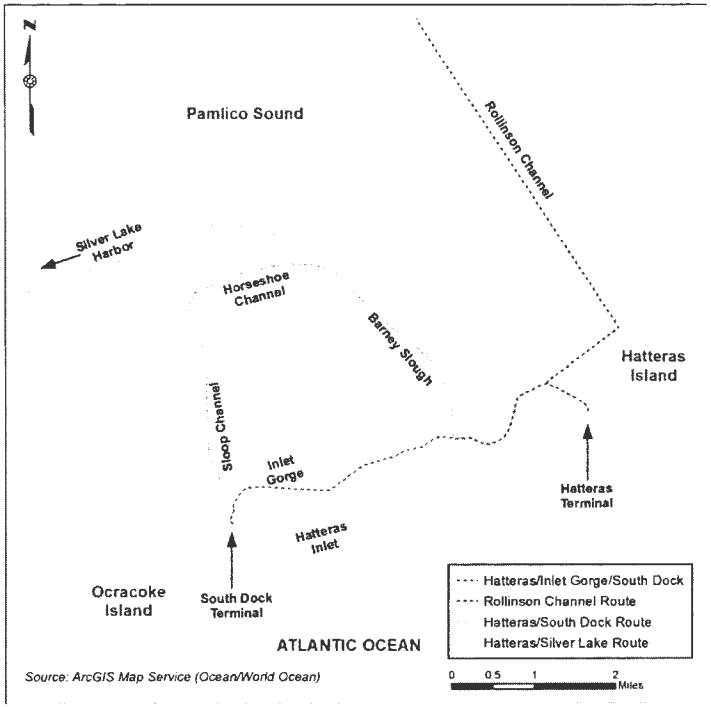
Existing Channels

Hatteras/Inlet Gorge/South Dock

Historically, vessel traffic between the Hatteras Ferry Terminal and Ocracoke's South Dock Ferry Terminal transited an extension of Rollinson Channel, paralleling the western shoreline of Hatteras Island, crossing Hatteras Inlet through Inlet Gorge and on to South Dock. Recreational boaters and commercial vessels headed to the Atlantic from Hatteras would transit the Inlet Gorge and then east to the Atlantic, leaving the remainder of the channel to Ocracoke primarily for state vehicle ferry traffic.

Maintenance dredging of the Ocracoke Ferry Terminal marine basin and approach channel to a depth of 12 feet and a width of 150 feet falls under the responsibility of the State of North Carolina. The U.S. Army Corps of Engineers (USACE) maintains the approach and the boat basin at Hatteras Harbor six feet deep and approximately 150 feet by 1,200 feet. The Rollinson Channel extension described above falls under the jurisdiction of the USACE and was maintained to a depth of 10 feet and a width of 100 feet.

Natural coastal processes have caused an accretion of sand on the northeastern end of Ocracoke Island and erosion of the southwestern tip of Hatteras Island. Major storms have resulted in avulsion, the dramatic widening of Hatteras Inlet, and the subsequent widespread shoaling of the Inlet Gorge to Hatteras Channel.



Horseshoe Channel

After numerous attempts to reopen the channel failed, the channel was abandoned in favor of a natural channel coursing in a horseshoe-like fashion north through Barney Slough towards Pamlico Sound and then returning south via Sloop Channel to the South Dock Terminal.

The benefits of the new horseshoe channel are that much of it remains open without the need for constant maintenance dredging. However, due to its utilization for not only for the state vehicle ferries but also recreational boaters and commercial vessels wishing access to and from the Atlantic Ocean, Horseshoe Channel is heavily trafficked; the route requires a much longer transit and is circuitous. Ferry boat speeds are reduced due to the need to slow when passing competing vessel traffic, particularly in the narrow reaches of the channel, including those near markers 12A, 13A, 14 and 15.

Hatteras/Pamlico Sound

Vessel access from Hatteras Island to Pamlico Sound is via Rollinson Channel, a USACE maintained 12-foot deep and 100-foot wide channel running from east/west from Hatteras to the sound. With its east/west extension through Inlet Gorge, Rollinson Channel provided good access between the islands, the Atlantic and the sound for commercial and recreational vessels. In addition to the loss of navigable waters from Inlet Gorge, recent surveys of the north/south portion of the channel conducted by the USACE found depths as shallow as 5 feet, indicating maintenance dredging is needed.

The benefits of this portion of the Rollinson Channel are its straight and direct course to Pamlico Sound and, after maintenance dredging, accessibility for deeper drafting vessels. It also provides an alternative to the Horseshoe Channel for accessing the sound, thereby further dispersing vessel traffic.

Hatteras/Silver Lake Route

Traditionally, vessel traffic between Hatteras and Silver Lake was either accomplished via the oversea, Atlantic Ocean transit or by traversing the calmer waters of Pamlico Sound. Due to the extreme shallows near Ocracoke Island, boaters must first transit to the sound, either via Rollinson Channel, Barney Slough, or Sloop Channel. Once in Pamlico Sound, most vessel types are accommodated with water depths of 13 feet or greater. Access into Silver Lake is federally maintained, including a 12-foot-deep marine basin, a 12-foot-deep by 60-foot-wide entrance channel and a 12-foot-deep by 150-foot-wide channel across Big Foot Slough bar just inside Ocracoke Inlet.

Submerged Aquatic Vegetation

Submerged aquatic vegetation or SAV is generally defined as submerged lands that are vegetated with one or more species of submerged aquatic vegetation or have been vegetated by one or more species of submerged aquatic vegetation within the past 10 annual growing seasons, and that meet the average physical requirements of water depth (six feet or less), average light availability (secchi depth of one foot or more), and limited wave exposure that characterize the environment suitable for growth of SAV. (NC Marine Fisheries Commission (NCMFC) (15A North Carolina Administrative Code (NCAC) 03I.0101(4)(i)). The NC Division of Marine Fisheries (NC-DMF) and Atkins mapped the coastal submerged aquatic vegetation, portions of which are shown in Figures G-4 to G-6.

SAV is an important indicator of environmental health because of its sensitivity to aquatic stressors. Factors affecting SAV distribution include the hydrodynamic characteristics of water velocity, depth, waves and the water's ability to transport sediments. Boating operations cause direct impacts to SAV as a result of increased wave action, propeller damages, and by reduced light due to the suspending of bottom sediments and man made overhangs and structures (i.e. piers). Indirectly, the construction and maintenance of channels by dredging may suspend sediments leading to decreased light transmissivity and burial of the vegetation. Consequently, the mapping of SAV allows for their avoidance during the planning and design of new vessel channels and marine basins.

As illustrated in the figures, the existing and proposed transit routes avoid SAV beds, therefore, vessel traffic should cause minimal adverse effects. Dredging operations, if conducted with the appropriate methodologies, can minimize potentially damaging transport and deposition of sediments on the beds.

G. Environmental Conditions (continued)

Marine Basin Benthics

Benthic habitat types are sampled for the presence of shellfish and SAV. Estuarine benthic habitat types and classified as soft, firm or hard; vegetated or non-vegetated; and with or without shell. This work was conducted by the North Carolina Division of Marine Fisheries. They are further broken down by whether or not they lie within zones influences by tides. These classifications help delineate habitats for SAV and productive shellfish.

- Intertidal Hard Vegetated w/o Shell
- Intertidal Hard Non-vegetated w/o Shell
- Subtidal Hard Vegetated w/o Shell
- Subtidal Hard Non-vegetated w/o Shell
- Subtidal Firm Non-vegetated w/o Shell
- Subtidal Firm Vegetated w/o Shell
- Subtidal Soft Non-vegetated w/o Shell

Substrate within subtidal zones is located below mean low low water, hence, is continuously covered with tidal water, whereas intertidal zones lie above, where they are flooded and exposed by tides.

Benthic habitat within the Silver Lake system at Ocracoke are non-vegetated and without shell (Figure G-5). This is the case for both the intertidal as well as the subtidal zone. Consequently, it may be concluded that Silver Lake does not provide habitat conducive to productive shellfisheries and submerged aquatic vegetation.

Similarly, benthic habitat within the Hatteras Ferry Terminals marine basin are also non-vegetated and without shell (Figure G-6).

Figure G-1



Figure G-2



Figure G-3

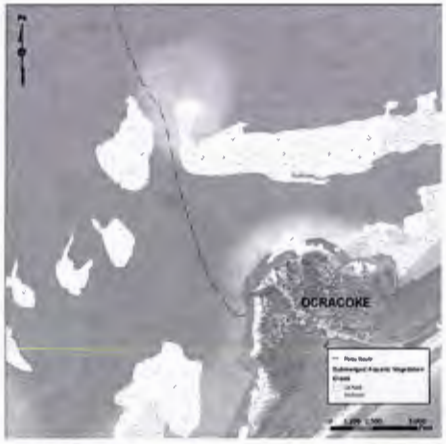


Figure G-4

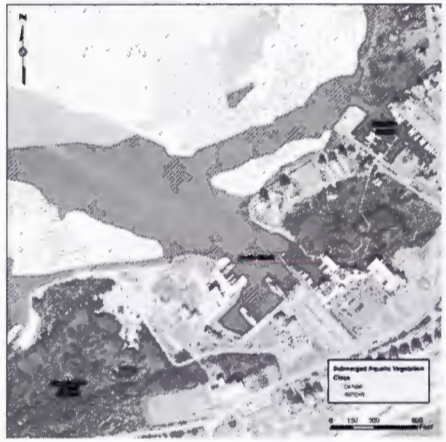


Figure G-5

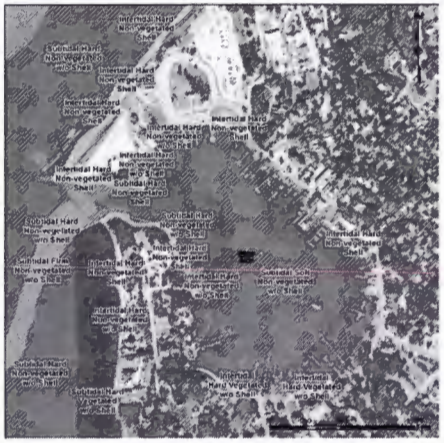
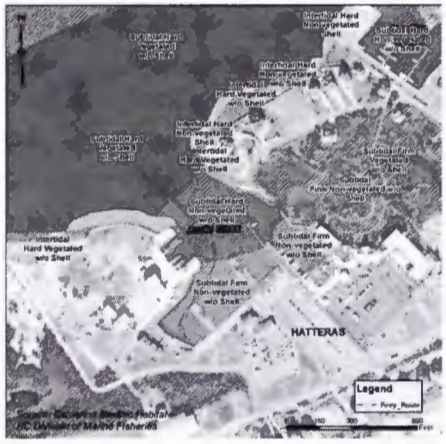


Figure G-6



H. Existing Plans

There are a multitude of planning documents at the statewide and local level that could potentially affect the options for increased ferry service between Hatteras and Ocracoke. These plans are detailed below:

Statewide Plans

NCDOT Strategic Transportation Initiative Prioritization

Several projects are included in the Strategic Transportation Initiative Prioritization 3.0:

- Replacement of the M/V Baum at $12,000,000
- Funding of $85,500 for 6 LTV and 3 trams to support Hyde County Transit in Ocracoke
- Funding of $7,600 for 2 shelters and 20 benches to support Hyde County Transit in Ocracoke
- Construction of a tug for statewide support at $1,725,000

NCDOT 2040 Transportation Plan

The NCDOT 2040 Transportation Plan graded the Ferry Division's performance in 2012 as an LOS C for statewide and regional tier services for mobility and health, based on the system's ability to serve passenger demand and to meet safety and environmental regulations. The report lists the Ferry Division's 30-year needs at $1.59 billion and states that to accommodate future ridership increases, particularly in peak periods, the needs include new vessels for expanded service or vessel replacements with larger capacity terminal infrastructure improvements.

Dare County Plans

The Hatteras ferry terminal is located within Dare County. The following Dare County plans could potentially affect the options for future ferry service:

Dare County Land Use Plan

The NC 12 frontage in Hatteras Village has been designated with a transition corridor classification along those portions of NC 12 zoned C-2H on the Hatteras zoning map (see Figure H-1). Commercial uses are small-scale developments serving the year-round population with some commercial development aimed at the seasonal visitors, especially near the NCDOT ferry facilities at the terminus of the village.

Dare County Comprehensive Transportation Plan

The Dare County Comprehensive Transportation Plan (CTP) includes several recommendations relevant to this study.

The CTP recommends a passenger ferry park and ride facility along NC 12 near the existing ferry dock location in order to accommodate individuals traveling via a passenger ferry from Hatteras Island to Ocracoke Island (Figure H-2).



Figure H-1 (Dare County – 2009 Land Use Plan Update pdf page 241)

The CTP also recommends bicycle, pedestrian, and multi-use path improvements along NC 12 in the vicinity of the Hatteras Ferry Terminal and along the entirety of Eagle Pass Road.

Hyde County Plans

Ocracoke Island is located within Hyde County. The following Hyde County plans could potentially affect the options for future ferry service:

Hyde County Transit Community Transportation Service Plan

The Hyde County Non-Profit Private Transportation Corporation, doing business as Hyde County Transit (HCT), is a non-profit public transit network headquartered in Swan Quarter, North Carolina. HCT has provided public transportation services to Hyde County residents since 1987.

Ocracoke Island services by HCT include the following:

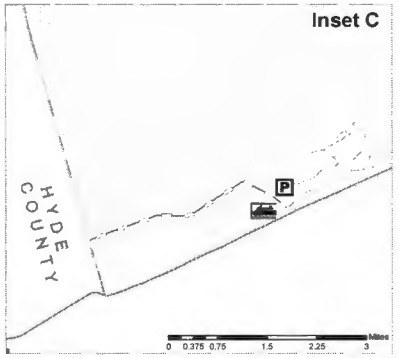


Figure H-2

- Once a month from Ocracoke Island to Avon. This service is free to anyone over the age of 60 and available to all else for $3.20 round trip.
- Once a month from Ocracoke to the northern Outer Banks for the day. This trip is also free to citizens over the age of 60 and $5.00 round trip for everyone else.

The proposed Five-Year plan recommendations focus mainly on improving the efficiency and quality of existing HCT services as well as expanding its services by focusing on increasing rural general public ridership, employment-related ridership, service to the elderly and youth. Hyde County's CTSP Five-Year Service and Implementation Plan calls for:

- Identifying in-county coordination opportunities including coordination with NCDOT Ferry Division for seasonal riders.
- Reevaluating the trolley/tram service concept on Ocracoke Island. Implementation would include a park and ride facility on Hatteras Island and modified beach route concept with potential funding coming from the Livability Initiative Transportation Community and System Preservation Program, shared farebox revenue with NCDOT Ferry Division (would require legislative approval), and public/private partnerships and sponsorships. This project is slated in the CTSP to be beyond 2018. The CTSP estimated the capital costs of such a service to be approximately $540,000 and the operating costs of $237,000 annually.

Hyde County Comprehensive Transportation Plan

The Hyde County Comprehensive Transportation Plan (CTP) includes several recommendations relevant to this study.

The CTP recommends a 4' paved shoulder for bicycle on NC 12 from Old Beach Road to the Silver Lake Ferry Terminal. However, the CTP does acknowledge that due to right of way constraints it could be difficult to improve this facility.

H. Existing Plans (continued)

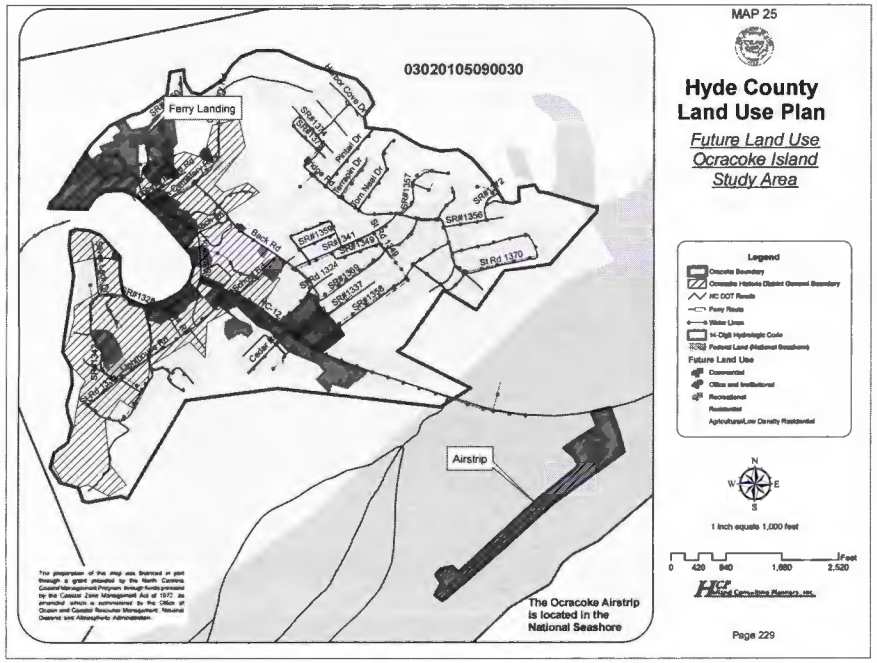


Figure H-3

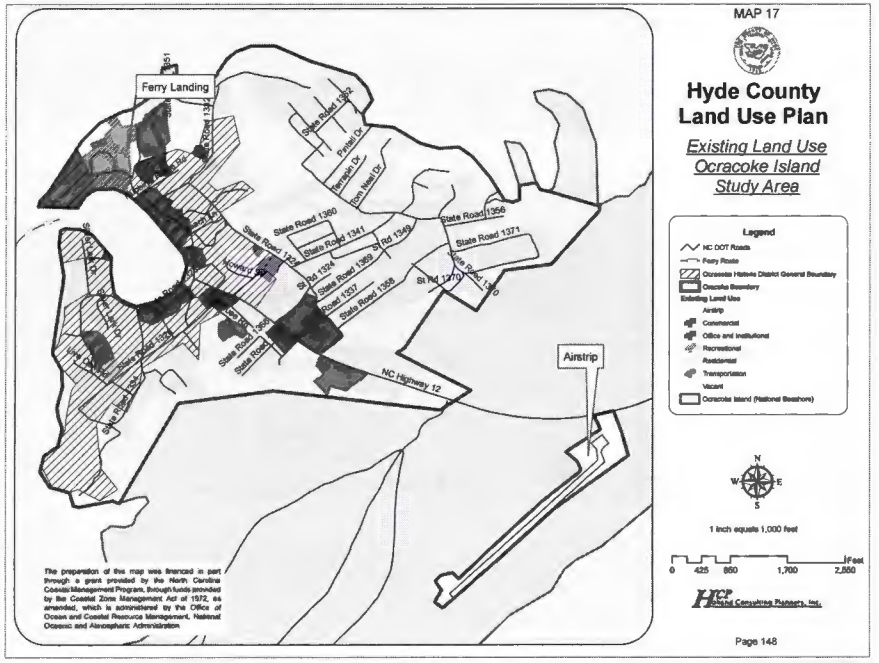


Figure H-4

The CTP also recommends sidewalks along NC 12 from Lighthouse Road to Old Beach Road.

The CTP recommends a multi-use path on NC 12 from the Pony Pen to the South Dock Ferry Terminal, to tie into the existing multi-use path.

Finally, the CTP identifies the public's interest in a "high speed ferry" in the recommendations section, but does not provide recommendations for the service, stating that "the ridership will need to justify the cost."

Hyde County CAMA Land Use Plan

The Hyde County CAMA Land Use Plan establishes the vision for Ocracoke Island as being "a community that ensures livability and economic viability by offering the discerning vacationer a preferable alternative to the over commercialized beach destinations while providing improved attention to Ocracoke residents". One of the missions of county government outlined in the plan is to facilitate and support cooperative efforts with the community, NPS, and DOT to maintain access to the Island and provide necessary amenities.

The Hyde County CAMA Land Use Plan includes recommendations for Ocracoke Village as shown in Figure H-3. For reference, the existing land use map is shown in Figure H-4.

The land use plan calls for the redevelopment of the area around the Silver Lake Ferry Terminal to office and institutional uses from the current transportation uses as well as the expansion of commercial uses along Silver Lake and NC 12.

Albemarle Regional Bicycle Plan

The 2012 Albemarle Regional Bicycle Plan included several recommendations in the Hatteras and Ocracoke areas as shown in Figure H-5. These recommendations are generally in line with the Comprehensive Transportation Plans of Dare and Hyde Counties. The study does recommend that the Albemarle RPO complete a study examining bicycle and pedestrian access to the Hatteras – Ocracoke Ferry in the 2015-2018 timeframe.

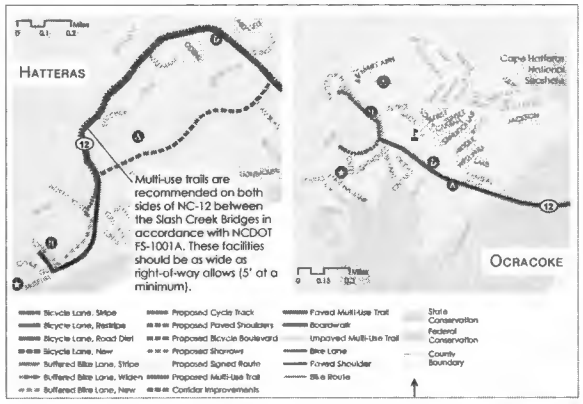


Figure H-5

I. Peer Systems

The study team surveyed eight existing passenger ferry operations to gain insight into their operating characteristics. The results are summarized below.

Steamship Authority
Hyannis, MA to Nantucket, MA



Cost	$69 (round trip)
Distance	26 miles
Time	60 minutes

Parking lots with free shuttle to terminal
Snack bar on vessel
First sailing (peak period): 8:15am
Last sailing (peak period): 9:45 pm
Number of daily round trips (peak month): 5



King County Water Taxi
Vashon Island, WA to Seattle, WA



Cost	$5.50 (one-way)
Distance	7 miles
Time	22 minutes

Free parking near terminal
Vending machines at terminal, restaurant near dock
First sailing (peak period): 5:30 am
Last sailing (peak period): 6:56 pm
Number of daily round trips (peak month): 6



Blue & Gold Fleet
San Francisco, CA to Angel Island, CA



Cost	$18 (round trip)
Distance	5 miles
Time	25-40 minutes

24/7 parking garage (capacity 900)
Snack bars on vessel and Pier 41
First sailing (peak period): 9:45 am
Last sailing (peak period): 4:30 pm
Number of daily round trips (peak month): 3



Block Island Ferry
Point Judith, RI to Block Island, RI



Cost	$12.90 (one-way)
Distance	15 miles
Time	30 minutes

Parking across street
Full concession stands on vessel
First sailing (peak period): 7:15am
Last sailing (peak period): 7:35 pm
Number of daily round trips (peak month): 6



Blue & Gold Fleet
San Francisco, CA to Sausalito, CA



Cost	$11.50 (one-way)
Distance	5 miles
Time	20-25 minutes

24/7 parking garage (capacity 900)
Snack bars on vessel and Pier 41
First sailing (peak period): 9:45am
Last sailing (peak period): 8:40 pm
Number of daily round trips (peak month): 5



Kitsap Foot Ferry
Bremerton, WA to Port Orchard, WA

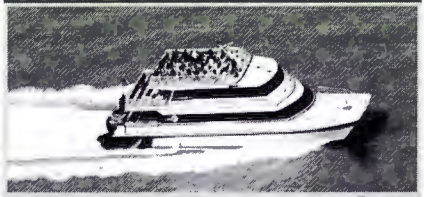


Cost	$2 (one-way)
Distance	2 miles
Time	12 minutes

Paid parking available downtown Port Orchard
First sailing (peak period): 6:30 am
Last sailing (peak period): 8:45 pm
Number of daily round trips (peak month): 33

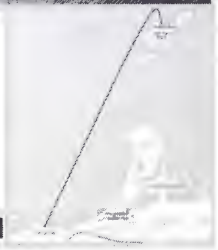


The Jet Express
Port Clinton, OH to Put-in Bay, OH (South Bass Island)



Cost	$18 (one-way)
Distance	12.5 miles
Time	20 minutes

Parking adjacent to dock with attendant on duty
Bar at dock; restaurants on island
First sailing (peak period): 8:45am
Last sailing (peak period): 12:15 am
Number of daily round trips (peak month): 21



Star Line
Mackinaw City, MI to Mackinac Island, MI



Cost	$25 (round trip)
Distance	7 miles
Time	18 minutes

Free day and overnight parking
Restaurants near terminal
First sailing (peak period): 7:30am
Last sailing (peak period): 12:00 am
Number of daily round trips (peak month): 24



Provincetown III test run, May 4, 2015











2. Public engagement

A. Steering Committee

The Ferry Division of North Carolina Department of Transportation (NCDOT) assembled a Steering Committee (SC) comprised of representatives from NCDOT and other local and regional government and planning agencies.

The Steering Committee is comprised of the following members:

- Ed Goodwin, Director, NCDOT Ferry Division
- Jed Dixon, Deputy Director, NCDOT Ferry Division
- Sterling Baker, Division Maintenance Engineer, NCDOT Division 1
- Cheryl Leonard, Assistant Director, NCDOT Mobility Development – Eastern Region
- Lauren Blackburn, Director, NCDOT Bicycle and Pedestrian Division
- Bill Rich, County Manager, Hyde County
- Patrick Norman, Director, NCDOT Transportation Planning
- Keith Weatherly, Deputy Secretary, Transit

Steering Committee Meeting #1

The Steering Committee's kickoff meeting was held on April 1, 2015. Goals and scope of the study were reviewed. Brief discussion took place on study efforts that are currently underway such as the business survey and analysis of historical vehicular demand.



Final details and expectations for the public meetings to take place May 4 and 5, 2015 were discussed and several action items developed to ensure the success of this first public outreach.

Timing and method for disseminating information on the activities of the SC were discussed. Release of information must be coordinated through the NCDOT communications office to ensure consistent message.

Determination of unmet demand of ferry traffic due to the new operating route was a concern. NCDOT does not track queue wait times or cars that may turn away due to long wait times. Cameras at the ferry terminals will be used to try to capture this information.

A copy of the meeting minutes can be found in Appendix A.

Steering Committee Meeting #2

The second Steering Committee meeting was held on June 3, 2015. This meeting was used to mainly discuss the business and general survey responses, the ferry trial run results, and options for the terminal and future transit services. The vision and goals for this project were also reviewed and discussed. It was determined that a multi-modal service was needed to support the visitors coming to Ocracoke.

Steering Committee Meeting #3

On August 11, 2015, the third Steering Committee meeting was held. During this meeting, the five potential route options were reviewed. A 20-year timeline was determined for implementing the passenger vessel system. The capital and operating costs and the revenue were discussed. The upcoming steps were determined during this meeting which including meeting with the Park Service and the Graveyard of the Atlantic Museum. Additional upcoming steps to take are to develop cost estimates for both Hatteras and Ocracoke, as well as developing funding strategies and prioritization.

Steering Committee Meeting #4

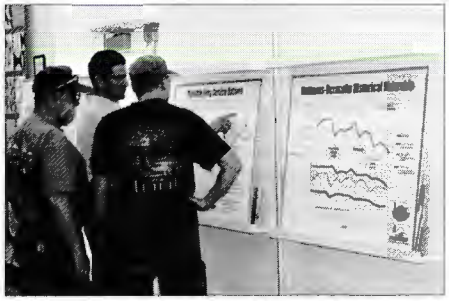
The fourth steering committee meeting was held on February 10, 2016. This meeting included a review of the final report as well as the prioritization, implementation, and business plan elements of the plan.

B. Public Meetings

Public meetings were an integral part of the study process and allowed members of the public to interact one-on-one with the study team. Two sets of public meetings were held during the study, with each set including a meeting on Hatteras and another on Ocracoke.

First Public Meetings

A pair of public meetings was held on Hatteras and Ocracoke in early May of 2015 respectively. In conjunction with the public meetings, a trial run of the passenger ferry Provincetown III was conducted to determine how a vessel of a similar design would operate in the area between Hatteras and Ocracoke. Public tours of the Provincetown III were also conducted on both Hatteras and Ocracoke.





The public meeting on Hatteras was held at the Graveyard of the Atlantic Museum on May 4, 2015, from 5:00 to 7:00 p.m. There were 18 members of the public in attendance for this meeting. The public meeting on Ocracoke was held at the Ocracoke School on May 5, 2015, from 5:00 to 7:00 p.m., and 20 members of the public were in attendance. At these meetings, a summary of the problem was presented where the effects of Hurricane Sandy have caused shoaling in the Hatteras Inlet necessitating a change in the route of the Hatteras-Ocracoke ferry to a longer route. The current issues surrounding the impact of decreased ferry service between Hatteras and Ocracoke were also presented and which are well known to the area public. The goals and objectives of this project and a vision for the ferry user experience were shared with area residents and business owners.

Feedback from the public was solicited at these meeting in several forms. Business cards were handed out with the link to two online surveys: the Business Owner Survey for Ocracoke business

owners and a more general public comment survey covering issues related to tourism on Ocracoke Island. In addition, a paper copy of the public comment form was available which could be completed at the meeting and turned in for manual entry into the online survey.

Also discussed was the future involvement of the local communities of Hatteras and Ocracoke to develop ideas for the pedestrian, bicycle, and supportive transit service that will be needed to realize the established vision. Overall, there was widespread desire to return to the original route, but the majority of participants realized that attempts to dredge the channel have been expensive and futile. Many participants stated the desire to improve the ferry service, but also for Ocracoke to be a destination for people who appreciate the beauty, quiet, and history of the island.

Provincetown III

The NCDOT Ferry Division arranged a trial run of the Provincetown III owned by Bay State Cruise Company to coincide with the public meetings on Hatteras and Ocracoke. The Provincetown III is an aluminum hulled diesel-powered catamaran passenger vessel. It is 98 feet long and 30 feet wide with a maximum draft of 5 feet. It is capable of speeds up to 28 knots and can carry 149 passengers with a crew of three, including one captain and two deckhands. It is currently used to provide passenger ferry service from Boston to Provincetown, Massachusetts, during the summer months. The vessel was open to the public for tours from 4:00 to 7:00 p.m. Staff from Bay State Cruise Company were available for questions.



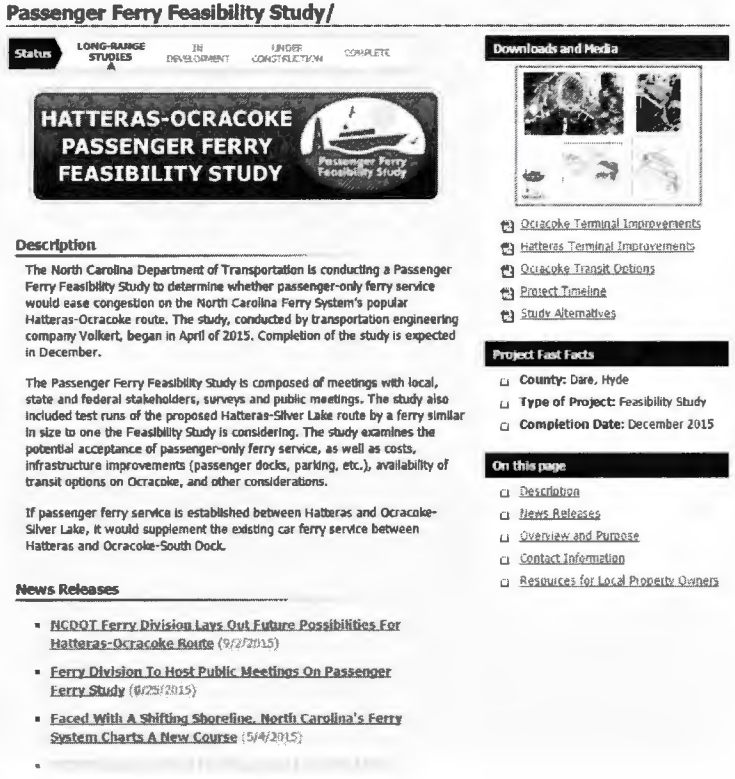
Second Public Meeting

The second pair of public meetings was held on August 31 and September 1, 2015, on Ocracoke Island and Hatteras Island respectively. The public meeting on Ocracoke was held at the Ocracoke Community Center on August 31, 2015, from 5:00 to 7:00 p.m and 40 members of the public were in attendance. The public meeting on Hatteras was held at the Graveyard of the Atlantic Museum on September 1, 2015, from 5:00 to 7:00 p.m and 18 members of the public were in attendance. The purpose of these meetings was to share the findings from the alternatives analysis, the recommendations for future passenger ferry service, and the proposed timeline for implementation. Feedback from the public was solicited verbally and through comment forms that could be completed at the meeting or returned to the study team after the meeting.

Overall, attendees at this set of meetings supported the idea of the passenger ferry and realize that going back to the original route is not feasible at this time. However, the majority of attendees do wish to return to the original route as environmental conditions permit. One of the main concerns attendees had with the passenger ferry is that Ocracoke may lose its small town feel. Nevertheless, most people want tourism to increase on the island and think more public restrooms are needed for visitors. Other amenities such as water fountains, benches, sidewalks, a boardwalk, public transportation, and parking for golf carts at popular sights were also suggested. While many people want to get the original route back, a passenger ferry from Hatteras to Silver Lake has the most support from the public. Attendees stressed that it is very important for everything to be ready when the passenger ferry has its first run so that it does not start out with a bad reputation. Some people feel that a later departure time should be considered so that tourists can experience the nightlife on the island. People also think that there should be a discounted rate for children riding the passenger ferry so that it is not too expensive for a whole family.

Online and Social Media

NCDOT developed and maintained a Passenger Ferry Feasibility Study website that provided information on the ferry study. Public meetings and other information were also distributed through the Ferry Division's Twitter and Facebook pages and through multiple news releases.



C. Ocracoke Island Business Survey

As part of the public engagement for this study, business owners with businesses located on Ocracoke Island were invited to complete a survey about the impact of the recent ferry service changes on their businesses. Seventy-five business owners completed the survey.

Business owners reported that longer wait times for ferry transport deter visitors from coming to the island. Almost all of survey respondents (96 percent) reported that long wait times at ferry docks are a major challenge to their business. Many participants reported that they have seen many potential visitors turn around at the Hatteras ferry dock upon discovering that it would be at least a two hour wait to board a ferry. As one business owner stated, *"they turn around and leave, frustrated and probably not ever returning to the island."* Fewer people come to the island for a day trip because the ferry commute takes so much time. As one respondent noted, *"with dramatically increased wait times at the Hatteras Ferry Terminal, many tourists get tired of waiting 3-4 hours in long ferry lines and turn around, canceling their plans to visit Ocracoke."* Several business owners reported that they rely on day-trippers for the majority of their business throughout the year. As one respondent reported, *"my business depends on day-trippers ... the bulk of their day trip is spent waiting."* Business owners are concerned that frustrations with the ferry service will discourage many visitors from returning. One business owner reported that *"I constantly hear from customers that they won't do this again, because they sat in line or because the ferry didn't run."* Eighty-six percent of survey participants reported that the length of time to commute to Ocracoke Island is a major challenge for their businesses.

Almost all of survey respondents reported that long wait times at ferry docks are a major challenge to their business.

Since the ferry service changes, nearly half of respondents (48 percent) reported that they could see a difference in their businesses as early as April and May 2014. As shown in Figure K-1, 82 percent of business owners have seen a decrease or a substantial decrease in their business or sales since the ferry service changes. Eighty-six percent reported that the decrease in visitors (since December 2013) has been a major challenge to business. Over half (57 percent) of respondents reported that there is not enough business on the island to make a profit all year long.

Eighty-six percent reported that the decrease in visitors has been a major challenge to business.

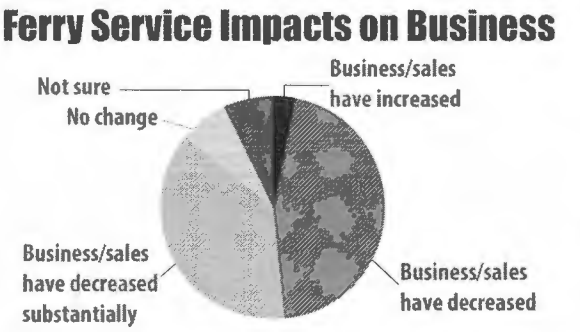


Figure K-1: Impact on business since reduced number of ferry sailings

	Major Challenge	Minor Challenge
Not enough business to make profit all year	57%	35%
Not enough business to make profit during Off-season	76%	16%
Traffic congestion on Ocracoke Island	6%	35%
Not enough parking close to my business	4%	27%
Not enough parking for customers on island	33%	31%
Lack of transportation to island for customers	67%	18%
Lack of transportation to island for employees	4%	14%
Lack of transportation on island for customers	22%	27%
Lack of transportation on island for employees	2%	4%
Wait times at ferry dock for employees to commute to work on Ocracoke Island	14%	8%
Length of time to commute to Ocracoke Island	86%	8%
Decrease in # of visitors (since Dec 2013)	86%	12%
Wait times at ferry dock for customers to get to Ocracoke Island	96%	2%

Figure K-2: Challenges to businesses on Ocracoke Island

Business Information

Businesses represented in the survey have been open an average of 21 years. As seen in Figure K-4, many of the businesses represented in this survey are open year-round. However, peak season typically brings the most business to the island. Over 93 percent of participants consider June, July, and August to be the peak season for their business. May (68 percent) and September (63 percent) are also included as peak season for many businesses. Seventy percent of business owners reported that some customers walk, bike, or ride a golf cart to access their business. Over sixty percent of respondents reported that most of their customers drive and park to access their business.

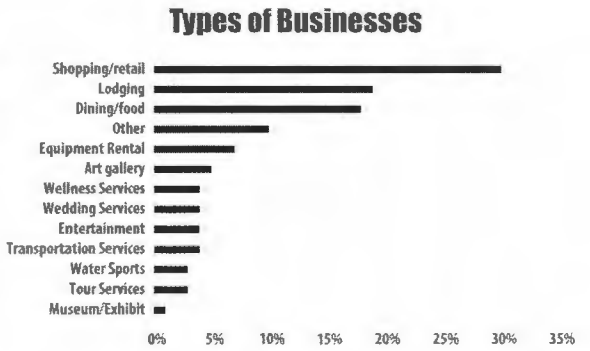


Figure K-3: Type of businesses represented in survey

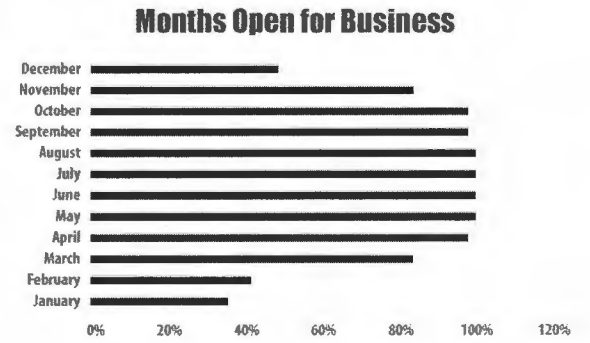


Figure K-4: Months Open for Business

C. Ocracoke Island Business Survey (continued)

Business owners reported that the bulk of their customers visit during the business week in peak season. In off-peak season, over half of respondents reported having less than 100 customers each week.

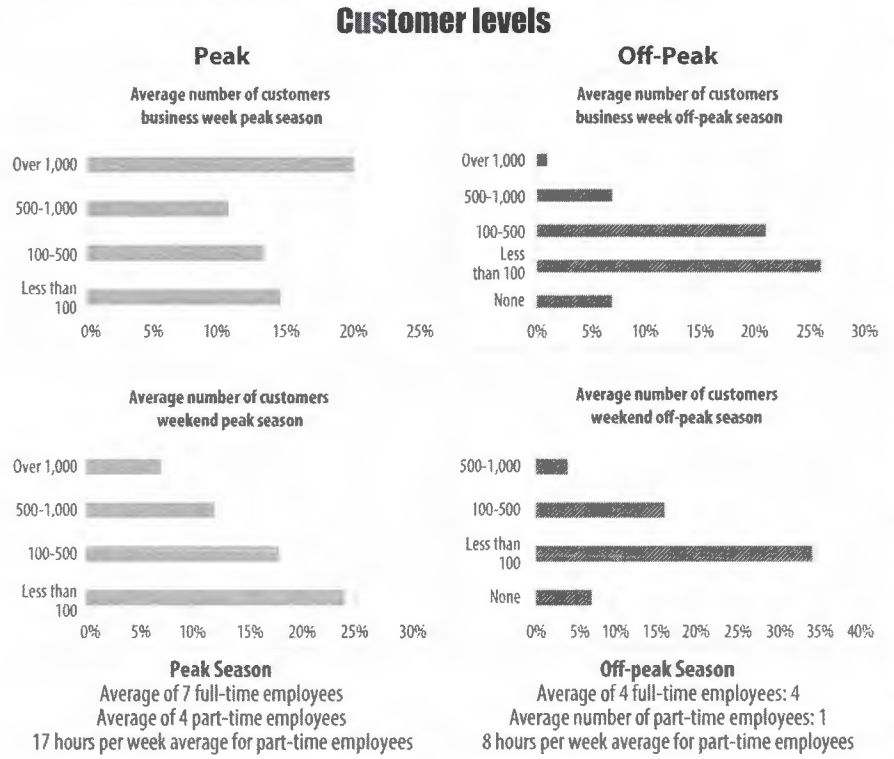


Figure K-5: Peak and off-peak season customer levels

Future Passenger Ferry Service

Sixty-seven percent of respondents predict that adding a passenger ferry between Ocracoke Island and Hatteras would be beneficial to their businesses. As one business owner noted, *"the bottom line is that the current ferry situation has reduced the amount of visitors to the island. Any added ferry be it passenger or vehicle would increase the number of visitors to the island. Any increase would contribute to restoring what former business volumes existed."* Another respondent commented that *"(a passenger ferry) would cut down on traffic around the island, making it safer for pedestrians and people on bikes, and it would be very beneficial to all businesses and services on the island because it would increase sales and more people would have access to the island."* Another responded that *"passenger ferries would be a fantastic way to increase visitation to the island for the sole purpose of day visits. If we do not take action soon, both Hatteras and Ocracoke will suffer a huge economic decline..."* Several participants reported that they were willing to make changes to their businesses with the addition of a passenger ferry service to Ocracoke Island. Proposed changes included increasing hours, adding more employees, increasing inventory, and adding pick-up services or shuttles. Seventy-three percent of business owners would be willing to buy books of transit tickets to use as loyalty rewards for customers.

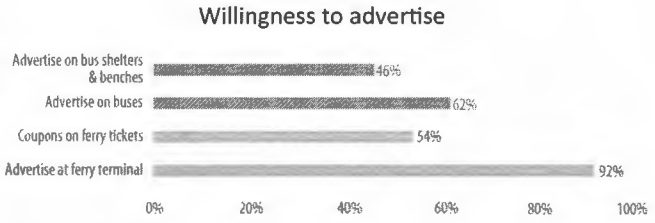


Figure K-7: Businesses willingness to advertise



Figure K-6: Impact of passenger ferry to business

Some business owners voiced concerns about the potential of a passenger ferry to change the character of the island. As one participant wrote, *"passenger ferries will clog our small roads with people and not create the kind of personal customer service and relationships we are known for on Ocracoke."* Lack of transportation on Ocracoke Island was also cited as a potential challenge to visitors. As one business owner replied, *"infrastructure needs to be in place to handle visitors without cars."* Others were concerned that a passenger ferry drop-off at Silver Lake would negatively impact businesses located further away. One business owner remarked that *"without having a vehicle, I believe most visitors would not explore the entire island."*

	Positively Affected	Negatively Affected	Not Affected
Amount of business/sales during PEAK SEASON would be...	69%	9%	22%
Amount of business/sales during OFF SEASON would be...	55%	4%	41%
Number of employees would be...	28%	2%	70%
Hours of operation during PEAK SEASON would be...	41%	2%	57%
Hours of operation during OFF SEASON would be...	30%	2%	68%
Parking availability in vicinity to my business would be...	19%	9%	72%
Number of customers during PEAK SEASON would be...	69%	9%	22%
Number of customers during OFF SEASON would be...	54%	2%	44%
Community of Ocracoke Island would be...	70%	19%	11%
Commute time for employees would be...	17%	2%	81%
Commute times for customers would be...	61%	7%	32%

Figure K-8 Passenger Ferry Predicted Effects on Business

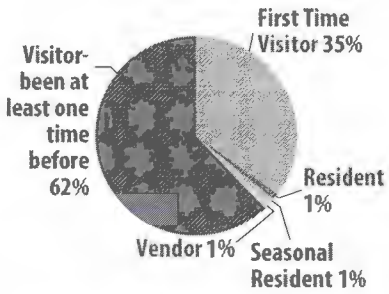
D. Passenger Survey

The study team surveyed passengers on the Hatteras – Ocracoke ferry on Thursday June 11th through Sunday June 14th. Surveys were handed to drivers waiting in line at the Ocracoke South Dock ferry terminal. Surveying passengers at this location allowed the study team to ask questions regarding what they "did" on Ocracoke, as opposed to what they "planned" to do. In total the team surveyed 754 vehicles representing over 2,500 passengers from 39 states and five countries. Of these respondents, 35 percent were first-time visitors and 83 percent had visited Ocracoke just for the day. Overall, satisfaction with the visit to Ocracoke was high, with 94 percent of visitors ranking their experience as good or excellent. Twenty-nine percent of visitors said they experienced a long wait time at the ferry terminal and 18 percent said they experienced a lack of parking availability on the island. Key findings from the surveys are summarized in the figures at right.



Study team members hand out surveys to riders of the Hatteras-Ocracoke ferry

Type of Participant



Annual Household Income



Number of Nights in Ocracoke

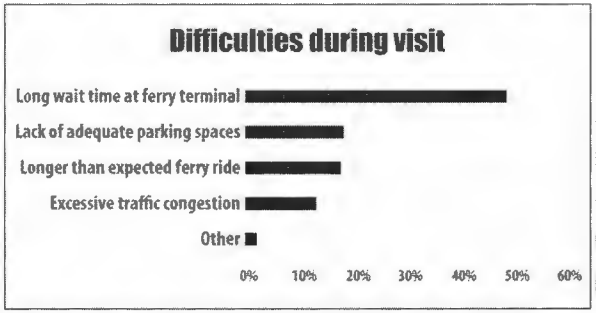


58% of respondents would rate their visit to Ocracoke as "Excellent"

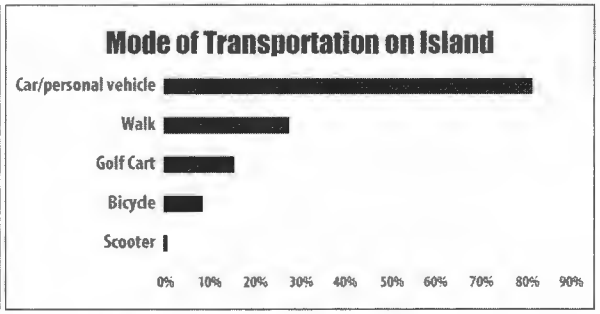
94% of respondents would recommend Ocracoke Island to a friend

17 of the **20** respondents who would not recommend this trip to a friend experienced a long wait time for a ferry

Difficulties during visit



Mode of Transportation on Island



TOP 5 Ocracoke Activities

- Dining
- Shopping in village
- Visiting Beach
- Visiting Lighthouse
- Visiting Historic Sites

TOP 5 Areas Visited on Ocracoke

- Ocracoke Village
- Seaside Beaches
- Beaches surrounding Ocracoke Village
- Pony Pen
- Pamlico Sound south of Pony Pen

Visitors spend

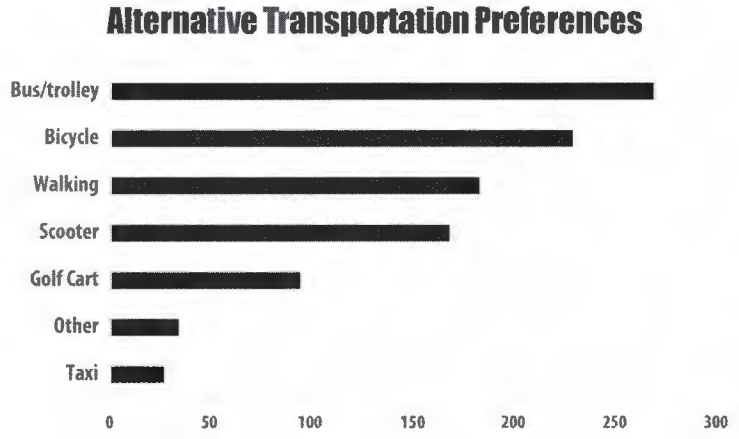
an average of

$25/day on food

$60/day on lodging

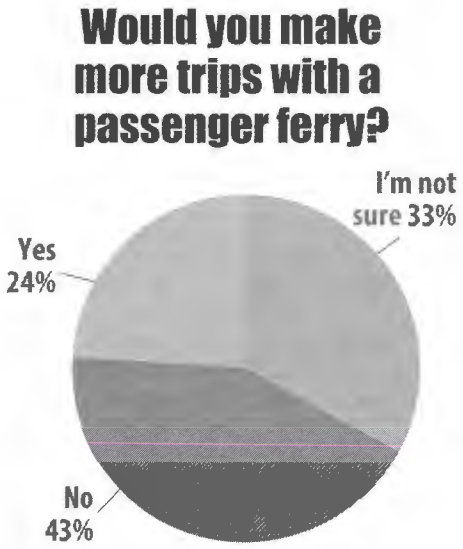
(does not include day-trippers)

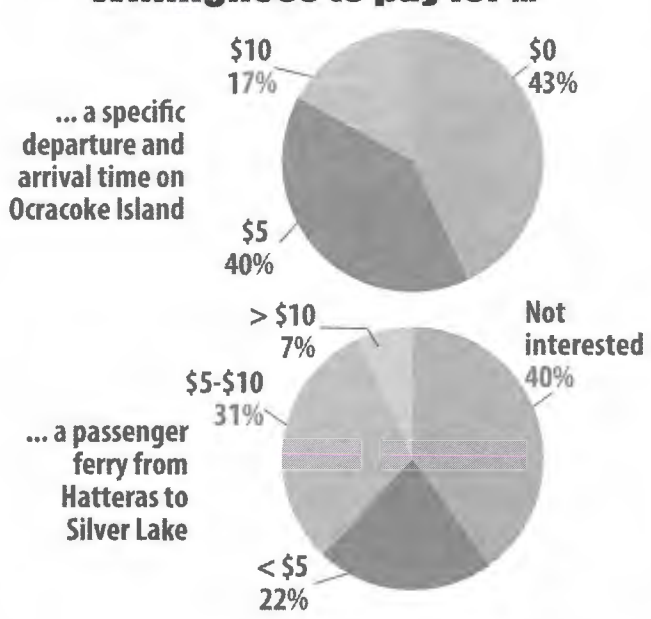
$15/day on goods



TOP 6
Passenger ferry features
which appeal to participants

- **Shorter wait time than vehicle ferry**
- **Faster one-way trip than vehicle ferry**
- **Option to make ferry reservations prior to travel**
- **Food and drinks available onboard passenger ferry**
- **Bus/trolley services available in close proximity to dock**





E. Public Comments Survey Summary

In addition to public meetings, residents and visitors of Ocracoke Island were invited to provide comments regarding ferry services and transportation needs in an open survey. Twenty-six people participated in the survey. Common themes from the survey responses are outlined below.

Maintaining Character of Island

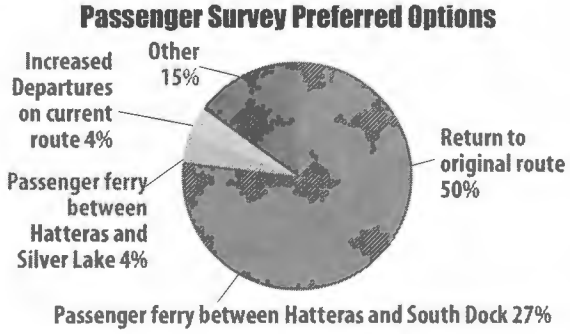
When asked about their personal vision for the future of Ocracoke Island, many respondents were concerned about maintaining the character and "quaintness" of Ocracoke Island. As one participant wrote, the desired vision is to *"keep the charm and unique character of Ocracoke, while at the same time improving quality of life issues for Island residents and visitors."* One visitor who completed the survey noted that, *"one of the reasons I like vacationing on Ocracoke is the lack of crowds of people."*

Adequate Facilities and Transportation Options

Several respondents mentioned the need for public restrooms on the island. Other requests included green spaces, walking lanes, and more parking areas.

Public transportation options, including shuttle services, carts, and trams, were mentioned as a possible solution to transportation and crowding issues.

"We, the residents, are desperate for dependable transportation for ourselves and the tourists we depend on for our incomes."



Note: Two of the participants who responded "other" clarified that they wanted a combination of the above options, with a passenger ferry to Silver Lake for day-trippers and maintaining the vehicle ferry for visitors with vehicles.

F. Media

The project and public engagement initiatives prompted coverage and discussion in regional media. A selection of headlines is highlighted below.

The Virginian-Pilot
PilotOnline.com

Hatteras-Ocracoke passenger-only ferry to get test run
January 16, 2015

N.C. tests passenger ferry to fix Ocracoke tourism drop
May 11, 2015

A new ferry option for 2017: Ditch the car, and take the quick boat to Ocracoke
September 8, 2015

NEWS 12 CHANNEL
Getting The Facts Right

Public meeting to be held on passenger-only ferry service
September 1, 2015

Island Free Press
HATTERAS AND OCRACOKE ISLAND NEWS · UP TO DATE AND DOWN TO EARTH

Passenger ferry trials will include boat tours, open houses
April 16, 2015

Are passenger-only ferries in our future?
September 4, 2015

ocracoke observer

Passenger ferry study to begin in March
February 10 , 2015

Passenger ferry visits Ocracoke
May 6, 2015

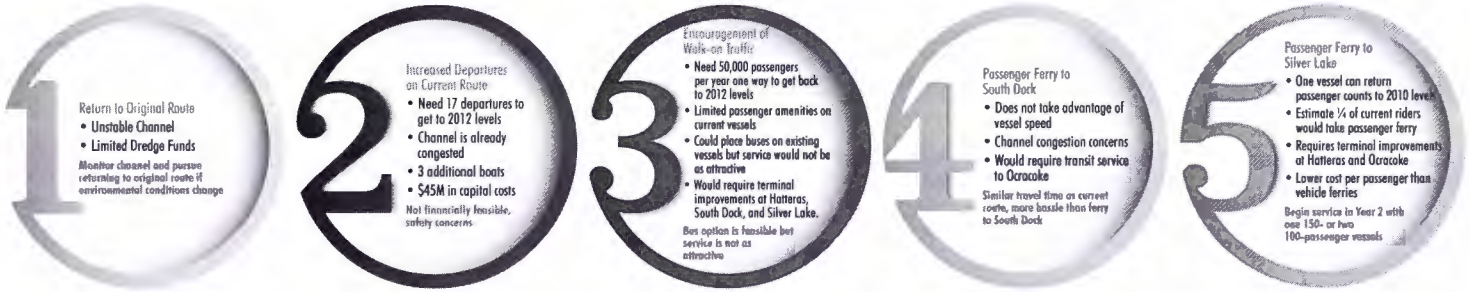
Passenger ferry meeting provides important updates
September 3, 2015

MARINELOG

North Carolina DOT looks at adding passenger-only ferry
September 3, 2015

3. Alternatives

Five alternatives for improving ferry service between Hatteras and Ocracoke were identified by the Steering Committee. These alternatives were vetted through the public involvement process and confirmed to be reasonable alternatives that match with the community's vision:





Returning to the original route was a strong preference of the public, expressed throughout the public meetings. Fifty percent of the respondents to the online public survey indicated that they preferred that the ferry return to the original route. It is clear that a return to the original route would allow for a return to previous departure levels of 50+ departures per day during the peak season by decreasing crossing time to approximately 30 minutes. This would also decrease fuel, labor, and maintenance costs by upwards of over $2,000,000 per year.

Maintenance dredging of the Ocracoke Ferry Terminal marine basin and approach channel to a depth of 12 feet and a width of 150 feet falls under the responsibility of the State of North Carolina. The U.S. Army Corps of Engineers (USACE) maintains the approach and the boat basin at Hatteras Harbor 6-feet deep and approximately 150 feet by 1,200 feet. The Rollinson Channel extension also falls under the jurisdiction of the USACE and was maintained to a depth of 10 feet and a width of 100 feet.

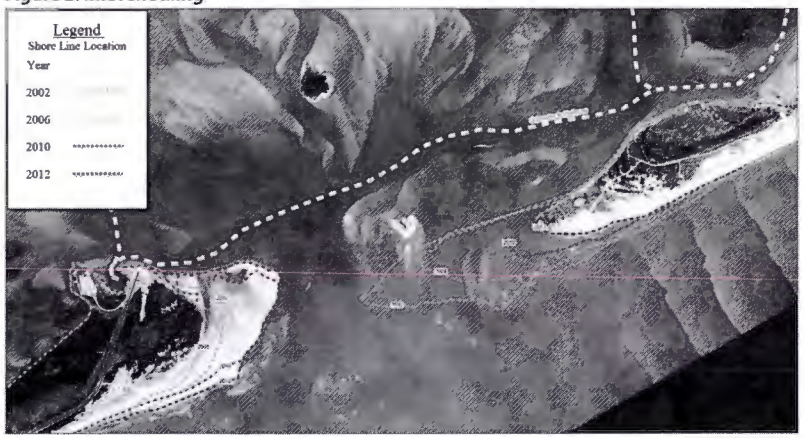
The table in Figure 1 shows that regular federal appropriations for Hatteras ferry channel dredging has been decreasing. In 2014 North Carolina spent $440,000 to dredge the channel.

However, due to the consistent erosion of the Hatteras shoreline, and deposit of sand in the channel, returning to the original route is currently not feasible. The study team recommends that the channel should continue to be monitored and the Ferry Division should pursue returning to the original route if environmental conditions change.

Figure 1: Dredging appropriations

Fiscal Year	Regular Federal Appropriations	Supplemental Fed. Appropriations/ Hurricane Relief	Non Federal Contributions
2009	$210,000	$191,000	$0
2010	$50,000	$142,000	$0
2011	$50,000	$0	$0
2012	$49,000	$2,000,000	$1,433,000
2013	$49,000	$2,000,000	$0

Figure 2: Inlet shoaling



Increasing departures on the current route has the potential to alleviate congestion at the Hatteras and South Dock terminals by providing additional capacity. To return to 2012 departure levels, 17 additional departures would be needed. Based on the current transit times and crew work limitations, this would mean an additional three vessels would be needed.



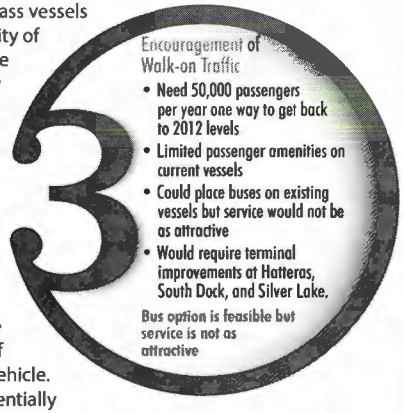
Currently, Sound Class vessels are being programmed in the NCDOT STIP at $18 million per vessel. River Class vessels are currently projected to cost approximately $12 million per vessel. But future vessels will be programmed at $15 million per vessel. Therefore three additional vessels would represent between $45 and $54 million in capital costs and approximately $8 million per year in operating cost. An analysis of the current capital, operation, and maintenance costs indicates that the current ferry operations cost approximately $28 per passenger for a one-way trip on the Hatteras-Ocracoke Route.

The addition of three vessels to the existing Horseshoe Channel also raises safety concerns. Currently, the channel is heavily trafficked with ferry vessels, recreational boaters, and commercial vessels. Ferry boat speeds are reduced due to the need to slow when passing competing vessel traffic, particularly in the narrow reaches of the channel, including those near markers 12A, 13A, 14 and 15. Adding additional large vessels to this route will increase conflicts, and increase overall transit times.

Adding additional vessels and more cars to the island also does not match the community vision. The study team routinely received comments regarding the desire to maintain the small-town feel of Ocracoke and the desire to have fewer cars on the island. Eighteen percent of visitors also responded in the passenger survey that they experienced a lack of parking availability.

The study team finds that this alternative is not financially feasible, that there are safety concerns with adding additional vessels to this route, and that this alternative does not match the community vision.

While the Hatteras class vessels have a vehicle capacity of 26 vehicles, they have a passenger capacity of 149 people. Similarly, river class vessels have a vehicle capacity of 38 vehicles, but a passenger capacity of 300 passengers. The passenger survey indicated an average vehicle occupancy of 3.5 passengers per vehicle. As such, it could potentially be possible to increase the number of passengers on the Hatteras–Ocracoke ferry, either by having passengers park and walk on to the vessel, or by taking a motor coach.



The main impediment to passengers walking on to the ferry is the lack of passenger amenities and pedestrian accommodations. Hatteras class vessels have a very small passenger area that can seat approximately 8-10 passengers. River Class vessels have a passenger area that can seat approximately 30 passengers. These accommodations are on an elevated level of the ferries and are not ADA accessible.



River Class Passenger Area

The vehicle gantries and terminal areas are also not configured for pedestrian access, but pedestrians could potentially be accommodated with revised loading/ unloading procedures.



Hatteras Terminal Vehicle Gantries

A more feasible solution could be the usage of motor coaches to accommodate more passengers on a single ferry run. Such a system would involve picking up passengers at the Hatteras terminal and having the passengers ride on the motor coach to South Dock. The motor coach would then travel the length of Ocracoke and offload passengers in Ocracoke Village, likely in the vicinity of the current Silver Lake terminal. Total transit time for passengers would be approximately one hour and twenty minutes. The motor coach would then return to South Dock and deadhead to Hatteras. In all cases the motor coach would use the priority lane to bypass vehicles queued for the ferry.

Motor coaches seat between 36 to 61 passengers and typically seat approximately 55 passengers and can contain amenities such as restrooms and wi-fi. At a cost of approximately $500,000 per motor coach, the ferry division could have the option to buy or lease vehicles during the peak season. Based on the current ferry schedule, a minimum of three vehicles would be needed to provide service during the peak periods, which would provide round trip accommodations for approximately 330 passengers per day, or between five and seven ferry runs.



Coach bus in Ocracoke

The use of motor coaches would require additional terminal and parking improvements at the Hatteras terminal, including reconfiguration of the current parking lot adjacent to the terminal, provision of additional employee parking in the vicinity of the maintenance building, provision of a passenger waiting area, and ticketing infrastructure. On Ocracoke, a passenger waiting area would need to be constructed to accommodate passengers waiting for the return trip.

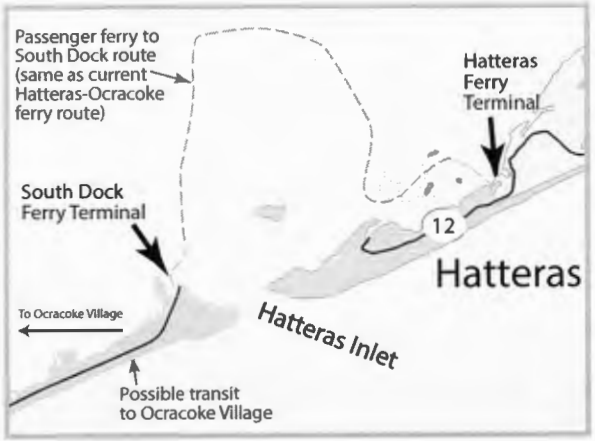
The advantages to this service are that it can be implemented with relatively low capital and operating costs and meets the community's vision of having a more pedestrian oriented village. The disadvantages to this service are that it is not as attractive an option as a passenger ferry service due to the additional transit time and lower level of amenities, and would likely have lower total ridership with a lower opportunity for cost recovery.

The study team considers this to be a feasible but less attractive option for increasing ferry service between Hatteras and Ocracoke. It would likely have lower demand than a passenger ferry.

The study team examined two options for a passenger ferry. The first option was to for the passenger ferry to travel between the Hatteras terminal and the Ocracoke South Dock terminal. This option would require the passenger ferry to travel along the existing ferry route, increasing congestion and limiting the ferry's speed due to limited opportunities for passing vehicle ferries in the current channel. Passengers would then unload and take a transit bus to Ocracoke Village. This would require parking, terminal, and ticketing infrastructure improvements at the Hatteras terminal, a transfer facility at the Ocracoke South Dock terminal, and a passenger waiting area in Ocracoke Village, similar improvements to those required for the previous option.



There are very limited advantages to this option. The travel times would be the same for the option of providing motor coaches and the capital costs would be higher due to the need for a transfer facility at the Ocracoke South Dock terminal and the cost of the passenger ferry. Based on these factors the study team does not consider this to be a feasible option.



The provision of passenger ferry service from the Hatteras terminal to Silver Lake is a paradigm shift for ferry service along the Outer Banks. Working with the Steering Committee, Stakeholders, and the Public, the study team developed the following outline for passenger ferry service:



- One or more vessels with a capacity of between 50 and 200 passengers
- Multiple round trips per day, with peak ridership from the Hatteras terminal in the morning and the Ocracoke Silver Lake terminal in the afternoon
- Utilization of a separate route than the vehicle ferries to avoid conflicts
- Passenger terminals at the Hatteras and Ocracoke Silver Lake terminals
- Parking improvements at the Hatteras terminal
- Online ticketing infrastructure with guaranteed departure times
- Transit service on Ocracoke
- Pedestrian and bicycle improvements on Ocracoke

The study team investigated multiple items related to passenger ferry service to determine if such service is feasible. They are discussed in the following subsections.

Demand

The passenger survey indicated that approximately 97 percent of the riders in the peak demand periods were visitors to Ocracoke, with 83 percent of those visitors taking a day trip to the island. Twenty-five percent were visitors who were on a day-trip from Hatteras and spent time solely in Ocracoke Village.

The unmet travel demand also plays a role in estimating the future demand for passenger ferry service. As discussed previously, conservatively 9 percent of the total vehicles that arrived at the ferry terminal during the peak period turned around and left the terminal or queue. Presumably some of these individuals would consider passenger ferry service if guaranteed departure times were provided.

Based on the survey data and the unmet travel demand information, the study team developed demand estimates based on 25 percent of the current ridership. We feel that this number represents an appropriately conservative estimate of future demand for planning purposes. The actual demand could be slightly lower at the start of service, but is likely to be higher after the service has been in place and has been appropriately advertised. This demand level would represent approximately 125,000 passengers during the peak months of May through September.

Vessels

A variety of vessel sizes and types are available for passenger ferry service, ranging in size from 50 passengers to upwards of 200 passengers. Lead times for construction are approximately 1-2 years, depending on the size and complexity. The trial run of the Provincetown III yielded several key findings

- At a cruising speed of slightly less than 30 knots a passenger ferry takes slightly less than 1 hour to travel from the Hatteras terminal to the Ocracoke Silver Lake Terminal.
- Given the constantly changing nature of the channels in the vicinity of the Hatteras terminal, jet drive is preferable to prop drive to avoid prop damage in the event shallow water is encountered.
- Bicycles can be easily accommodated on a passenger ferry with deck mounted bicycle racks.
- Side loading is preferable to bow loading to allow for expedient ingress and egress.
- A passenger ferry of a similar size has sufficient room to operate in the existing Hatteras basin and in Silver Lake.

Operating Cost

Assuming a capital cost of approximately $5.3 million per vessel (for a 150 passenger ferry) with a 20-year lifespan, fuel, a three-person crew, maintenance, and other miscellaneous costs, the Ferry Division can expect a cost per passenger of approximately $13 per trip. This is much lower than the approximately $28 per trip of the current vehicle ferry. This cost does not include the other infrastructure costs required to implement a passenger ferry service.

Water Side Infrastructure

The trial run of the Provincetown III indicated that side loading can be accommodated within the current Hatteras terminal basin, and that this type of loading is preferable when loading/unloading two vessels and for expedient ingress and egress. Commercially available floating docks could be procured by the ferry division

Continued on next page

Passenger Ferry to Silver Lake (continued)

that would accommodate a passenger ferry, but some rearrangement of the current dolphins would be required.

The Ferry Division currently owns a dead slip in Silver Lake that is used for tieup of the sound class ferries. This space is of a sufficient size to allow for docking of a passenger ferry vessel. Discussions with the National Park Service have indicated that they may be willing to rearrange some of the public dock space to allow for the passenger ferry to dock in closer proximity to the current Sound Class ferries and allow for better separation between vessels of different size.

Land Side Infrastructure

The primary concern for land side infrastructure is room for terminal facilities and for parking. At the Hatteras Terminal, room exists north of the existing terminal building adjacent to the vessel basin for construction of a covered passenger waiting area. This area would provide good connectivity to the adjacent parking lot and would allow use of the current restroom and vending facilities. Parking at the Hatteras Terminal can be provided in the adjacent parking lot, with overflow parking in the Graveyard of the Atlantic Museum or in a new lot constructed north of the Graveyard of the Atlantic Museum parking served by shuttle service to the Hatteras Terminal.

All lands in the vicinity of the Ocracoke Silver Lake Terminal are currently owned by the National Park Service. There are multiple options in this area for the placement of a passenger waiting area, including immediately adjacent to the current ferry terminal building and adjacent to the current National Park Service Visitors Center.

Within Ocracoke Village, sidewalks currently exist in some locations along NC 12. There are multiple locations where improvements would be needed to allow for an increased amount of pedestrian travel.

Transit

At the Hatteras Terminal, the majority of passengers would be expected to arrive by private vehicle. On Ocracoke, transit service will be an integral part of ensuring that a passenger ferry service can be successful. The Hyde County Transit CTSP includes a discussion of a transit circulator on Ocracoke. One challenge to providing such a service will be the limited amount of right-of-way for transit stops within the village.

Summary

Based on the preliminary analysis, there do not appear to be any project-stopping issues related to the provision of passenger ferry service between Hatteras and Ocracoke. However, there are specific challenges, including parking at the Hatteras Terminal, the location for a passenger terminal on Ocracoke, and locations for transit stops within Ocracoke Village. Based on the survey responses and the feedback from the public, there appears to be sufficient demand and support for a passenger ferry service.

Selection of Preferred Alternative

The analysis of the various alternatives yielded two feasible alternatives

- Provision of motor coaches on the current vehicle ferries
- Passenger ferry service between the Hatteras Terminal and the Ocracoke Silver Lake Terminal

While the provision of motor coaches alternative can be implemented with a lower cost, the ridership estimates and revenue from such a service are expected to be lower than a passenger ferry. Therefore the ability of this service to provide a higher level of service to visitors to the Outer Banks is questionable. In contrast, passenger ferry service has the ability to provide a more upscale user experience at a lower per-passenger cost than current ferry service and could represent a new way of doing business for the Ferry Division. Based on these factors, and the public and stakeholder support for passenger ferry service, the Steering Committee directed the study team to further consider passenger ferry service and to develop recommendations for the implementation of such a service. This analysis and recommendations are discussed in detail in the following chapter.



4. Passenger Ferry Analysis and Recommendations

As discussed in the Alternatives section the study team has the following overall recommendations:

- Continue monitoring the Hatteras ferry channel and return to the original route if environmental conditions change
- Increasing departures on the current route is infeasible due to high cost and safety concerns with additional traffic in the current ferry channel
- Encouraging additional walk-on traffic on the current ferries is infeasible due to limited passenger amenities, but utilizing coach buses could be a cost-effective, but less attractive option for moving more passengers between Hatteras and Ocracoke
- A passenger ferry to South Dock does not take advantage of a potential passenger ferry's speed, would require transfer of passengers to a transit vehicle, and there are safety concerns with additional traffic in the current ferry channel
- A passenger ferry to Silver Lake is the most attractive option and is more cost effective than existing ferry service

Based on the selection of passenger ferry service as the preferred alternative by the Steering Committee and the public and stakeholder support for such service, the study team developed recommendations for such a service. This chapter details the various issues surrounding the implementation of passenger ferry service and offers recommendations on vessel types and sizes, routes, schedules, fares, ticketing, terminal facilities, parking, transit, and pedestrian and bicycle improvements needed to ensure successful operation of a passenger ferry service. This chapter also presents costs for the individual elements that will be further discussed in the following chapter.

Ridership

As previously discussed, over the course of three days in June 2015, Volkert and ITRE distributed surveys amongst ferry-goers leaving Hatteras bound for Ocracoke. The surveys were collected and analyzed to gain insight into potential ridership, scheduling, and willingness to pay a fare for a passenger ferry service. The study team analyzed the survey data and primarily focused on those who were visitors to the island. This study assumes that the majority of potential passenger ferry users will be visitors who are making day trips from Hatteras to Ocracoke (surveys show this number to be approximately 8 percent of total ferry ridership).

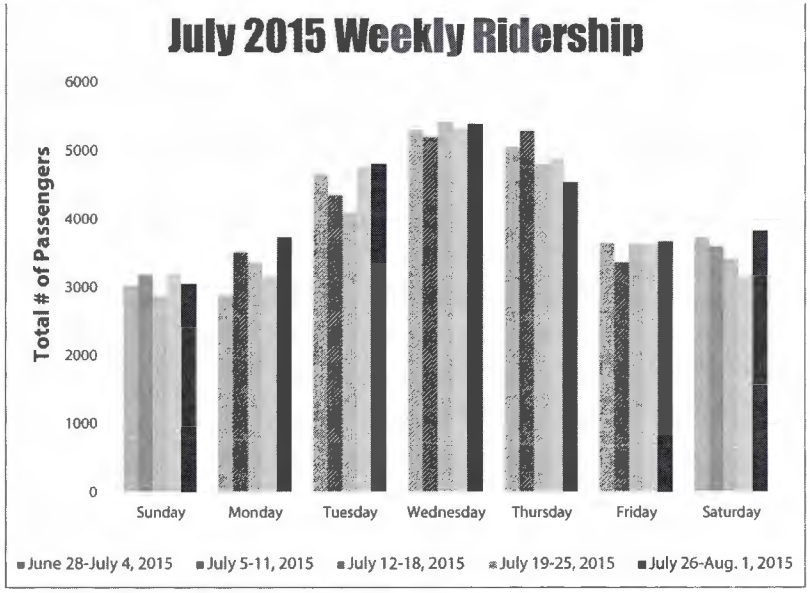
Of those who completed the survey

- 17 percent were visitors who said they thought they could have made the trip without a car;
- 17 percent were visitors who used any means of transportation other than a car/personal vehicle to get around Ocracoke during their visit;
- 25 percent were visitors who were on a day-trip from Hatteras and spent time solely in Ocracoke Village; and
- 23 percent were visitors who said they would likely make more trips between Hatteras and Ocracoke if there was a passenger ferry available.

The study team also analyzed video footage to assess the number of vehicles that waited en queue for an extended period of time before ultimately getting out of the ferry queue, turning around, and leaving. This amounted to approximately 9 percent of all vehicles during peak.

Based on these results, the study team estimates that 25 percent of current ferry passengers would use a passenger ferry between Hatteras and Silver Lake. All calculations, figures, and data quoted hereinafter are based on said 25 percent of total ridership. However, since visitors are assumed to be the primary ridership of the passenger ferry, total ridership is calculated based on peak and shoulder seasons (April through October). It is assumed that passenger ferry service will be ceased or drastically reduced in the off-season as the current ferry service sufficiently meets the travel demand during these times.

The study team analyzed daily ridership data provided by the Ferry Division to determine the variations in ferry ridership across weekdays. Ferry ridership typically is the highest on Tuesday, Wednesday, and Thursday, is slightly lower on Friday and Monday, and is the lowest on Saturday and Sunday. This is primarily due to the check-in schedules of local rental homes, as Saturday is the turnover day.



Volkert also analyzed the number of vehicles on individual ferry runs across June and July 2015 to determine the variability within each day. Based on this data, Volkert developed a draft departure schedule based on operation of a single vessel and for two vessels with ninety minute turnaround times. Using this schedule, Volkert developed ridership estimates for a variety of vessel sizes; 50, 75, 100, 150 passengers on a monthly basis utilizing the 25 percent demand and limiting the ridership when it exceeded the vessel size. The resulting annual volumes per ferry size for operation of one vessel are approximately:

Annual Ridership (Passengers)

Vessel Size (passengers)	50	75	100	150
Single Vessel	30,000	40,650	52,400	62,500
Two vessels	51,915	60,185	74,800	78,100

It should be noted that during peak months, the demand for a single vessel, regardless of supply, will exceed capacity.

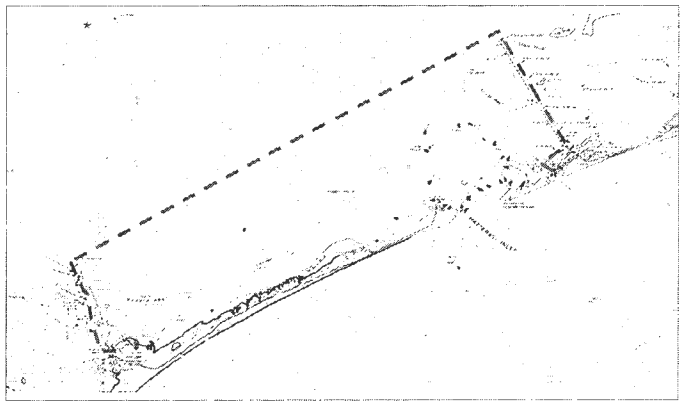
Operating two vessels provides a number of benefits, including a more flexible schedule by having more departure times, and a second vessel in the event that one vessel needs repairs. However, the ridership projections indicate that there are diminishing returns to having service with two vessels, as two 150 passenger vessels are expected to be full on only the peak days during the peak months, whereas two 100 passenger vessels are expected to be full on a more consistent basis.

Based on these projections, the study team recommends that the Ferry Division implement a two-vessel schedule with a vessel size of approximately 100 passengers, depending on the availability of vessels from local or national shipbuilders.

It is also important to note how these ridership estimates translate into vehicles, both for planning of parking facilities, and for comparison to vehicular ferry service. Based on data from the passenger survey, there were an average of 3.79 passengers per vehicle. However, the Ferry Division's ridership data for the peak season on the Hatteras-Ocracoke route over the last five years indicates an average of 2.74 passengers per vehicle Therefore, a two 100-passenger vessel system would equate to between approximately 20,000 and 27,000 cars per year. On a peak day during July, this would equate to between 153 and 212 vehicles, or between four and six full runs of a river class vessel.

Routes

As discussed previously, opportunities to pass along the existing vehicular ferry route are limited. As such, the introduction of a passenger ferry along that route that would travel at a higher speed would both limit the vessels speed and create safety concerns with passing. The existing Rollinson Channel provides a straight and direct course to the Pamlico sound. The study team recommends that the passenger ferry exit the Hatteras Terminal, turn eastward and take Rollinson Channel to the Pamlico Sound and travel the length of Ocracoke to intersect with Big Foot Slough route for entrance into Silver Lake. This route is approximately 21.9 nautical miles. Some minor maintenance dredging will be required along Rollinson Channel in the vicinity of the northbound turn.



Vessels

There are several concerns relative to the selection of an appropriate vessel design for the provision of future passenger ferry service between Hatteras and Ocracoke.

Speed

To ensure the feasibility of a passenger ferry service between Hatteras and Ocracoke, the Steering Committee identified the need for the total transit time from Hatteras to Ocracoke Village to be less than the current ferry service. Currently, the vehicle ferry takes approximately 60 minutes to transit the approximately 8.3 nautical miles between Hatteras and Ocracoke. Visitors to the island then must drive an additional approximately 13 miles to the heart of Ocracoke Village, which takes approximately 15-20 minutes. As the proposed route between Hatteras and Silver Lake is approximately 21.9 nautical miles, a vessel will have to cruise at approximately 25 knots, to make the Hatteras to Silver Lake route in approximately an hour, accounting for the slower speeds in the vicinity of each terminal and while turning.

Coast Guard regulations identify a passenger vessel in domestic service operating at speeds of 30 knots or more as a High-Speed Craft, subject to additional safety criteria outlined in the International Code of Safety for High-Speed Craft. Based on this, and the desired transit time, the study team recommends that a vessel be selected that cruises between 25 and 29 knots.

Size

The vessel size needed for passenger ferry service is largely a function of the desired overall ridership. As discussed previously, the optimum size vessel based on a 25 percent ridership level and a desire to have vessels operating reasonably full, is a 100-passenger vessel. A vessel of this size should be approximately 75-80 feet long and should be able to operate well within the waters of the Pamlico sound, whereas a vessel of a smaller size may not.

Ferry Vessel Acquisition Costs

Estimated costs for construction of a new ferry vessel for the Project were derived from the National Transportation Systems Center's Ferry Lifecycle Cost Model for Federal Land Management Agencies, 2011. The model was prepared by the John A. Volpe Transportation Systems Center, Cambridge, Mass., a federal agency which is part of the U.S. Department of Transportation.

The model was developed to estimate costs for twelve vessel categories including passenger-only and vehicle carriers, breaking down each category to include passenger and vehicle capacities, maximum speed, horsepower, and hull type. Quoted prices, obtained for approximately 80 vessels, were collected from newspaper archives, marine industry magazines, ferry studies, and direct discussions with ferry operators.

Two categories most closely matching the Project are the 51 to 100 passenger and the 101 to 150 passenger vessels with catamaran hull types. New vessel costs were a low of $450,000, a high of $8,000,000. Table 1 illustrates these figures.

Table 1 – Vessel Costs by Selected Category

PAX Capacity	Maximum Speed	Horsepower	Hull Type	Cost Low	Cost High	Cost Average
51-100	23-38	525 - 2,100	Catamaran	$450,000	$3,000,000	$1,725,000
101-150	21-35	900 - 4,000	Catamaran	$700,000	$8,000,000	$4,350,000

Source: Volpe, Ferry Lifecycle Cost Model, 2011

For purposes of the project's conceptual estimate, the average cost was used and then escalated by 10 percent to bring it its cost to the present year (2015). The figure is then shown at its mid-point, high (+20 percent), and low (-20 percent) costs (Table 2).

Table 2 – Vessel Costs Escalated from 2010 to 2015

	Range Point	Cost 51–100 PAX	Cost 101–150 PAX
Total Vessel Cost	Low end cost (-20%)	$1,518,000	$3,828,000
	Mid-point cost	$1,897,500	$4,785,000
	High end cost (+20%)	$2,277,000	$5,742,000

It is anticipated that the vessel selected for the Project would include certain enhancements not included in the Volpe study such as advanced engine design and hydrofoils, likely bringing the cost point somewhere between the mid-point and high end. It is recommended that, for the 51-100 passenger vessel, a cost of $2,000,000 and for the 101-150 passenger vessel, a cost of $5,200,000 be utilized for the Project's study purposes with consideration for adding further escalation where appropriate. An average vessel cost, derived from the above is approximately $3,600,000.

Discussions with local and national shipbuilders indicated that a100-passenger vessel with the amenities desired by the Ferry Division can be procured for approximately $3,300,000. Therefore this number was used for subsequent planning purposes. Passenger ferry vessels of the type being considered for the Hatteras to Ocracoke route have a typical useful life of 25 years.

Vessel Operation Costs

The study team analyzed the costs of a single vessel for labor, insurance, fuel and lubricants, and maintenance. Insurance costs were calculated on an annual basis, while labor and fuel and lubricants were calculated based on daily use and then multiplied by 214 days assuming an April through October operating timeframe.

Maintenance

Based on the Volpe study annual maintenance is approximately 3.5 percent of the vessel value. Assuming a 100 passenger vessel costing $3.3 million this would equate to $115,500 per year or $231,000 for a two-vessel system.

Labor

Labor costs assume a three person crew of a ferry master and two deck hands who are responsible for operating and docking the vessel. The labor rates assumed below were based on labor rates from the North Carolina State Office of Human Resources and do not include overtime compensation.

Vessel Day	Round trips/day	4
	Hours per trip	3
	Total Hours	12
Crew	Ferry Master	1
	Ferry Crew Member II	2
Crews per Day	Hours per shift	8
	Vessel day (hours)	12
	Shifts per day	1.5

			Quantity	Rate	Total
Crew Rates	Ferry Master	Annual compensation with benefits[1]	1	$79,334.00	$79,334.00
		Hourly (annual/2080 hrs/ year)	1	$38.14	$38.14
		Daily (8-hr day)	1	$305.13	$305.13
	Ferry Crew Member II	Annual compensation with benefits[1]	2	$51,113.00	$102,226.00
		Hourly (annual/2080 hrs/ year)	2	$24.57	$49.15
		Daily (8-hr day)	2	$196.59	$393.18
	Crew Rate per Shift	Daily (8-hr day)	2	$501.72	$698.31

[1] *North Carolina State Office of Human Resources*

Total Labor Cost	Daily	$1,047.46
	Yearly (214 days)	$224,156.77

Therefore for a two vessel system labor costs would be $448,314.00.

Fuel and Lubricants

Fuel and lubricants information was based on two 1350 bhp Cummins diesel engines and using fuel and lubricants costs from the US Energy Information Administration assuming a 214 day schedule.

Fuel Consumption; Calculated vs Published Literature

Published Literature	Power Produced per engine	1350	BHP
	Assumed SFC	0.4	lbs/hr/HP
	Fuel Specific Weight	7.2	lbs/GAL

Engine	**Calculated**	Idle	5 kts	20 kts	30 kts
	Single Engine	5%	20%	75%	100%
	GPH - Gallons Per Hour	**3.8**	**15.0**	**56.3**	**75.0**
	Calculated	Idle	5 kts	20 kts	30 kts
	Twin Engines	5%	20%	75%	100%
	GPH - Gallons Per Hour	**7.5**	**30.0**	**112.5**	**150.0**
Gallons per hour	**from Cummins Literature**	Idle	5 kts	20 kts	30 kts
	Single Engine	5%	20%	75%	100%
	GPH - Gallons Per Hour	**3.3**	**13.1**	**49.0**	**65.3**
		Idle	5 kts	20 kts	30 kts
	Twin Engines	5%	20%	75%	100%
	GPH - Gallons Per Hour	**6.5**	**26.1**	**98.0**	**130.6**

Trip Assumptions Based on Cummins Published Data

Idle	Idle Time per Leg	0.5	HRS
	Idle GPH	6.5	GPH
	Idle Fuel	3.3	Gallons
No Wake 5 knots	No Wake Speed Legs	3.0	Per Trip
	No Wake GPH	26.1	GPH
	Time of No Wake Legs	0.1	HRS
	No Wake Speed Fuel	7.8	Gallons
Full Speed 30 knots	Full Speed Leg	1.0	Per Trip
	Full Speed GPH	130.6	GPH
	Number of legs	0.7	HRS
	Full Speed Fuel	91.4	Gallons
	One Way Trip Time	1.5	HRS
	One Way Trip Fuel	102.5	Gallons
Trip Summary	Round Trip (2 Legs) Time	3.0	HRS
	Round Trip (2 Legs) Fuel	205.0	Gallons
	Round Trips Per Day	4	Ea
	Hours of Operation Per Day	12	HRS/Day
	Daily Fuel Consumption	820.2	Gallons/ Day
Lubricants	Daily lubricants Consumption (0.4% of daily fuel consumption)	3.3	Gallons/ Day
Fuel Cost	Diesel No. 2 (low sulfur) Lower Atlantic region, August, 2015	$2.654	per Gallon[1]
	With 5% bulk discount	$2.521	per Gallon
	Daily fuel cost	$2,067.89	per Day
Lubricants Cost	Cost per gallon	$8.000	per Gallon[2]
	Daily lubricants cost	$26.25	per Day
Total Fuel and Lubricants Cost		$2,094.13	Daily
		$448,144.88	Yearly

[1] U.S. energy Information Administration, Independent Statics & Analysis; http://www.eia.gov/dnav/pet/pet_pri_gnd_a_epd2d_pte_dpgal_v.htm

[2] Volpe, Ferry Lifecycle Cost Model, 2011.

Total

The total yearly operating cost for a two-vessel schedule is:

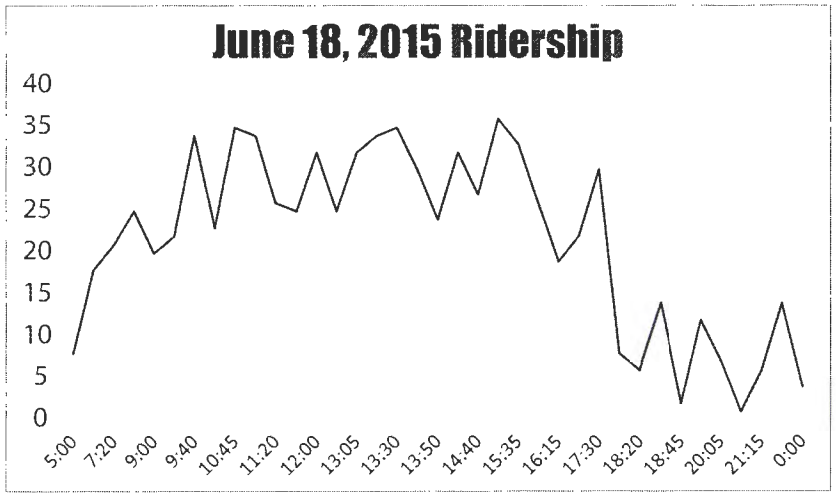
Maintenance	$273,000
Labor	$231,000
Fuel and Lubricants	$448,144
Total	**$903,300**

Schedule

The recommended passenger ferry schedule was developed based on several criteria

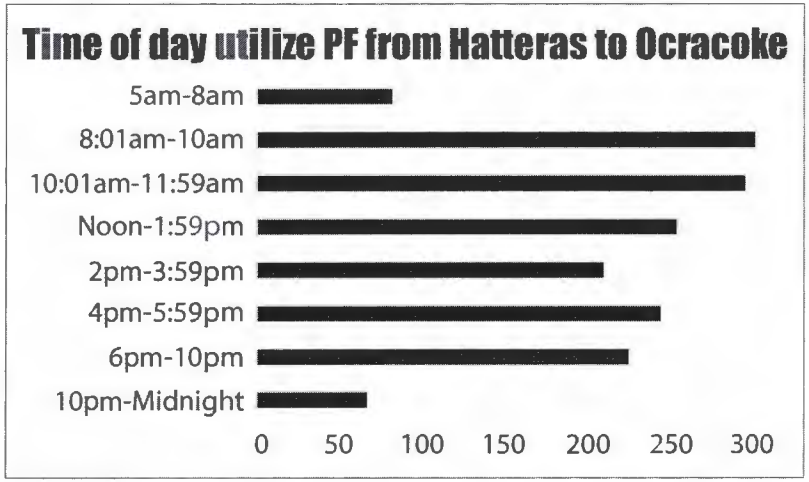
1. A one-hour transit time from terminal to terminal
2. A 30-minute turnaround time at each terminal
3. Limit of a 12-hour workday for ferry crew members
4. Analysis of peak ridership times on the current vehicle ferries
5. Passenger survey responses regarding departure time preference

The chart below shows the vehicle ferry ridership from the Hatteras Ferry Terminal on Thursday, June 18, 2015.



It should be noted that all ferry runs leaving Hatteras between 6:15 AM and 4:00 PM were full.

The graph below shows the responses from the passenger survey indicating the times that passengers would prefer to leave Hatteras.



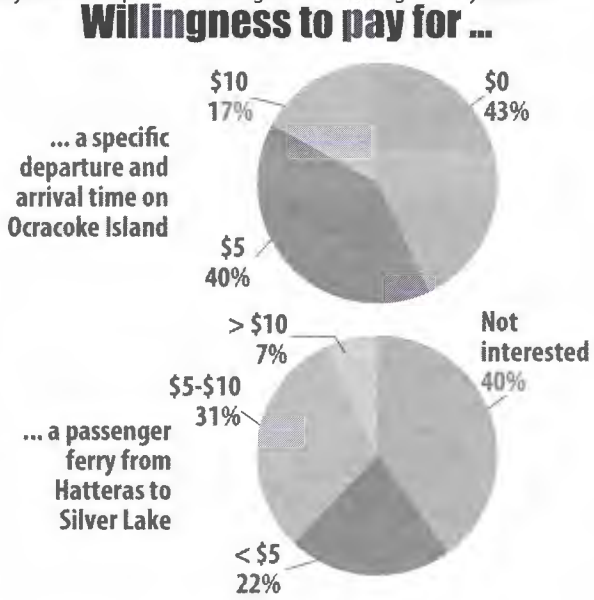
Based on this information and the previously discussed constraints, the study team recommends the following departure schedule for a two-vessel system. Vessel 1 is highlighted in yellow, vessel two is highlighted in green.

Hatteras	Ocracoke
8:00	9:30
10:00	11:30
11:00	12:30
1:00	2:30
2:00	3:30
4:00	5:30
5:00	6:30
7:00	8:30

Fares and Revenue

The passenger survey indicated that 57 percent of respondents were willing to spend between $5 and $10 for a specific, guaranteed departure and arrival time. Thirty one percent of respondents were willing to pay between $5 and $10 per passenger for passenger ferry service with 7 percent saying they would spend more than $10 and 22 percent saying they would spend less than $5. Based on these results, the study team recommends that a $15 toll rate be used for the passenger ferry service. This would result in approximately $1,122,000.00 in toll revenue. It should be noted that at a $15 fare, using the assumed operating cost, the passenger ferry service will run at approximately $200,000 deficit per year.

It should also be noted that this analysis was completed assuming that the existing car ferry service remains free. As a passenger ferry is a premium service, it is the study team's opinion that riders will be willing to pay a per passenger fee for a guaranteed departure and arrival time in order to not have to wait in line for car ferry service, particularly given that the wait time study indicated that riders routinely wait in excess of an hour at both the Hatteras and Ocracoke terminals. The difficulty of visitors to Ocracoke to find parking, as well as the walkability of the village itself will contribute to the attractiveness of the passenger ferry service. Any changes to the car ferry service in terms of an increased (or decreased) amount of departures, or the installation of tolls could affect the utilization of the passenger ferry service and the subsequent revenue gained from the service.

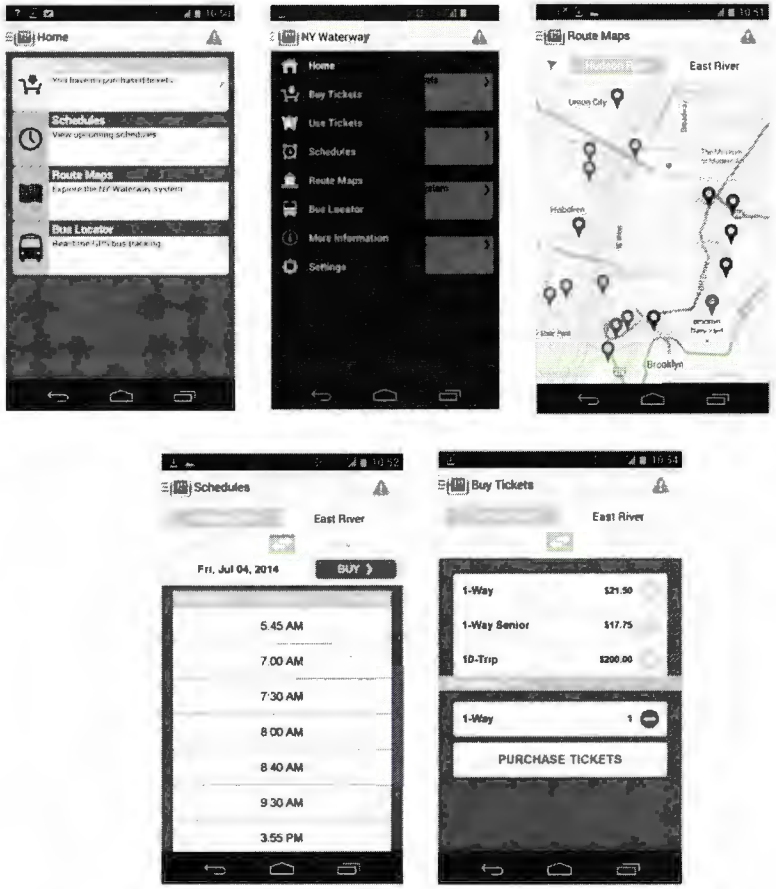


Ticketing

Ticketing is an integral part of providing an upscale and seamless user experience.

The study team recommends that tickets be available for purchase in-person at the ferry terminal, online via a web portal, and via a mobile device application and should be paper and paperless. Tickets should be available to be purchased for the round trip only, with the round trip allowed to span multiple days.

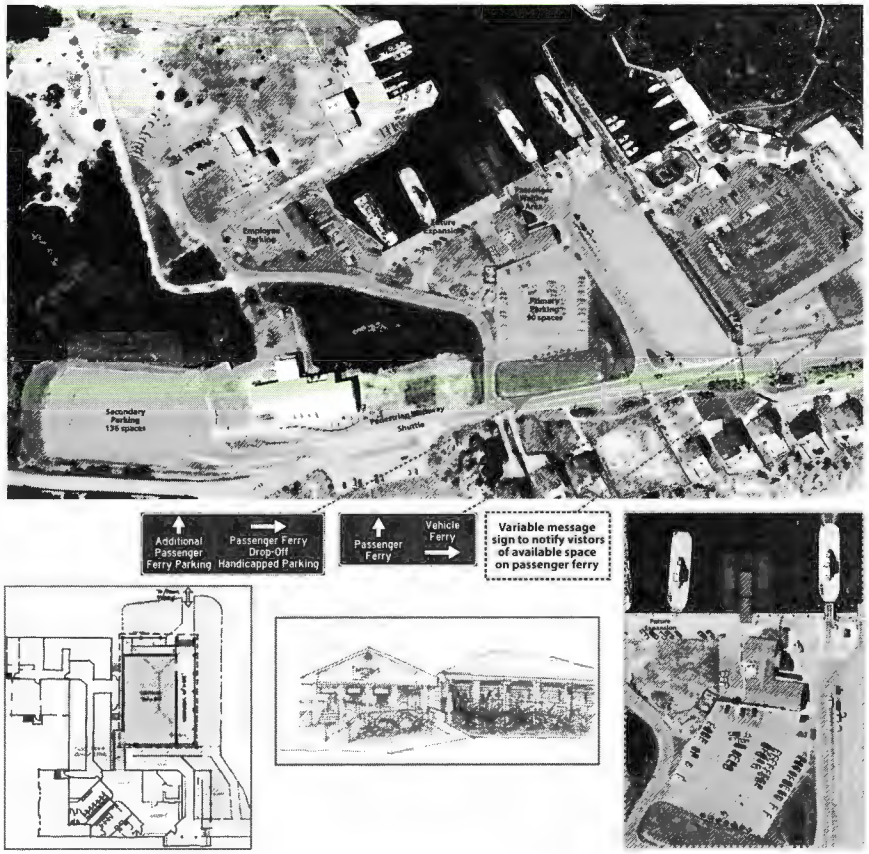
The peer review of other ferry systems identified several ticketing options. The NY Waterway app provides an excellent template for a mobile application that provides a wealth of information, including vessel location, and allows for the purchase and use of online tickets. This application could be populated with the entire ferry system's information to provide additional information and could include information on the recommended transit system for Ocracoke and the existing reservation system could be integrated into this application.



The study team estimates that the ticketing system development, including application development, website development, and ticket collection technology will cost approximately $150,000.

Hatteras Terminal

The Hatteras Terminal will be the origin for most visitors' trips to Ocracoke and the vast majority of passengers are expected to arrive by private vehicle. The following image identifies the improvements proposed for the Hatteras Terminal. These Improvements include the following:



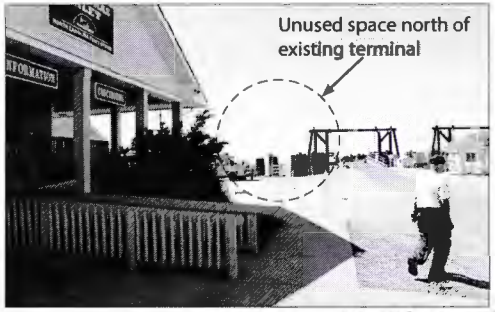
Terminal

The existing terminal building contains restrooms and vending facilities that are suitable for use by passenger ferry riders. There is currently an area located just north of the existing terminal building that is currently unused, where a terminal addition could be constructed.

This addition is recommended to be a semi-detached building adjoining the existing ferry terminal and housing the waiting room and veranda, developed in a manner that incorporates the existing ramp. The basis of design provides the following functions:

- Waiting Room
- Veranda (stairs and ramp up to building)
- Interconnect with existing:
  - Terminal lobby
  - Administration
  - Ticketing
  - Restrooms

The suggested architectural style should match/complement the existing terminal building.



Hatteras ferry terminal

The main waiting area should be open-air and have the capacity to comfortably accommodate 115 persons and more than 150 during adverse weather conditions with fold down storm curtains. The veranda provides additional capacity when weather conditions permit.

With a gross building area of approximately 2,400 square feet, the appropriate cost would be $360,000. As the passenger ferry service expands this structure could be converted to a fully enclosed structure with additional restrooms.


Possible Hatteras ferry terminal addition

Parking

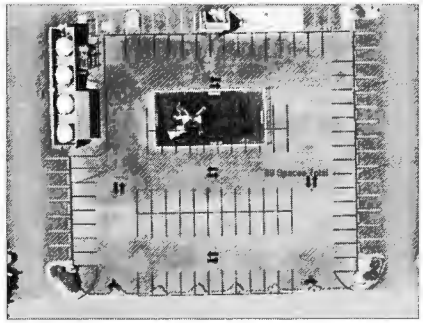
Parking will be a key consideration at the Hatteras Terminal, as the vast majority of passengers are expected to arrive by private vehicle. The existing parking lot immediately adjacent to the terminal currently contains approximately 90 spaces.

The study team recommends that this lot be converted to passenger ferry parking and restriped to allow for dropoff adjacent to the passenger ferry terminal. Access should be provided via Museum Drive and Coast Guard Road to separate passenger ferry traffic from vehicular ferry traffic.

As discussed in the Ridership section, a two vessel system with 100 passenger vessels can be expected to generate between 153 and 212 passenger vehicles, leaving a deficit of between 63 and 122 parking spaces necessary outside of the current lot.

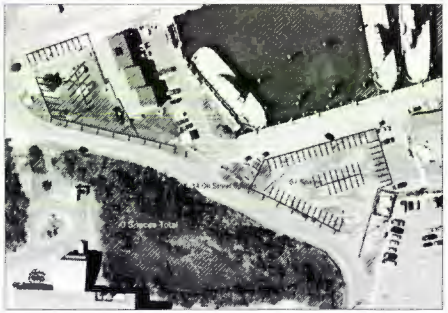
The Graveyard of the Atlantic Museum is located adjacent to the ferry terminal and is accessible to the terminal via Museum Drive and Coast Guard Road. This facility is operated by the North Carolina Department of Cultural Resources but is located on land owned by the National Parks Service. This lot currently contains approximately 141 parking spaces. Visual observations by the project team indicate that this lot is currently heavily underutilized. However, observations were not made during the very peak of the tourist season when Graveyard of the Atlantic Museum staff indicate that the lot approaches capacity. The study team recommends that the Ferry Division implement a parking study on this lot in the third quarter of Year 1 to determine the occupancy of this facility over the course of several peak days to determine the number of spaces that could potentially be utilized for patrons of the passenger ferry. If this analysis indicates that spaces are available in this facility, the Ferry Division should work with the North Carolina Department of Cultural resources to designate a section of this lot for passenger ferry passengers and provide shuttle service from the lot to the passenger ferry terminal via Museum Drive and Coast Guard Road. Utilization of this lot by passenger ferry patrons would likely increase visitation to the museum by increasing the visibility of the museum and offering opportunities for additional cultural markers between the parking lot and the ferry terminal.


Possible parking expansion at Graveyard of the Atlantic Museum


Hatteras Landing shopping center parking option

GIS analysis of the environmental conditions surrounding the ferry terminal, as well as physical observations by the study team indicate that the existing Graveyard of the Atlantic Museum parking lot could be expanded to the north to provide additional parking. A preliminary layout of this lot indicates that 84 additional spaces could be provided without any wetland impacts, which would very likely meet the overall parking requirements for two 100 passenger ferries without any utilization of the Graveyard of the Atlantic Museum Parking lot. NCDOT has already begun the environmental analysis associated with this parking facility.

A final parking option would be to purchase or lease land from the Hatteras Landing shopping center to provide additional overflow parking. A preliminary layout on the existing septic area for the facility indicates that 89 spaces could be provided at this location. This lot would need to be constructed of pervious pavement to allow for the continued operation of the septic system. A parking lot in this location is the least attractive from a vehicular and pedestrian flow standpoint, as it would require passenger ferry passengers to cross the vehicle ferry queueing lanes. However, a parking facility at this location would provide greater access to shopping and other amenities in Hatteras Landing.



Hatteras staff parking option

Signage

Signing will be a critical component of ensuring that patrons of the passenger ferry arriving to park get safely and efficiently to their destination. Currently, there is an overhead sign assembly located approximately ¼ mile from the entrance to the ferry terminal that provides direction to the Graveyard of the Atlantic Museum, US Coast Guard Facility, beaches, ferry, and Hatteras Landing. Approximately 400 feet from the overhead sign, NC 12 is split by a center median island and additional signage is provided in the median. Signage to the passenger ferry should be added to the overhead sign assembly on the left-most side along with the Graveyard of the Atlantic Museum and USCG-Beaches sign and the NC 12 Ferry sign should be modified to read NC 12 Vehicle Ferry. The sign in the median should also be modified to provide direction to the vehicle and passenger ferry. One additional sign should be added just east of the existing traffic control signal at the entrance to the vehicle ferry queue lanes to direct passenger ferry patrons to continue straight. A sign directing visitors to the passenger ferry parking and to additional passenger ferry parking should be placed on Museum Drive just east of Coast Guard Road to direct passengers onto Coast Guard Road.



Above: Overhead sign assembly near Hatteras Ferry terminal entrance.

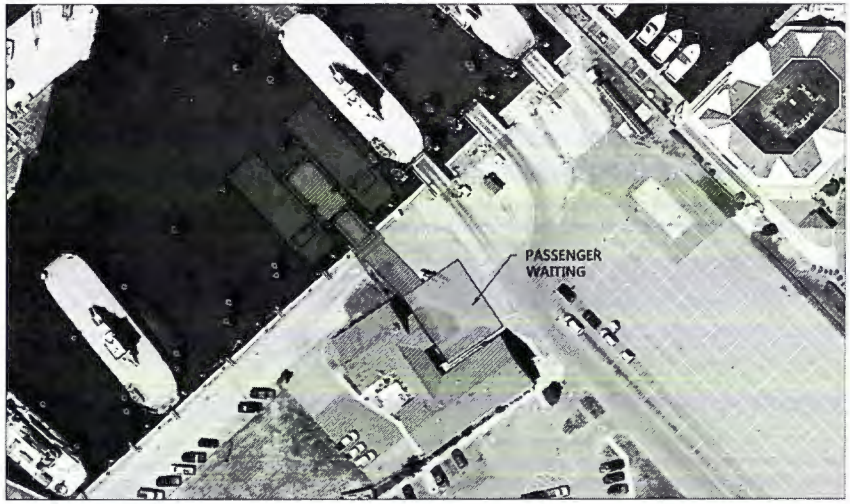


Right: Signage on median of NC 12

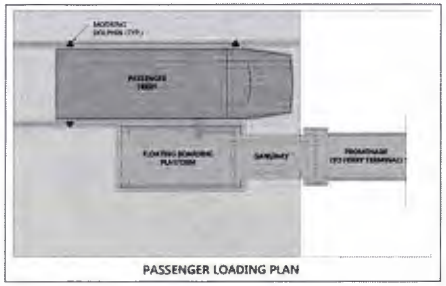
The Ferry Division may also want to consider installation of a variable message sign east of the existing overhead sign assembly that can inform visitors when there are walk-up tickets available for the passenger ferry. This signage should increase ridership during peak times by informing potential vehicle ferry passengers that they have a choice of methods to travel to Ocracoke and that they can board a vessel with a limited wait.

Vessel Loading/Unloading

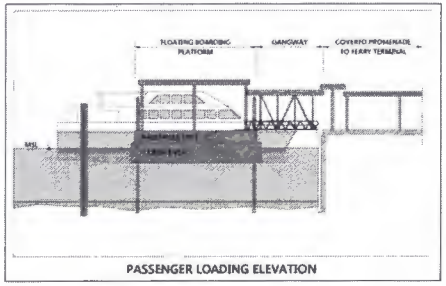
Based on interviews with Bay State Cruises, operators of the Provincetown III, and the literature review, the study team recommends that side loading be used for passenger loading and unloading operations. The advantages of this system are that it allows for simultaneous loading and unloading of two vessels and provides a wide platform for bicycles and other gear that may be carried on to the ferry. A floating boarding platform should be utilized to normalize the loading height with the height of the vessel regardless of tides and the platform should be connected to the terminal by a gangway and covered promenade. The following engineering sketches show the approximate location and design of the boarding platform. A floating boarding platform has a typical lifespan of 15 years.



HATTERAS FERRY LANDING
SITE PLAN TWO VESSEL BERTH



PASSENGER LOADING PLAN



PASSENGER LOADING ELEVATION

The gangway and floating platform is expected to have the following costs.

Hatteras Landing	
Description	**Totals**
Demolition	$45,000
Sitework	$50,000
Gangway and Floating Platform	$202,000
Canopy	$65,000
Floating Dock Mooring Piles	$16,000
Cluster of Timber Piles for Mooring Dolphins	$20,000
Fendering for Mooring Dolphins	$20,000
Fixed Dock	$32,5000
On-Board[1]	$100,000
TOTAL—Low-end Cost (-20%)	**$462,800**
TOTAL—Midpoint Cost	**$578,500**
TOTAL —High-end cost (+20%)	**$694,200**

[1] On-board equipment + utility service (ladders, life ring cabinet, firehouse cabinet, cleats, power module, power pedestals, signage) electrical service + potable water service

Ocracoke Terminal

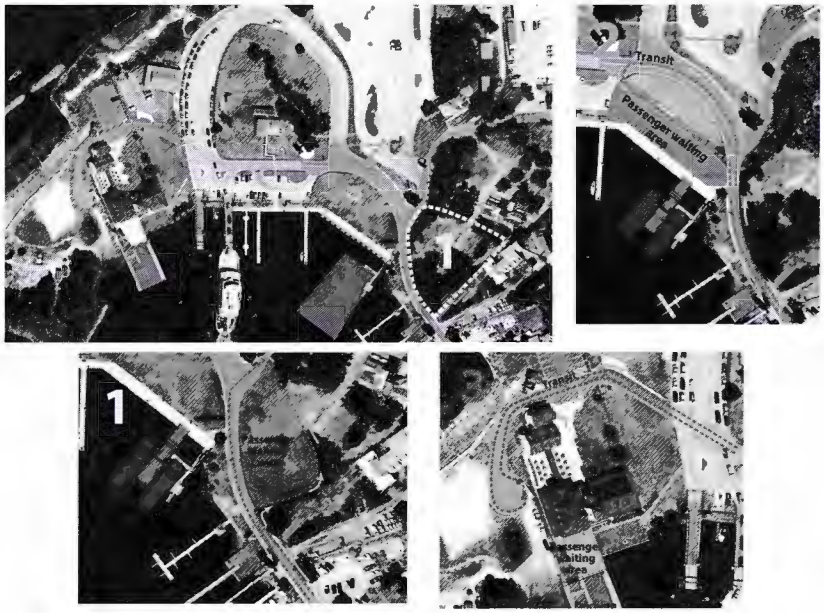
The Ocracoke Terminal will serve as a gateway to Ocracoke Village and will be the first impression that visitors have when arriving to the island and the last impression when leaving. As such, the design and functionality of the terminal is extremely important. The terminal should be designed to disperse passengers disembarking from the ferry in a variety of directions and using a variety of travel modes and must also provide information so that visitors to the island can make informed choices.

All lands in the terminal area are owned by the National Parks Service and are to CAMA regulations and include items of historical significance. The study team analyzed a variety of options, including

1. Berkley Manor Property
2. National Parks Service Dock Area
3. North Carolina Center for the Advancement of Teaching (NCCAT) Facility

Each of these facilities presented special challenges that prevented them from being the ideal location for a future terminal. The Berkley Manor property was extremely expensive, the NPS Public Dock Facility was greatly complicated by required CAMA setbacks, and the NCCAT facility is on the National Register of Historic Places and would potentially conflict with NCCAT's programs.

Given that the National Parks Service is the primary landowner in the Ocracoke Silver Lake Terminal area, the study team and Ferry Division staff met with National Parks Service staff on September 1, 2015 to discuss possible terminal options. NPS staff indicated that their current visitors center was not meeting their needs and they were interested in partnering on a future terminal at this location that could meet the needs of the NPS, Ferry Division, and Hyde County. This location presents an ideal arrangement for a passenger terminal as it is in close proximity to the ferry docks, there is an existing circulating roadway system that provides access for a future transit system, and there is reasonably convenient pedestrian access into Ocracoke Village.



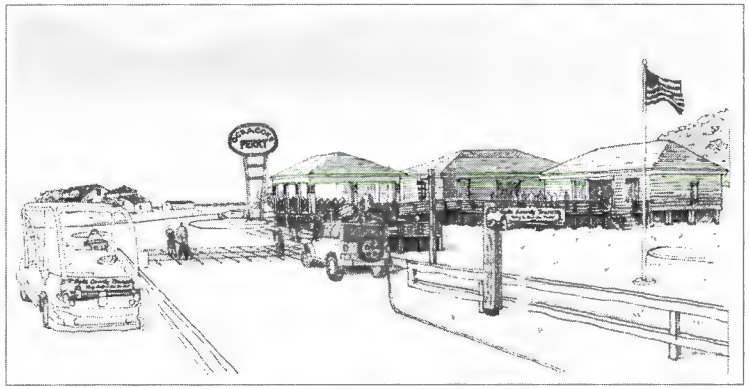
Short-Term Solutions

To allow for expedient implementation of passenger ferry service, the study team recommends that the Ferry Division work with the NPS to install a temporary covered facility immediately adjacent to the NPS Visitors Center. The architectural style should match/complement the existing NPS building.

The main waiting area should be open air and a minimum of 30'x50, which would comfortably accommodate 115 persons and more than 150 during adverse weather conditions with fold down storm curtains.

With a gross building area of approximately 2,400 square feet, a rough order of magnitude cost would be $225,000. If possible, temporary restrooms should be provided, or signage should be provided to direct patrons to the existing ferry terminal building for restrooms. Signage should also be provided to direct patrons to the existing ferry terminal building for vending and ticket sales. A pullout from the existing parking lot should be provided for transit vehicles and other private shuttles.





The NCDOT is currently developing an environmental analysis for this facility.

Long Term Solutions

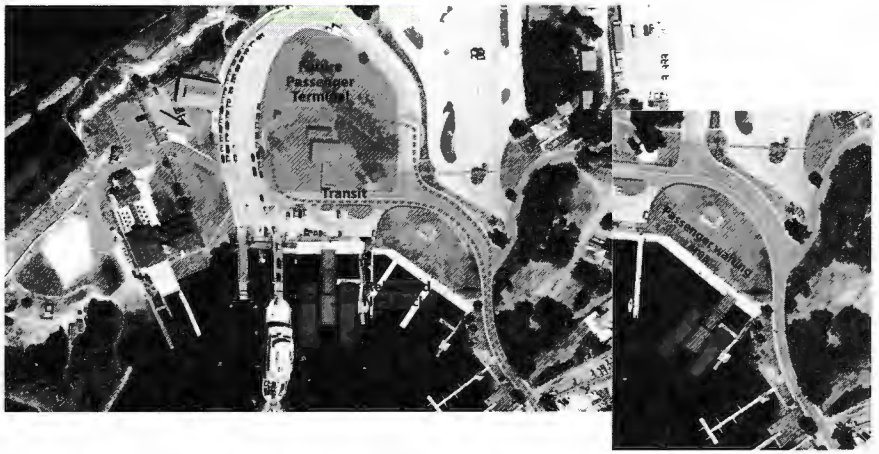
The location of the temporary terminal also provides the ideal location for a permanent facility. The study team recommends that the Ferry Division work with the NPS and Hyde County to develop a programmatic study for a future terminal facility that can accommodate all three entities. For the ferry operations the terminal should contain

- Lobby with small restrooms
- Ticketing & Administration
- Main Waiting with Veranda/Terrace
- Concession/Vending
- Main restrooms
- Main waiting area to accommodate 115 persons and more than 150 during adverse weather conditions
- Separate loading zones for smaller vehicles (golf carts, bicycles, etc) and larger vehicles (cars, trams)

Vessel Loading / Unloading

Similar to the Hatteras Terminal, the study team recommends that side loading be used for passenger loading and unloading operations. There are two options for future docking areas. The first option is to utilize the area in the vicinity of the Ferry Division's current dead slip. The disadvantages to this are that the Ferry Division will lose access to the dead slip, which is occasionally used to tie up sound class ferries or smaller Ferry Division vessels. This arrangement will also put small craft accessing the NPS docks between the sound class and passenger ferries, which if operating simultaneously could cause issues for small craft docking. The second option would be to locate the passenger ferry docking area immediately adjacent to the vehicle ferry and to relocate the NPS floating docks to the east to provide better separation between smaller craft and the larger ferry vessels.

The study team recommends that the Ferry Division work with the NPS to locate the future docking area adjacent to the existing vehicle ferry docking area and to relocate the NPS floating docks to the east.



Costs for the Ocracoke passenger ferry docks are:

Ocracoke Townside Landing	
Description	**Totals**
Gangway and Floating Platform	$202,000
Floating Dock Mooring Piles	$16,000
Cluster of Timber Piles for Mooring Dolphins (3 pilings)	$48,000
Fendering for Mooring Dolphins	$20,000
Fixed Dock	$32,5000
On-Board[1]	$100,000
TOTAL—Low-end Cost (-20%)	**$568,800**
TOTAL—Midpoint Cost	**$711,000**
TOTAL —High-end cost (+20%)	**$853,200**

[1] On-board equipment + utility service (ladders, life ring cabinet, firehouse cabinet, cleats, power module, power pedestals, signage) electrical service + potable water service

Ocracoke Transit

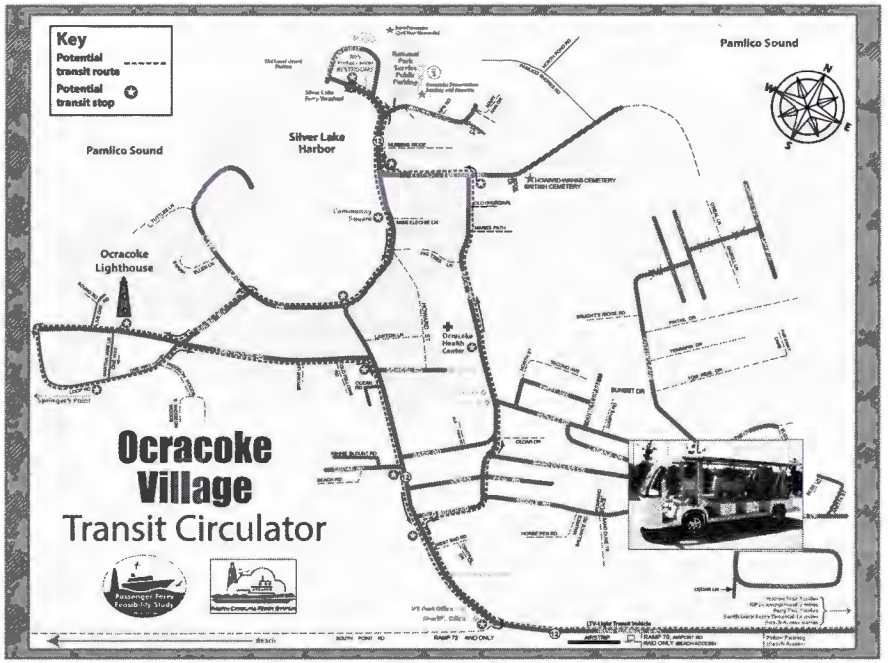
Passenger ferry service will create a scale of demand for public transit that did not exist before. With the multiple transportation options being proposed for the deboarding ferry passengers, the study team estimates that transit would accommodate 45 percent of the immediate departure of passengers. Transit will also accommodate other visitors to the island that arrive via the current vehicle ferry service, which will assist with funding of the transit system.

The study team recommends two types of future transit service:

- The Tram is an open sided shuttle bus that seats approximately 16 people per vehicle. The study team recommends that this service travel a loop route that takes about 20 minutes and serves most of the village attractions. The service should be hop-on-hop-off such that visitors can embark-disembark at any stop. These trams are expected to have a 10-year lifespan.



- A second small light transit vehicle (LTV) is recommended for longer trips to the further areas along the way to South Dock Ferry Terminal ; i.e. village limits/ police station, pony pens, life guard beach, airport etc. This 16-passenger bus is equipped with two wheel chair stations and a lift to assist persons with disabilities that make boarding difficult. The capacity is reduced to 12 when both wheelchair stations are occupied. These LTVsare also expected to have a 10-year lifespan.



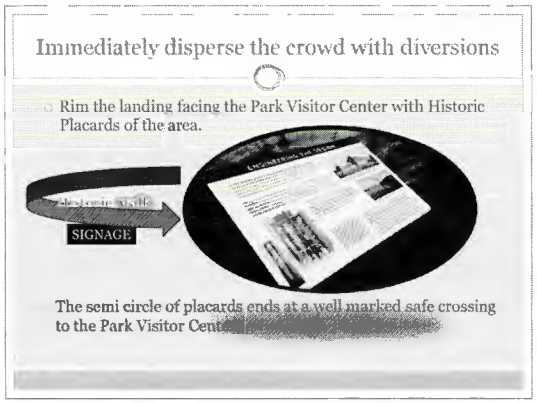
The loop route features 12 stops in the village boundaries. The LTV route is approximately 14 miles long and will provide access to erries on both ends of the Ocracoke Island. This vehicle will also provide for the ability to walk on to the existing vehicle ferry in the event that a passenger misses their passenger ferry departure and no space is available on the next departure.

Given the limited right-of-way in Ocracoke Village, transit stops for the tram will likely be limited to a sign, bench, and trash receptacle. At some locations where additional right-of-way is available a shelter may be feasible. The study team recommends that the loop route operate only during the peak months.

Operations cost estimates range from $185,000 per year with peak-only services to $231,000 per year with slightly expanded service.

Ocracoke Signage and Wayfinding

In a situation where large crowds are all exiting a ferry boat, it is necessary to immediately disperse the crowd. The study team recommends that strategically located directional signs be installed to help to quickly separate the group.



The group that is most familiar with the Island will want to walk immediately towards the restaurants and shops located within 8-10 minutes from the Port (e.g. ¼ mile distance). This group should be guided safely away from the wharf with adequate warning about the narrow sidewalks and will be pointed towards safe roadway crossings.

The passenger ferry also presents the opportunity to install historic placards in the vicinity of the terminal area to inform visitors of the history of the island. A smaller group of people will be attracted to these historic walk placards and will be guided slowly off the landing site by following a ring of historic placards placed along the rim of the National Park property; these historic placards end at a safe crossing point to the National Park Visitor Center and terminal area.

After seeing the Visitors Center, the visitors should be guided by signage to the Ocracoke Preservation Society Museum. This leaves this group ready to catch the second loop of public transportation services. Visitor kiosks filled with brochures and micro scale vending machines (i.e. single shot sun screen); should be installed in the terminal area to occupy visitors that are awaiting transit service.

The NPS parking lot is open to public parking and could accommodate a limited number of pick-ups for hotel shuttles and rental choices that are not best staged immediately at the pier, i.e. off-road-vehicles, horses, etc. The public parking lot is also the logical place for pick-up by friends and neighbors who have their own private cars on the Island.

A large number of people will be attracted to the personal transport options like scooters, golf carts, and bicycles. Those who have pre-booked one of these transport options while still on the ferry should be instructed during the booking to gather at the curbside staging location for pickup.

Ocracoke Pedestrian and Bicycle Improvements

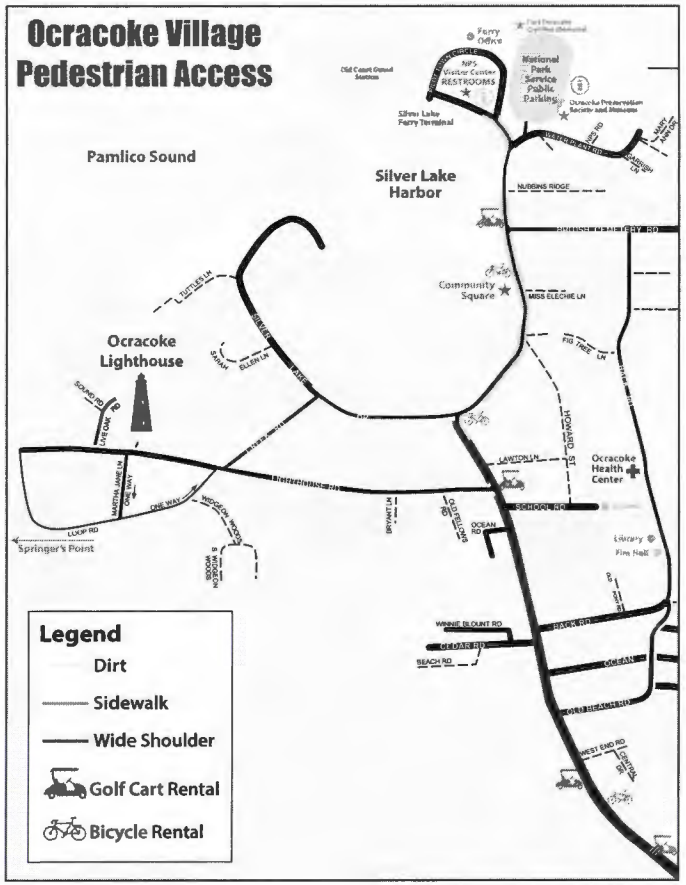
Due to right-of-way constraints, a variety of roadway cross sections exist within Ocracoke Village, with most roadways having dirt shoulders or 3 feet of sidewalk as shown in the figure below. East of Silver Lake Road, NC 12 does have wide paved shoulders.

Due to the limited right-of-way it will be extremely difficult to install new or expanded pedestrian or bicycle facilities. In fact, the biggest improvement to pedestrian and bicycle mobility and safety will be to remove vehicles from the island by use of a passenger ferry.

However, one area is of critical importance. The existing curve on NC 12 just south of Water Plant Roadcurrently has dirt shoulders and has vegetation growing close to the roadway. This area also occasionally experiences higher volumes of vehicular traffic when a sound class ferry is loading or unloading. With the implementation of passenger ferry service, this area will have one of the highest concentrations of pedestrian traffic.

The study team recommends that NCDOT and Hyde County work with the local property owners to install as wide a sidewalk as possible (ideally 5 feet) on both sides of the roadway in this area and trim the existing vegetation to accommodate pedestrians to connect with the future passenger ferry terminal and to provide better visibility between pedestrians and drivers. This sidewalk should connect to the existing sidewalk along NC 12 north of British Cemetery Road.

Bicycle and golf cart rental will also be increasingly important as more visitors come to the island without a vehicle. NCDOT and Hyde County should work with local business owners to promote rental companies in the Hatteras ferry terminal and to arrange for a system for picking up renters at the ferry terminal that disperses travelers and does not interfere with transit operations.





Wide paved shoulders near Old Beach Road



Three-foot sidewalks near Community Square

Recommendations Summary

In summary the study team recommends the following:

- **Two approximately 100-passenger ferries** capable of cruising at approximately 25 knots.
- Using **Rollinson Channel** to access the Pamlico Sound and **Big Foot Slough** to access Silver Lake.
- **Eight round trips per day** with the first departure from Hatteras at 8:00 AM with the last departure from Ocracoke at 8:30 PM May through September.
- A **$15 round trip fare** per passenger.
- **Online and application-based ticketing.**
- Construction of an **open-sided terminal immediately adjacent to the existing Hatteras Terminal.**
- **Parking and passenger drop off** in the existing lot adjacent to the Hatteras Terminal. **Additional parking** located in the existing Graveyard of the Atlantic Museum parking or in a newly constructed lot adjacent to this facility with shuttle service to the Hatteras Terminal.
- **A system of signage**, including a variable message sign, at the approach to the Hatteras Terminal.
- **A floating platform** that allows for berthing of two vessels and side loading/unloading at Hatteras and Ocracoke.
- **Ocracoke docking** immediately adjacent to the existing Sound Class ferry docks.
- **A temporary terminal** located immediately adjacent to the National Parks Service Ocracoke Visitors Center.
- **A permanent terminal** in this same location that will accommodate the Ferry Division, NPS, and Hyde County.
- **A comprehensive signing package** to disperse passengers from the Ocracoke Terminal.
- **A loop transit system on Ocracoke** with 20-30 minute headways.
- **An LTV transit system** to connect the Ocracoke Terminal with the South Dock terminal and provide access to attractions outside of Ocracoke Village.
- **Pedestrian improvements** in the curve along NC 12 just south of Water Plant Road.
- **Coordination with local businesses** to provide golf cart and bicycle rental.

The capital and operating costs, as well as the prioritization of the recommendations are discussed in detail in the following chapter.



Sidewalk is needed in this area



Golf cart rentals will be increasingly important



Bicycle rentals will be increasingly important

5. Implementation

This section of the report details the long-term plan for passenger ferry service and details the parties responsible for implementation of the various recommendations along with a recommended implementation timeline. This section also enumerates the capital and operating costs for each element and presents a 20-year business plan for the NCDOT elements included in the plan.

Responsible Parties

As shown in the Recommendations section, there are many elements that have to come together and operate as a seamless system for passenger ferry service between Hatteras and Ocracoke to be successful. It is important to remember that a passenger choosing to take passenger ferry service is not concerned with who owns the parking lot or operates the transit system, just that they have safe, efficient, convenient, and seamless experience. This will require the participation from many agencies. The following is a list of the recommendations and the responsible parties:

Task	Primary Responsible Party	Secondary Responsible Party(s)
Procure/operate/maintain ferry vessels	NCDOT Ferry Division	
Develop environmental document for Hatteras/Ocracoke improvements	NCDOT PDEA	NCDOT Ferry Division, NCDOT Division 1
Construct Hatteras terminal building	NCDOT Ferry Division	NCDOT Division 1
Procure/install Hatteras signing	NCDOT Ferry Division	NCDOT Division 1
Repave/restripe Hatteras terminal parking lot	NCDOT Ferry Division	NCDOT Division 1
Perform Graveyard of the Atlantic Museum Parking Study	NCDOT Ferry Division	NCDOT Division 1 , NCDCR
Construct new Hatteras parking lot	NCDOT Ferry Division	NCDOT Division 1, NC Department of Cultural Resources (Current Lot Operator), NPS (Landowner)
Construct new Hatteras employee parking	NCDOT Ferry Division	NCDOT Division 1
Procure Hatteras shuttle	NCDOT Ferry Division	NCDOT Division 1
Procure and Install floating dock and dolphins at Hatteras and Ocracoke	NCDOT Ferry Division	
Develop ticketing system	NCDOT IT	
Dredge of Rollinson Channel	US Army Corp of Engineers	
Construct Ocracoke terminal building	NCDOT Ferry Division	NCDOT Division 1 , NPS (landowner)
Develop/Install Ocracoke wayfinding	NCDOT Ferry Division	NCDOT Division 1, NCDCR (historical markers), NPS (landowner), Hyde County
Procure transit vehicles	NCDOT Ferry Division	NCDOT Division 1, Hyde County Transit (operator)
Install transit stops	NCDOT Ferry Division	NCDOT Division 1, Hyde County Transit (operator)
Operate transit system	Hyde County Transit	
Design/construct pedestrian improvements	NCDOT Ferry Division	NCDOT Division 1
Coordinate with local bicycle and golf cart rental companies	Hyde County	
Develop/Implement Advertising Plan	NCDOT Communications Office	NCDOT Ferry Division

Implementation Timeline

There is a wide variety of tasks that are necessary to complete before a passenger ferry service can be implemented. The study team worked with the Ferry Division and the Steering Committee to develop an implementation timeframe with a target of beginning service in the spring of Year 2. The graphic on the following page details that timeline.

It should be noted that the timeframe for increasing the number of vessels on the route depends on a number of factors. As previously discussed, while this analysis developed ridership estimates based on Hatteras-Ocracoke vehicle ferry remaining toll-free, the implementation of tolls on that route could increase the potential ridership of the passenger ferry. Additionally, any other changes to the vehicle ferry service, such as a change in the number of departures could increase or decrease the ridership on the passenger ferry, primarily due to the changes in wait times at the Hatteras and Ocracoke South Dock terminals.

The study team recommends that the Ferry Division evaluate the ridership on the passenger ferry service after two years and look to expand service with additional vessels approximately three years after the start of service, as ridership at that point should be stable enough to make an assessment of the size of additional vessels that should be procured.

The study team recommends that the Ferry Division evaluate the ridership on the passenger ferry service after two years and look to expand service with additional vessels approximately three years after the start of service, as ridership at that point should be stable enough to make an assessment of the size of additional vessels that should be procured, as the current ridership analysis indicates that the recommended 100-passenger vessel will be full on multiple departures during the peak months. The Ferry Division may very well wish to procure a 150-passenger vessel when expanding service to allow for additional capacity, as the recommended facilities in this report are capable of accommodating a vessel of that size and 150 passengers in a single run.

Pedestrian Ferry Implementation Timeline

Year 1
Complete environmental documentation and permitting for docks and temporary terminal facilities
Begin planning and environmental documentation for permanent terminals and parking facility expansion
Design and construct docks, signing, parking lot resurfacing, relocated employee parking, and temporary terminals
Design and construct transit stops
Design and construct sidewalk improvements on Ocracoke
Procure transit vehicles
Develop web and kiosk based ticketing infrastructure
Begin advertisement of future service

Complete Feasibility Study

Year 2
Begin transit service on Ocracoke
Complete planning and environmental documentation for permanent terminals
Begin design for permanent terminals and parking facility expansion

Year 3
Complete design for permanent terminals
Bid construction of permanent terminals

Year 4
Begin construction on permanent terminals
Construct parking facility expansion
Upgrade ticketing infrastructure to handle additional departures

Year 5
Expand service to additional vessels
Expand transit service on Ocracoke with additional vehicles
Complete construction of permanent terminals

Year 9
Begin planning and design for additional Hatteras terminal parking

Year 11
Construct additional Hatteras terminal parking

Year 12
Expand service to additional vessels
Expand transit service with additional vehicles

Year 22
Expand service to additional vessels
Expand transit service with additional vehicles

5-year Critical Path Schedule

	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Year 1																				
Environmental documentation and permitting for docks and temporary terminal facilities																				
Design docks, signing, parking lot resurfacing, relocated employee parking, and temporary terminals																				
Construct docks, signing, parking lot resurfacing, relocated employee parking, and temporary terminals																				
Design transit stops																				
Construct transit stops																				
Design sidewalk improvements on Ocracoke																				
Construct sidewalk improvement on Ocracoke																				
Procure transit vehicles																				
Develop web and kiosk based ticketing infrastructure																				
Advertisement of future service																				
Planning and environmental documentation for permanent terminals and parking facility expansion																				
Year 2																				
Begin ferry service																				
Begin transit service on Ocracoke																				
Design for permanent terminals and parking facility expansion																				
Year 3																				
Bid construction of permanent terminals																				
Construction on permanent terminals																				
Year 4																				
Upgrade ticketing infrastructure to handle additional departures																				
Construct parking facility expansion																				
Year 5																				
Expand ferry service to additional vessels																				
Expand transit service on Ocracoke																				
	16				17				18				19				20			

Capital and Operating Costs

While capital and operating costs were detailed for the specific elements in Recommendations section, the table below summarizes these costs.

Capital Costs																					
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21
100 Passenger Ferry (1)	$3,300,000																				
100 Passenger Ferry (2)		$3,300,000																			
100 Passenger Ferry (3)					$4,011,170																
100 Passenger Ferry (4)												$5,644,000									
Ticketing Application and Infrastructure	$150,000																				
Hatteras Terminal Building	$360,000																				
Terminal Parking Lot Overlay and Restriping	$60,000																				
Graveyard of the Atlantic Museum Parking Lot Overlay and Restriping		$90,000																			
Construction of Additional Parking Lot		$65,000																			
Parking Lot Shuttle		$5,000										$8,550									
Construction of Employee Parking	$45,000																				
Hatteras Docks	$578,500															$578,500					
Hatteras Signage		$20,000																			
Ocracoke Temporary Terminal	$225,000																				
Ocracoke Docks	$418,500															$418,500					
Ocracoke Signage		$10,000																			
Ocracoke Transit Vehicles	$240,000				$145,860							$615,700*									
Ocracoke Transit Stops	$33,000																				
Ocracoke Ped/Bike Improvements		$50,000																			
Total	**$5,410,000**	**$3,540,000**	**$-**	**$-**	**$4,157,030**	**$-**	**$-**	**$-**	**$-**	**$-**	**$-**	**$6,268,250**	**$-**	**$-**	**$-**	**$997,000**	**$-**	**$-**	**$-**	**$-**	**$-**
Non Vessel Costs	$2,110,000	$240,000			$145,860							$624,250				$997,000					

Does not include construction of permanent Ocracoke Terminal. Costs after Year 2 escalated by 5 percent per year. *Includes transit vehicle addition and replacement

Based on the infrastructure needs to start the new service, the capital costs are heavily front-loaded. After the initial two years of investment, the only additional capital costs are the purchase price for new vessels and the expansion in the number of transit vehicles on Ocracoke to accommodate the additional visitors without vehicles. Additional expansion of parking facilities will also be needed prior to the implementation of a fourth passenger ferry. These capital costs do not include construction of a permanent Ocracoke terminal, as a programmatic study of terminal facilities is recommended to be performed which will identify the needed uses in the passenger ferry terminal across all of the participating users and can help identify costs attributable to each user.

The following operating costs table shows operating costs for NCDOT, which are primarily limited to additional vessel operation costs, staffing for the terminals and a shuttle, driver. Some additional utilities costs may be incurred due to the expanded facilities, but these will be limited. The Ocracoke Transit System costs are expected to be borne by Hyde County Transit.

Ferry Division Operating Costs

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21
Ferry																					
Maintenance		$231,000	$231,000	$231,000	$346,500	$346,500	$346,500	$346,500	$346,500	$346,500	$346,500	$462,000	$462,000	$462,000	$462,000	$462,000	$462,000	$462,000	$462,000	$462,000	$462,000
Labor		$224,156	$224,156	$224,156	$336,234	$336,234	$336,234	$336,234	$336,234	$336,234	$336,234	$448,312	$448,312	$448,312	$448,312	$448,312	$448,312	$448,312	$448,312	$448,312	$448,312
Fuel and Lubricants		$448,144	$448,144	$448,144	$672,216	$672,216	$672,216	$672,216	$672,216	$672,216	$672,216	$896,288	$896,288	$896,288	$896,288	$896,288	$896,288	$896,288	$896,288	$896,288	$896,288
Total Ferry		$903,300	$903,300	$903,300	$1,354,950	$1,354,950	$1,354,950	$1,354,950	$1,354,950	$1,354,950	$1,354,950	$1,806,600	$1,806,600	$1,806,600	$1,806,600	$1,806,600	$1,806,600	$1,806,600	$1,806,600	$1,806,600	$1,806,600
Employee Shuttle Operation		$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000
Terminal Attendent (4)		$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888	$129,888
Total Cost		**$1,055,188**	**$1,055,188**	**$1,055,188**	**$1,506,838**	**$1,506,838**	**$1,506,838**	**$1,506,838**	**$1,506,838**	**$1,506,838**	**$1,506,838**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**	**$1,958,488**
Cost Escalation		**1**	**1.04**	**1.07**	**1.11**	**1.15**	**1.19**	**1.23**	**1.27**	**1.32**	**1.36**	**1.41**	**1.46**	**1.51**	**1.56**	**1.62**	**1.68**	**1.73**	**1.79**	**1.86**	**1.92**
Total Cost		**$1,055,188**	**$1,092,120**	**$1,130,344**	**$1,670,658**	**$1,729,131**	**$1,789,651**	**$1,852,289**	**$1,917,119**	**$1,984,218**	**$2,053,666**	**$2,762,641**	**$2,859,333**	**$2,959,410**	**$3,062,989**	**$3,170,194**	**$3,281,151**	**$3,395,991**	**$3,514,851**	**$3,637,870**	**$3,765,196**
Revenue																					
Annual Ridership		74,800	74,800	74,800	120,000	120,000	120,000	120,000	120,000	120,000	120,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000
		15	15	15	16	16	16	17	17	17	18	18	18	19	19	19	20	20	20	21	21
Fare		$1,122,000	$1,122,000	$1,122,000	$1,920,000	$1,920,000	$1,920,000	$2,040,000	$2,040,000	$2,040,000	$2,160,000	$2,880,000	$2,880,000	$3,040,000	$3,040,000	$3,040,000	$3,200,000	$3,200,000	$3,200,000	$3,360,000	$3,360,000
Total Operating Cost		**$66,812**	**$29,880**	**$(8,344)**	**$249,342**	**$190,869**	**$130,349**	**$187,711**	**$122,881**	**$55,782**	**$106,334**	**$117,359**	**$20,667**	**$80,590**	**$(22,989)**	**$(130,194)**	**$(81,151)**	**$(195,991)**	**$(314,851)**	**$(277,870)**	**$(405,196)**

As indicated in the operating costs analysis, assuming a $15 per round trip fare, the Ferry Division will incur a yearly per-passenger operating cost of approximately $2.45, or approximately $183,548 per year for the first few years of service.

Funding

Based on the capital costs table above there are expected to be $2,350,000 in non-vessel capital costs in Year 1 and Year 2 and $7,800,000 in vessel costs for a total of $10,150,000 in total capital costs. Funding for the passenger ferry capital and operations costs are expected to come from a variety of sources. These sources could include:

- Eastern Federal Lands Access Program (EFLAP), which provides $5,370,288 for capital improvements in North Carolina and is matched by $1,342,572 in state and local monies
- Transportation Investment Generating Economic Recovery (TIGER) discretionary grant program which funds capital investments in surface transportation nationwide
- Fixing America's Surface Transportation Act (FAST Act), which provides an additional $13 million per year nationwide, for a total of $80 million per year in funding for construction of ferry boats and terminal facilities
- NCDOT's Strategic Prioritization Process, which prioritizes transportation funding in North Carolina for capital expenditures for all modes

Transit Cost and Funding

This section attempts to convey four essential points:

1. There is a cost analysis model that can be adjusted once actual arrival data is tabulated,
2. There are still some unknowns therefore a range of shortfall was considered (minimum verse intense service),
3. The Ferry Division is confident that the money can be found to cover the transit shortfall,
4. Neither Federal Transit Administration (FTA) nor State Rural Assistance (ROAP) funds are required to support the island transit circulation operations.

The cost of the transit service was based on operations only during the tourist season, e.g. specifically to serve the passenger ferry service schedule. The study team considered how the expected 125,000 passengers might be distributed by trip to ensure this demand could be served adequately by the recommended 8 ferry trips per day (see appendices). The transit ridership table below matches the details of those ferry passenger arrivals estimates. The only difference is that 34% of the deboarders are expected to choose personal transportation options (i.e. walking, bicycles, golf carts, etc.), so the numbers in the table below represent the passenger seats needed each time we "meet (the) ferry."

Transit Ridership - Seats to accommodate 66% of deboarding ferry passengers								
Seats made available		*358*	*660*	*744*	*744*	*744*	*660*	*593*
Transit Rider	**arrive**	**April**	**May**	**June**	**July**	**August**	**September**	**October**
Meet ferry	9:00	15	22	33	46	42	28	17
Circulator	10:00	12	17	25	35	32	21	13
Meet ferry	11:00	20	29	44	60	55	36	22
Circulator	11:30	19	27	40	50	50	33	21
Meet ferry	12:00	39	57	86	96	88	66	44
Circulator	12:30	12	17	25	35	32	21	13
Circulator	13:00	19	27	40	50	50	33	21
Circulator	13:30	12	17	25	35	32	21	13
Meet ferry	14:00	24	36	53	66	66	44	27
Circulator	14:30	12	17	25	35	32	21	13
Meet ferry	15:00	37	54	66	66	66	66	41
Circulator	16:00	12	17	25	35	32	21	13
Meet ferry	17:00	15	22	33	46	42	28	17
Circulator	17:30	19	27	40	50	50	33	21
Meet ferry	18:00	12	17	25	35	32	21	13
Circulator	19:30	39	57	86	96	88	66	44
Last ferry	20:00							

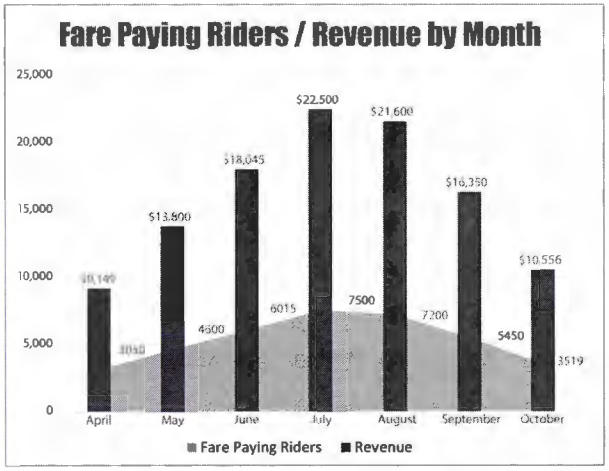
Color code for vehicle configuration

Tram only (white cell)	Tram + 1 trailer	2 Trams + 1 trailer	2 Trams + 2 trailers	Tram + trailer + LTV	2 Trams + 1 trailer + LTV
16 seats	33 seats	49 seats	66 seats	50 seats	66 seats

The seat volume then determines the vehicle configuration that best serves the 66 percent of the deboarders, and the vehicle configuration is what drives the cost of operation. The table above also shows "circulator" trips throughout the day on roughly a 30-minute headway; vehicles for these trips must be configured to seat passengers returning for ferry departure, as well as seats to carry people to other attractions throughout the island.

To be family friendly the transit would allow small children to ride for free while teens and adults would purchase a $3.00 button good for unlimited trips throughout the day. Buttons rather than tickets are recommended to eliminate the need for fare box collection.

Based on 37,333 fares being collected during the April to October period, the annual fare revenue contribution towards operating cost is $112,000.



In order to establish a cost estimate for the needed level of service, two separate scenarios were modeled; a "minimum service" with a long season plus the use of special trailers designed to double the seating capacity, and three motorized trams but no trailers, "circulates continuously" over a slightly shorter season, as recommended by the Hyde County Transit Director. The "minimum service" uses a $53.42 cost per hour (rate suggested in the most recent Hyde County Transit five-year plan) applied to the vehicle trips shown in the ridership table above. The "minimum service" of 3,300 annual operating hours would cost approximately $185,000 annually. After the $112,000 in fare revenue is applied, the annual shortfall becomes roughly $73,000. The Hyde County Transit Director took a different approach in estimating cost. She calculated the various inputs needed to "start-up" an intense "continuous loop service," which would deliver 5,260 operating hours at an estimated annual cost of about $231,000 (see appendices for line-by-line considerations). After the $112,000 in fare revenue is applied, the annual shortfall of this more expensive scenario is about $119,000.

The Ferry Division is very confident such levels of shortfall in annual transit funds would be accommodated in some fashion either by the department or through some combination of local and state support. Some possible revenue sources discussed included:

- Lodging fee of $3 per room/cottage (~$85,000 annually),
- Advertising on the vehicles per year (~$1,500 annually),
- Dedicated fund from the Hyde County annual budget (TBD).

At this time, the project is not anticipating FTA operations or capital funding. Further is it recommended, by the Hyde County Transit Director, that Rural General Public funding not be used for seasonal Ocracoke service, because this funding is completely depleted by the existing Hyde County transit services.

Next Steps

As shown in the implementation timeline, there are many tasks that must be completed by a variety of organizations during Year 1 to begin ferry service in the spring of Year 2. The study team has broken down the immediate next steps into the following timeframes:

First and Second Quarter of Year 1

Given the demonstrated need for additional ferry service between Hatteras and Ocracoke, and the variety of sources available for funding the capital improvements necessary, the study team recommends that the Ferry Division continue the environmental documentation process that is being performed by the NCDOT Project Development and Environmental Analysis unit and NCDOT Ferry Division should immediately begin the planning and design process for the Hatteras and Ocracoke terminal and other infrastructure improvements, minus the new Hatteras parking facility. Additionally the team recommends that the Ferry Division begin the process of procuring a passenger ferry, as the lead times for such vessels are often in excess of one year, and begin coordination with the USACE on dredging of Rollison Channel. Finally, Hyde County should begin to work with local landowners to locate transit stops, as the process to secure transit easements or land purchases could be well in excess of a year, and begin to work with NCDOT on any legislative changes necessary to allow the Ferry Division to collect a surcharge on each ticket to fund the Ocracoke Transit system.

Third and Fourth Quarter of Year 1

In the third quarter of Year 1 the NCDOT Ferry Division should perform a parking study on the Graveyard of the Atlantic Museum facility to determine the amount of parking that could be available for passenger ferry riders. After this study is completed decisions can be made regarding the need for additional parking. If additional parking is needed, the planning and design for an additional lot should begin immediately. NCDOT should also initiate an architectural planning study for a permanent terminal on Ocracoke along with the NPS and Hyde County. In this timeframe, NCDOT should also begin development of the ticketing infrastructure to allow ample time for beta testing. Hyde County transit should initiate procurement of the transit vehicles to allow for sufficient lead time for delivery. Construction of the terminal facilities, including the waterside facilities, should begin in the third quarter of Year 1.

First Quarter of Year 2

Construction of the terminal facilities, signage, and transit stops should be completed in first quarter of Year 2. The Ferry Division should also perform trial runs of the newly delivered passenger ferry during this period to ensure smooth operations in the second quarter of Year 2. NCDOT should also begin promotion of the passenger ferry service to make future travelers to Ocracoke aware of the service.

Second and Third Quarter of Year 2

Passenger ferry service will begin in the second quarter of Year 2. Depending on the procurement of a second passenger ferry vessel, this vessel may be placed in to service later than the first vessel, preferably before the end of the second quarter.

Fourth Quarter of Year 2

In the fourth quarter of Year 2 the Ferry Division, Hyde County, and the other stakeholders should convene a meeting to discuss the operations of the passenger ferry to determine if any additional changes to the service are needed for it to run more smoothly and efficiently. The architectural study of the future permanent Ocracoke terminal should also be completed during this time period and the design of the structure can be started.

The tasks outlined above will carry the Ferry Division through the implementation and first season of operation. After this time period future activities will be focused on refining and expanding the service as per the implementation timeline included at the beginning of this chapter.







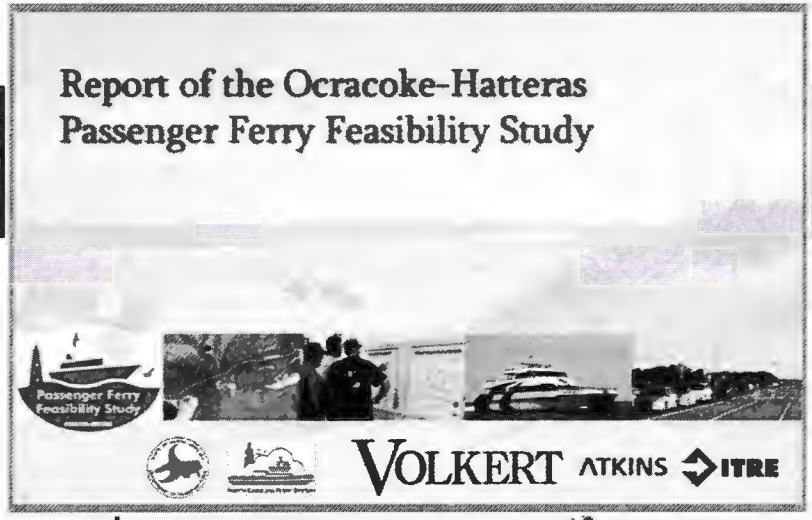
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Feasibility Study

- Ferry route to Ocracoke changed due to shoaling
- Longer route caused reduction in number of crossings
- Longer wait times at terminals
- Unmet travel demand (vehicles leaving queue)
- Increase in labor, fuel, and maintenance costs



Vehicles queued to board ferry at Hatteras

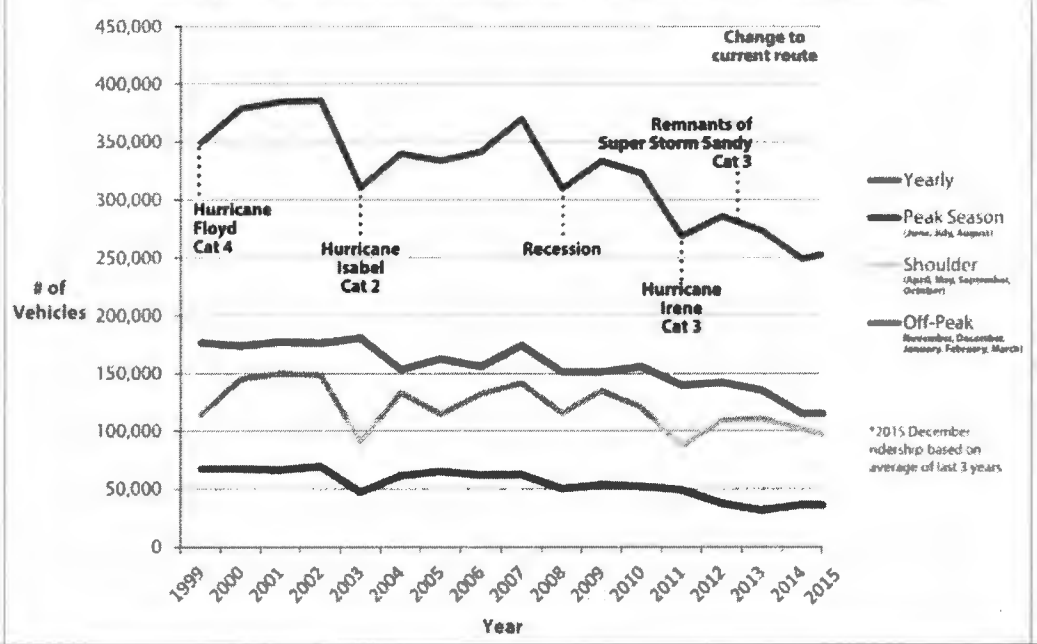




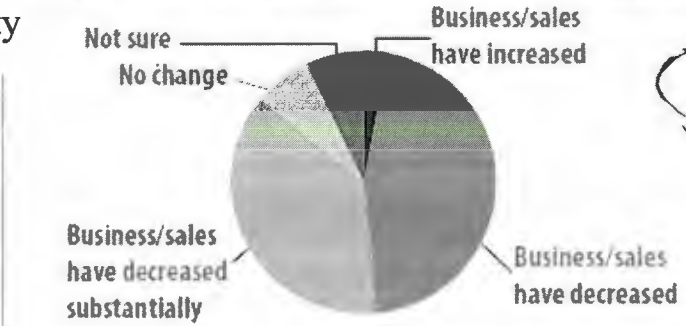
Feasibility Study

- Decrease in ridership
- Decrease in business revenue for Ocracoke and Hyde County

Hatteras-Ocracoke Historical Ridership



Ferry Service Impacts on Business



Eighty-six percent reported that the decrease in visitors has been a major challenge to business.

Almost all of survey respondents reported that long wait times at ferry docks are a major challenge to their business.



Figure K-6: Impact of passenger ferry to business

Budget - Cost Estimates

Project Funding

NC GA Appropriation =	$ 3,650,000
FLAP Funds =	$ 5,470,288
Total Funds Availble =	$ 9,120,288

Design & Engineering Costs

	Study	Contracted	
Federal Lands =	$ -	$ 100,000	(FL Project Management)
Elliot Bay Design Group =	$ -	$ 465,651	(Vessel Design & PS&E Package)
PB	$ -	$ 954,364	(Transit & Landward Design & PS&E Package)
RK&K	$ -	$ 402,500	(Project Management & Inspection)
		$ 1,922,515	

Funds Available for Construction = $ 7,197,773

	Study	RFI Estimate
Passenger Ferry Vessels Cost=	$ 6,600,000	$ 10,000,000
Funds Available for Terminal Improvements =	$ 597,773	$ (2,802,227)

Hatteras Improvements:	Study	Estimate
Parking Lot (resurfacing & striping) =	$ 60,000	
New Employee Parking Lot =	$ 45,000	
Passenger Parking Overflow =	$ 65,000	
Passenger Waiting Amenities =	$ 360,000	
Boat Utility connections/Floating Dock =	$ 578,500	
Signage =	$ 20,000	
	$ 1,128,500	$ 1,128,500
Ticketing System =	$ 150,000	$ 150,000

Ocracoke Improvements:	Study	Estimate
Relocation/Reconfiguration of NPS Dock =	$ 118,000	
Pull Off Lane for Passenger Pickup/Drop-Off =	$ 10,000	
Passenger Waiting Amenities =	$ 225,000	
Bathroom Improvements =	$ -	$ 75,000
Floating Dock =	$ 300,000	
Signage =	$ 10,000	
	$ 663,000	$ 738,000

Ocracoke Transit Improvements:	Study	Estimate
Passenger Vehicle Purchase (3 @ $50,000 each) =	$ 240,000	$ 150,000
Transit Stops =	$ 33,000	$ 18,000
Signage =	$ 26,000	$ 5,000
	$ 299,000	$ 173,000

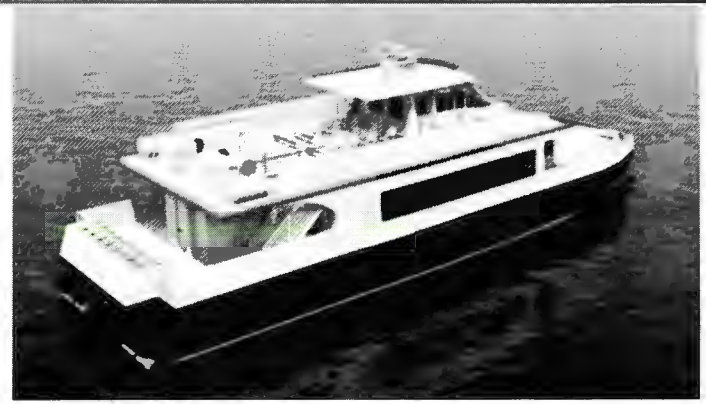
	Study	Estimate*
Terminal Improvements Cost =	$ 2,240,500	$ 2,189,500
Remaining Budget =	$ (1,642,727)	$ (4,991,727)

*Plans are not available to perform detailed cost estimate
However some costs have been estimated based on research

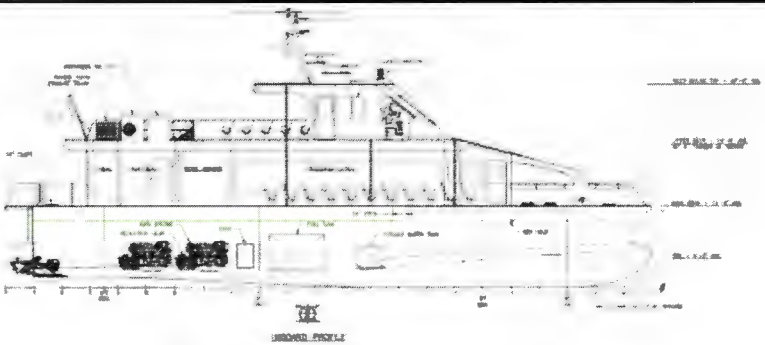
RFI Cost Estimates

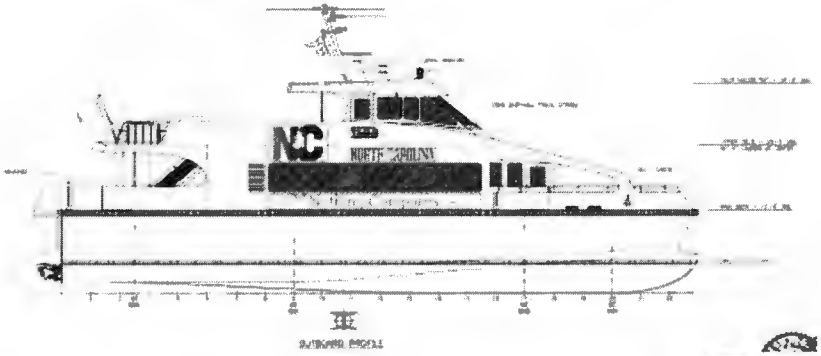
Shipyards	2 Boat Total	
Armstrong	8.752M	NC shipbuilder
All American	$10.78M	West coast shipbuilder Long transport therefor expedited build
Blount	$9.20M	RI Shipbuilder
Conrad	$16.40M	No expertise in aluminum hull Estimate not used in average
Gladding & Hearn	$11.50M	
Metal Shark	$9.20M	
Average	$9.89M	Not including Conrad

The Vessels

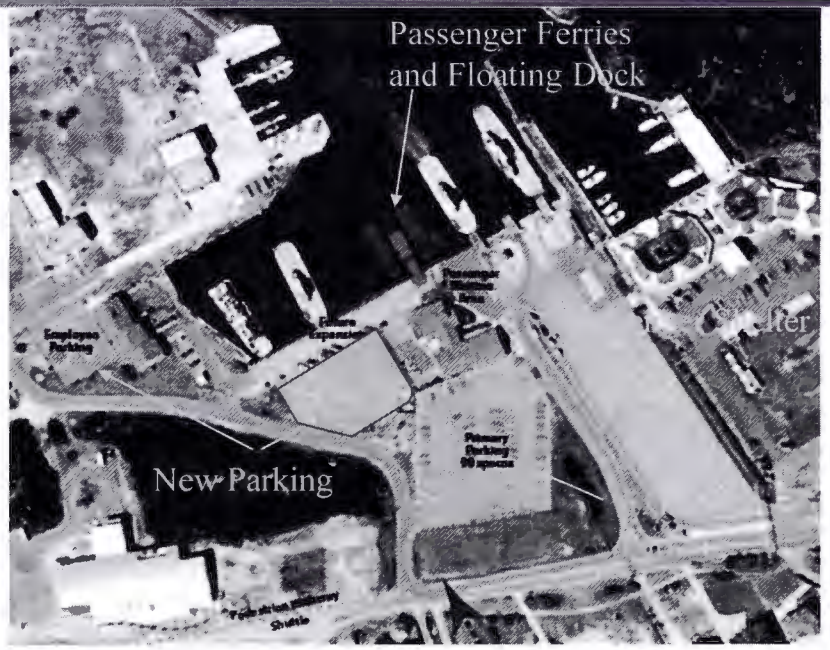








Terminal Improvements

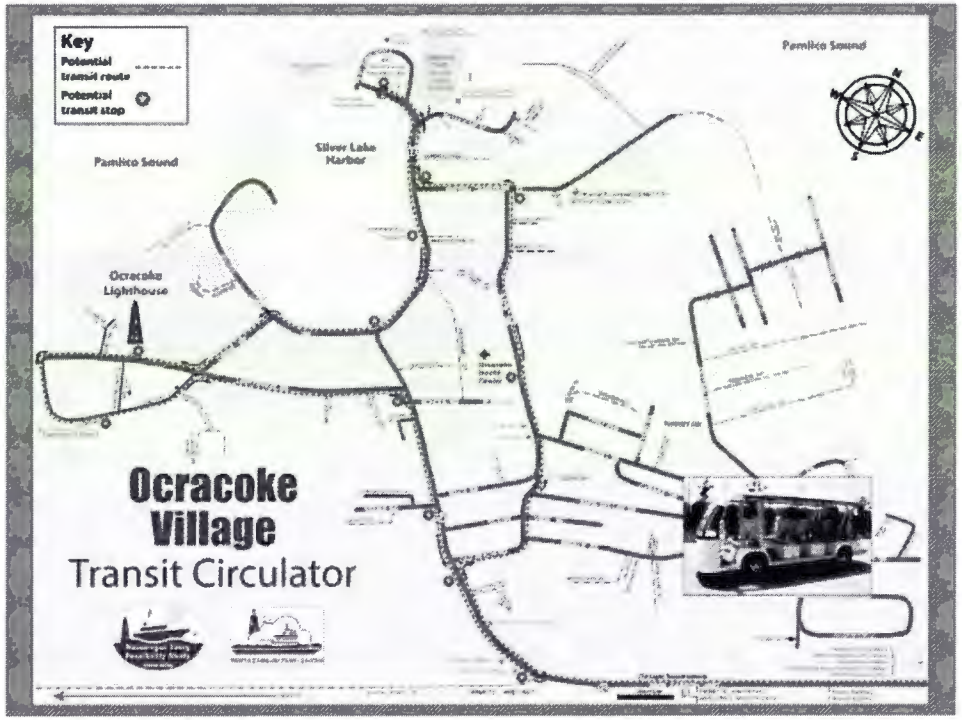


Hatteras Terminal



Ocracoke Terminal

Ocracoke Transit



Transit Circulator Map







- 3 Passenger Shuttles
- Wheelchair accessible
- 12 Point-of-Interest Stops

Timeline


Terminal Improvements Design and Permitting
Let and Contract
Terminal Improvements Construction
2016
2017
2018
Vessel Design
Let and Contract
Vessel Construction, Sea Trials, Delivery, and Coast Guard COI
Vessel Operational
Ticketing Website Design
Ticketing Software IT Implementation

NORTH CAROLINA
Department of Transportation

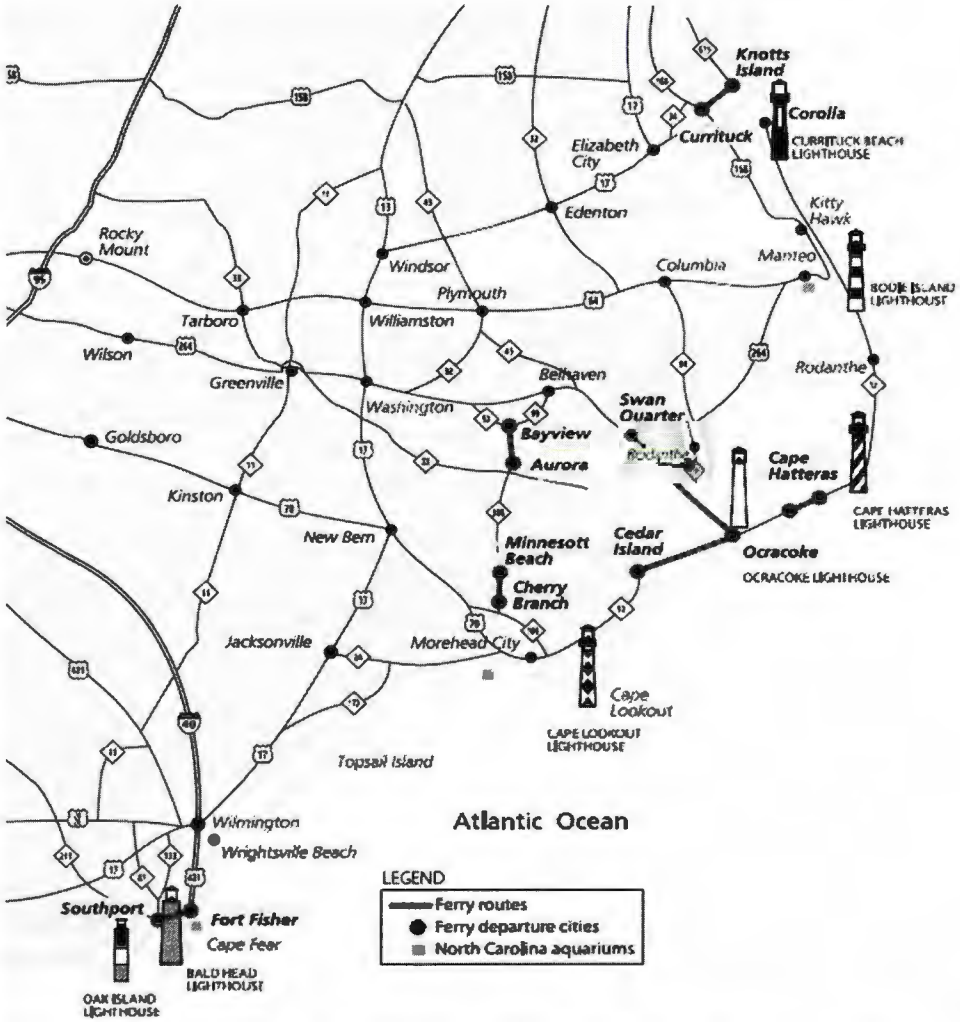


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Sterling Baker, PE

March 2017

Ferry Division



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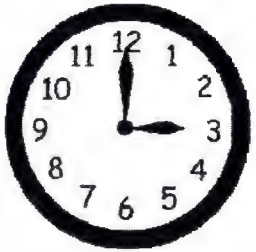
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Cedar Island	22.63	140	2	Yes
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BENEFITS of the Ferry Division

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- Tourism





- Commerce





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Totals =				**$ 22,201,280**	**$ 1,162,086,591**	**$ 1,184,287,871**

Note: **These traffic values are the per year totals based on an average from FY11 thru FY15**

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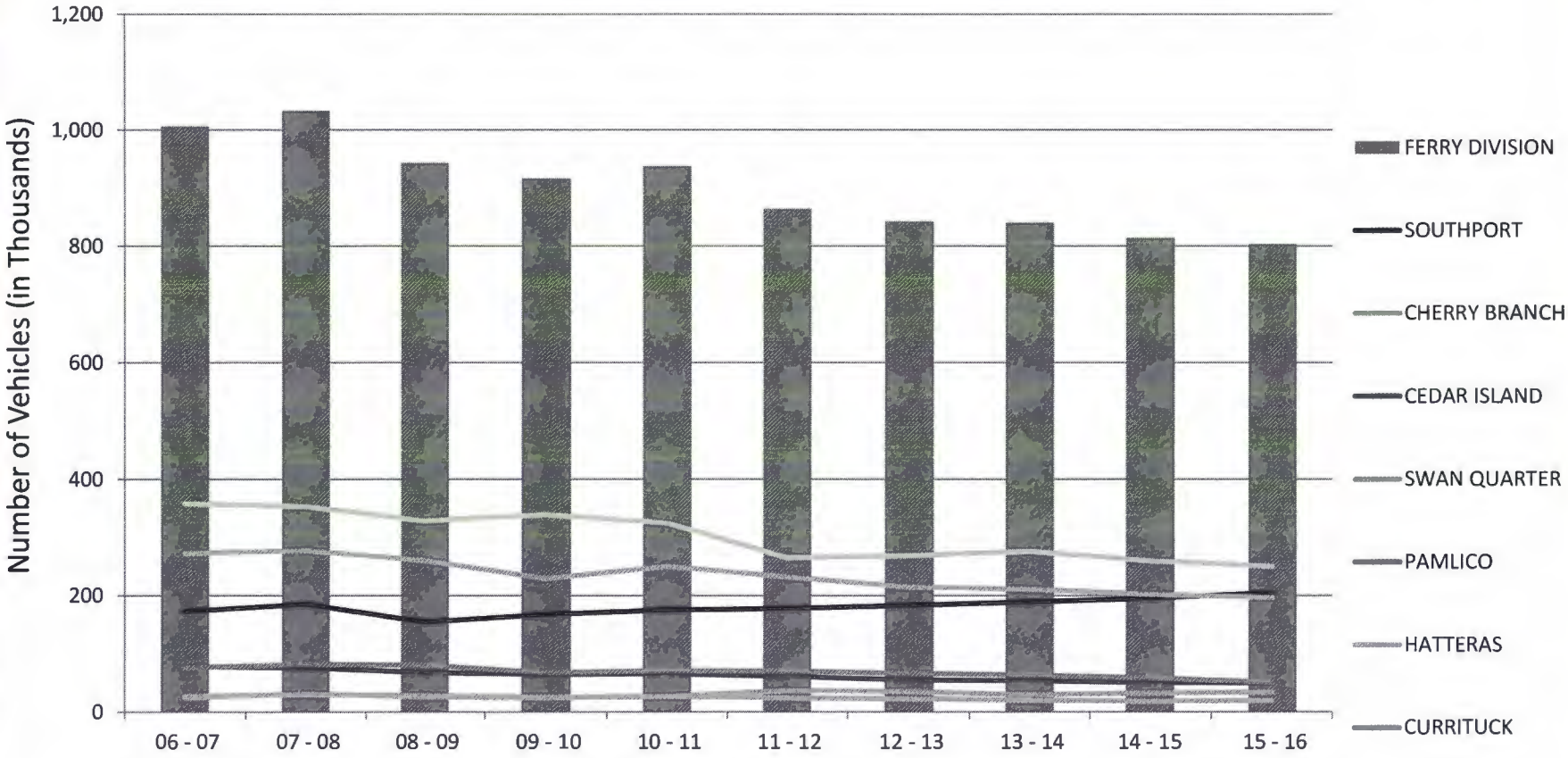
--This data was taken from the 2009 ITRE Study.
Note: It is based on a survey taken as a part of this study that indicated visitors spent $562 per trip on food, lodging, recreation, etc. (per vehicle)

Benefits: Commerce

Route	Annual Work Trips Supported
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Totals =	**236,220**

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Note: A work trip is a trip across (one way) and respective route in which the occupants are going to work, making deliveries, on official work related business, or otherwise on a business or work trip.

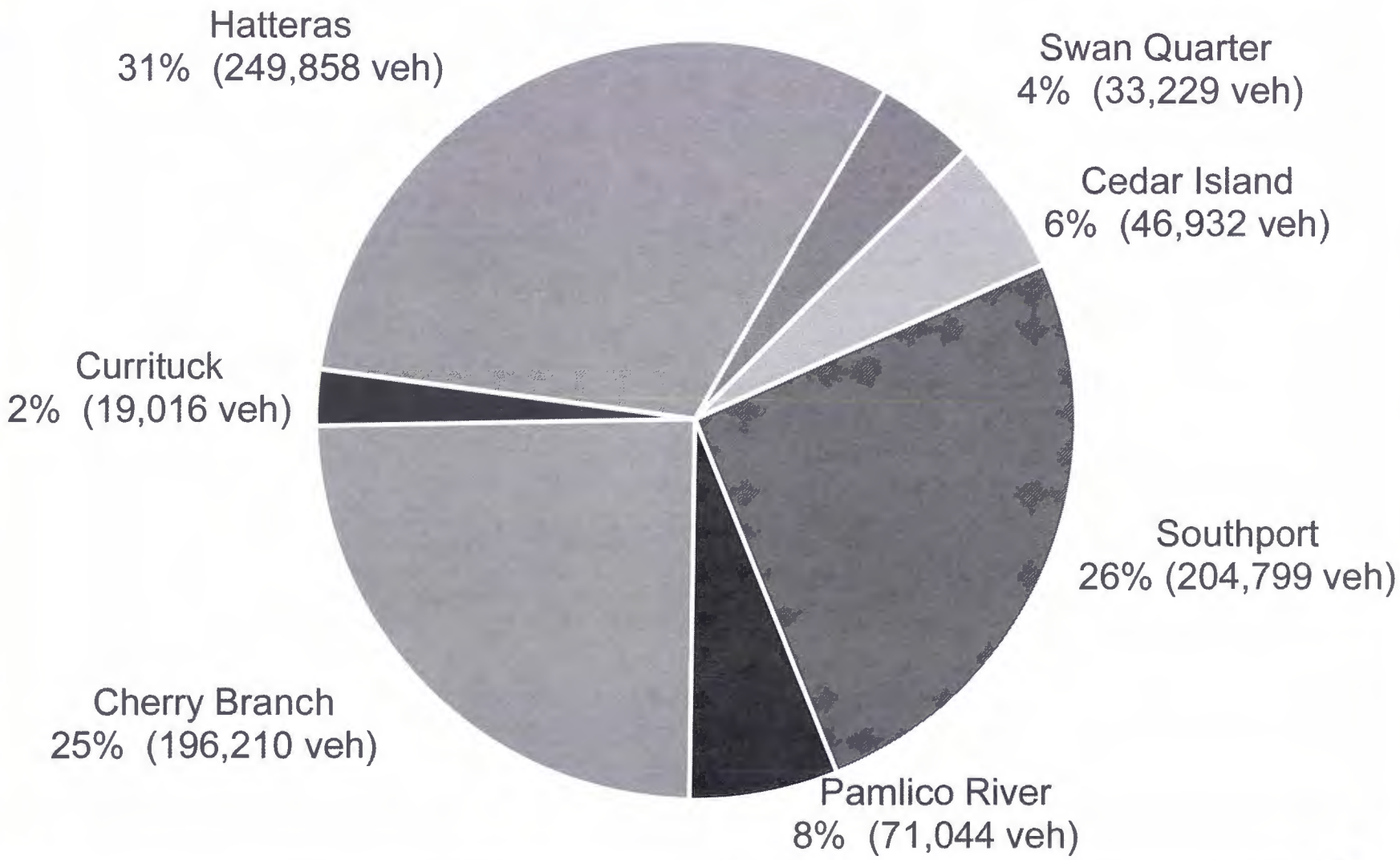
Route Comparison for Vehicles Carried



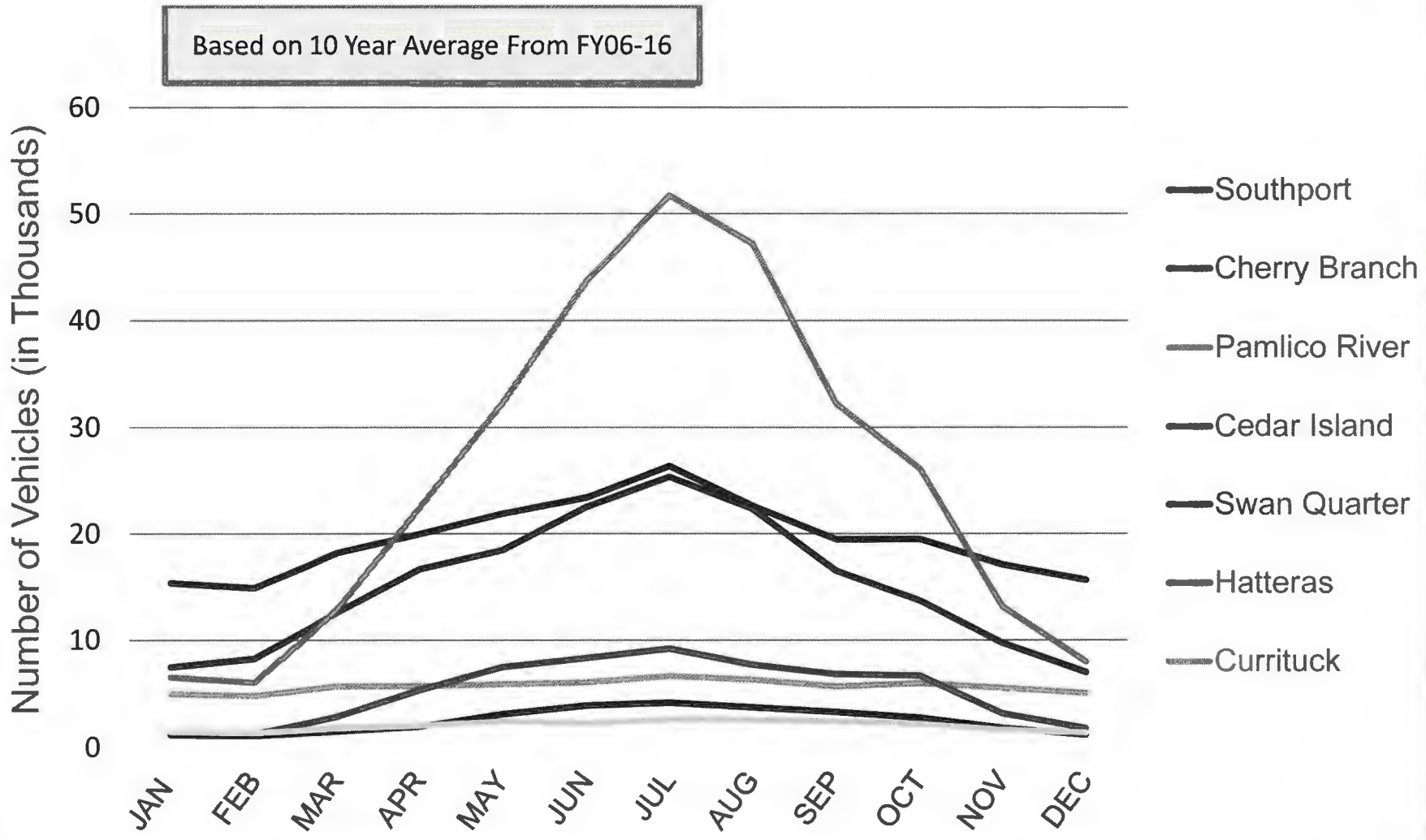
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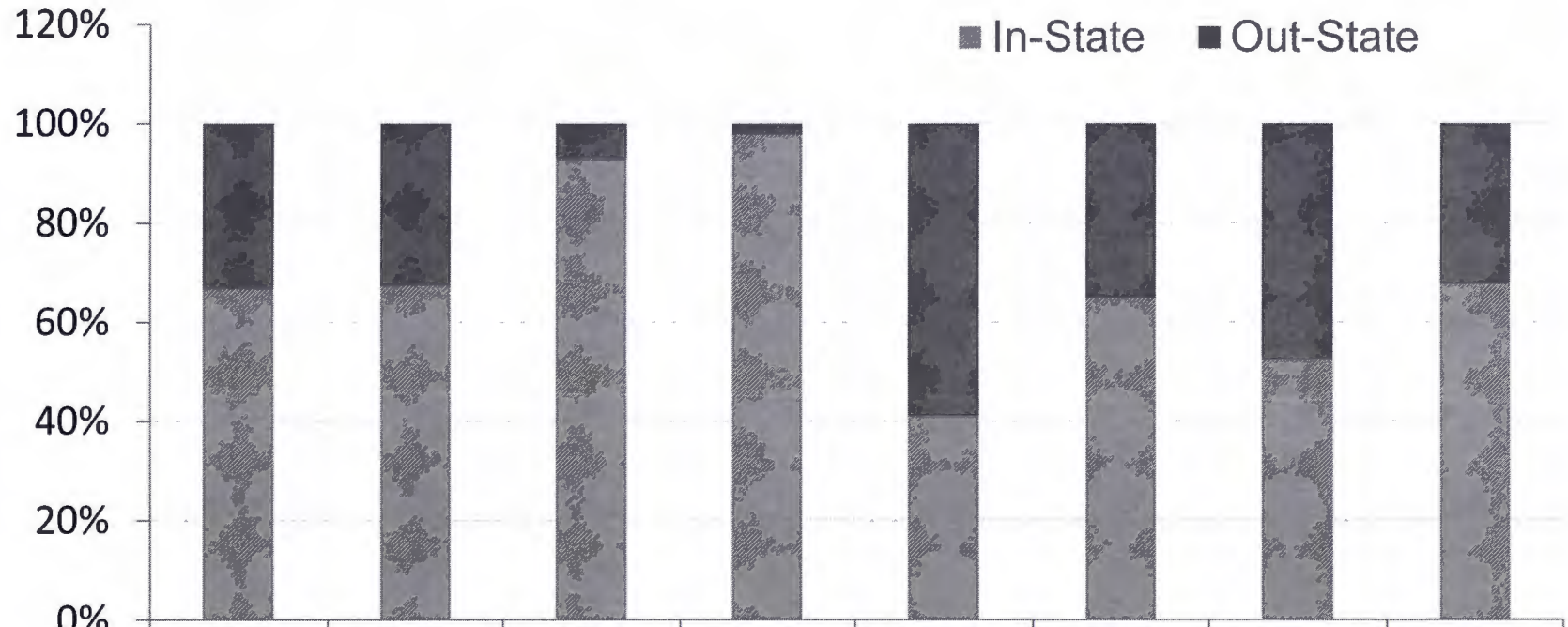
Route Comparison for FY 16



Seasonality: Avg. Total Vehicles Carried per Month



Nature of Operations
In State/Out of State Comparison - CY 2016

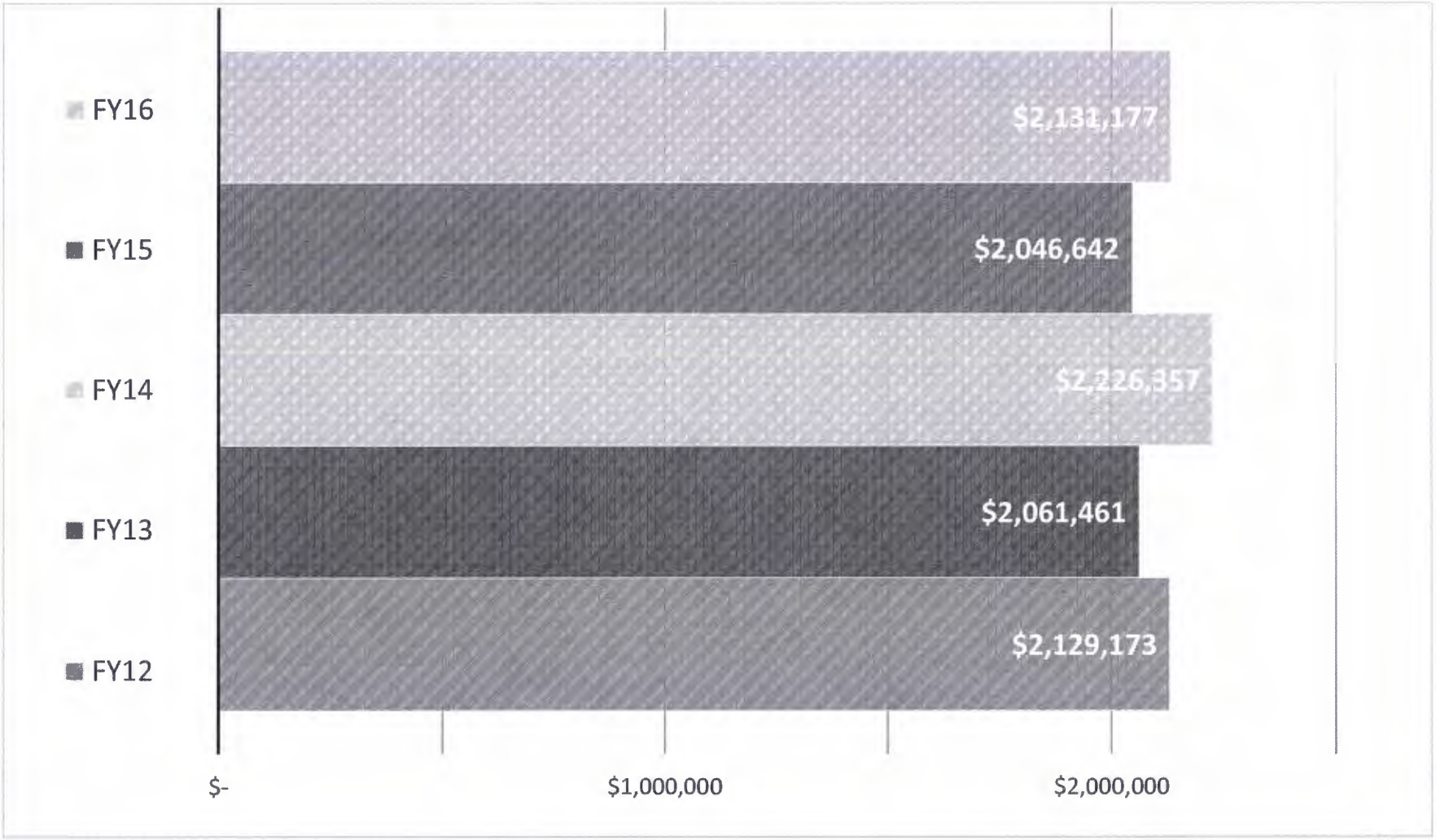


	System Average	Southport	Cherry Branch	Pamlico River	Hatteras	Currituck	Cedar Island	Swan Quarter
Out-State	33%	33%	7%	2%	59%	35%	48%	32%
In-State	67%	67%	93%	98%	41%	65%	52%	68%

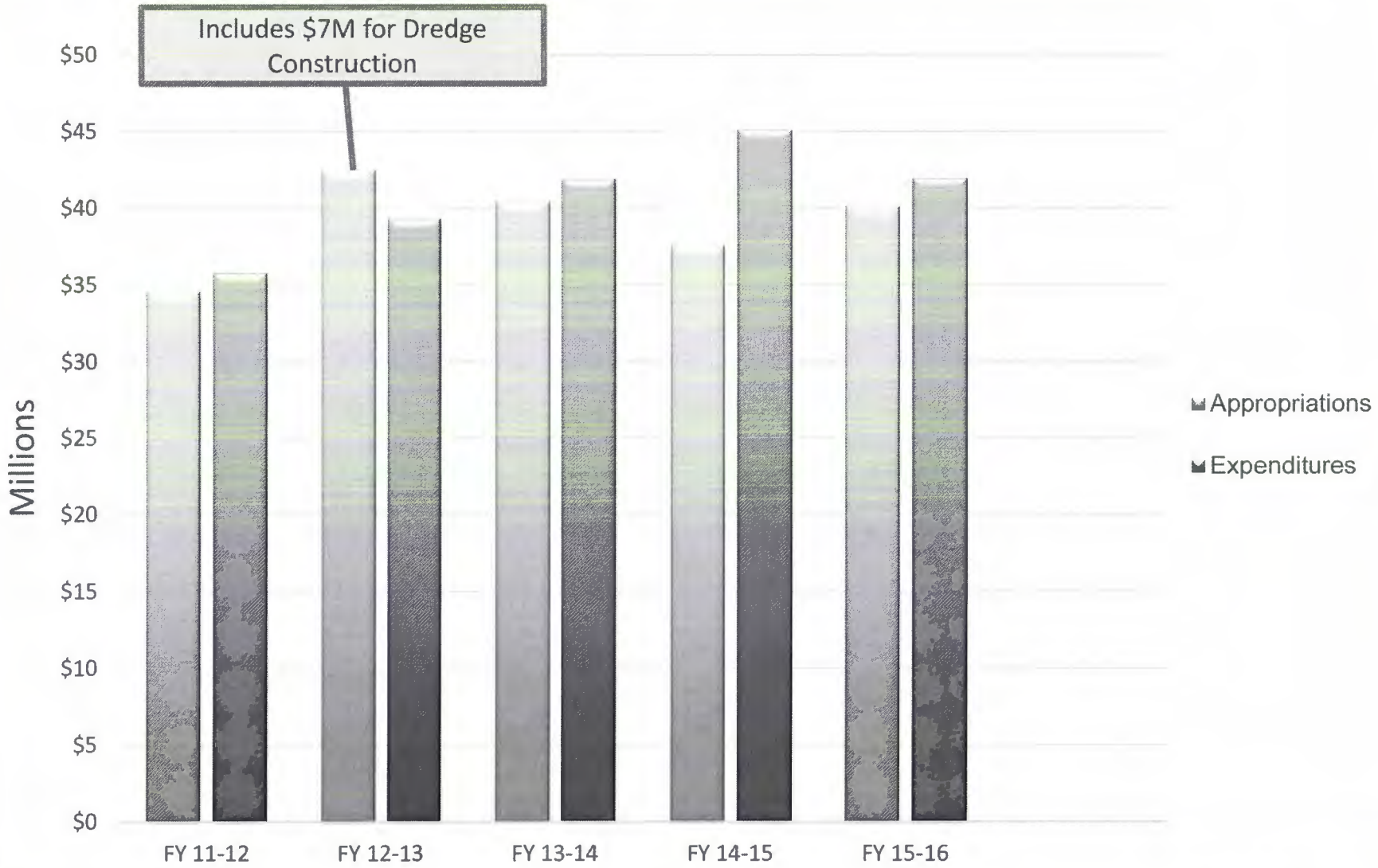
Tolling Rates

Fare Class	Southport	Swan Quarter	Cedar Island
Pedestrian	$1	$5	$5
Bicycle	$2	$3	$3
Motorcycle	$3	$10	$10
Vehicles			
< 20 ft.	$5	$15	$15
20 ft. to 40 ft.	$10	$30	$30
> 40 ft.	$15	$45	$45

Toll Revenue Trends for Last 5 Years



Appropriations vs Actual Expenditures

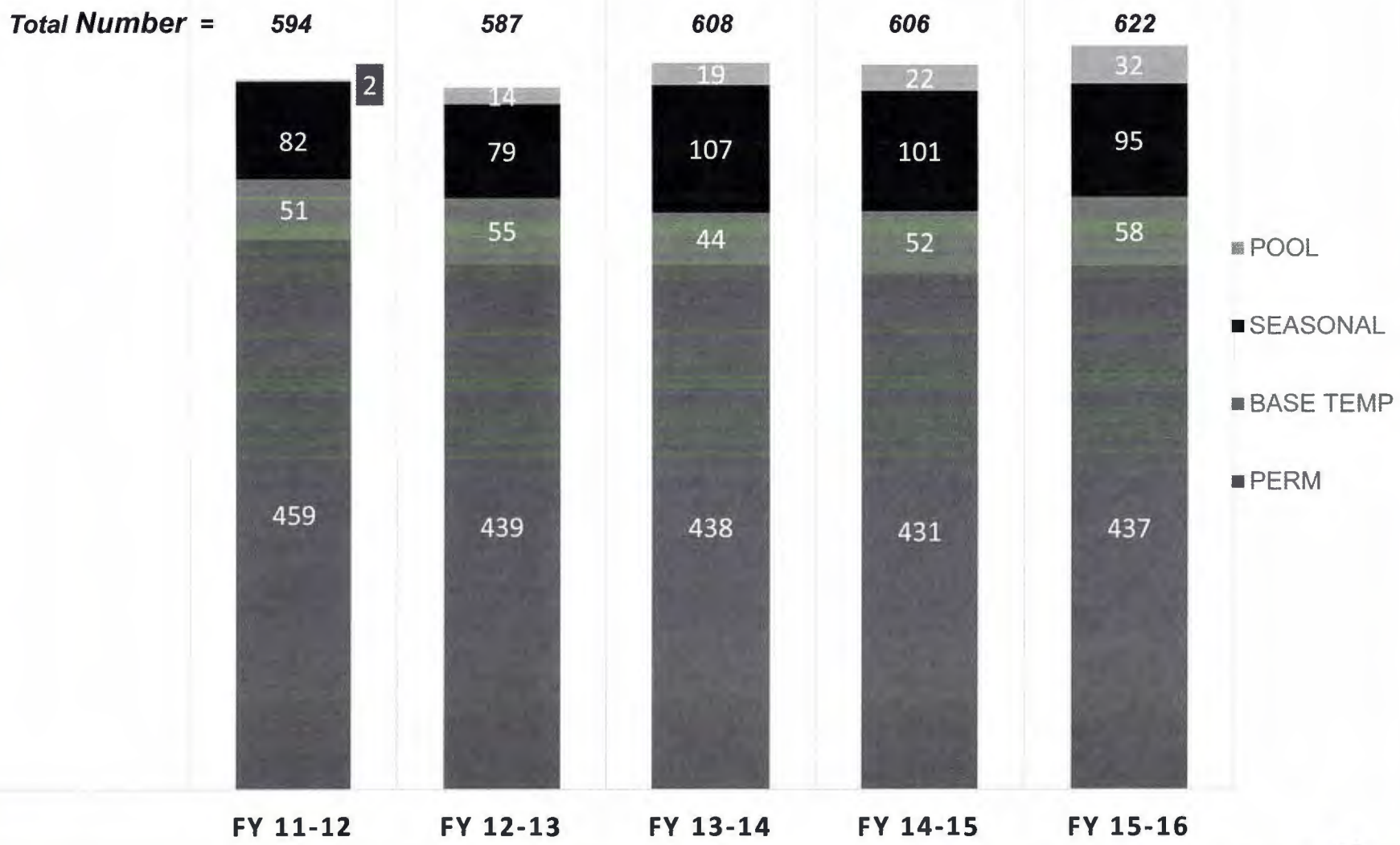


Staffing: Position Types

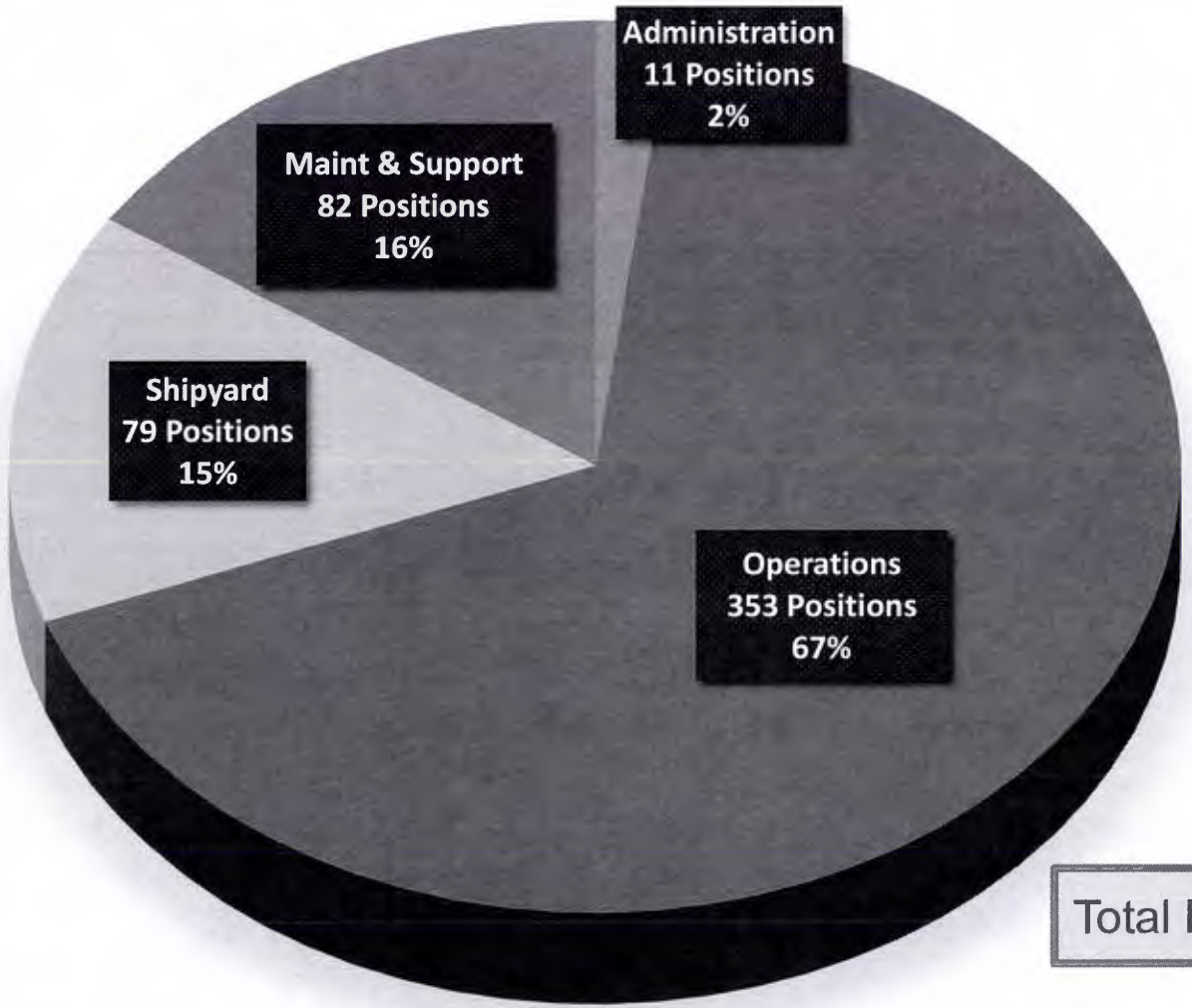
- Permanent Full Time Positions

- Base Temporary Positions
  - 11 month temporary employees to help meet normal operational needs
- Pool Employees
  - On-call non-permanent positions that work less than 320 hours per year. Use of pool employees prevents unscheduled overtime for permanent employees .
- Seasonal Temporary Positions
  - Temporary employees that are utilized to address seasonal peak demands

Staffing Summary - Headcount



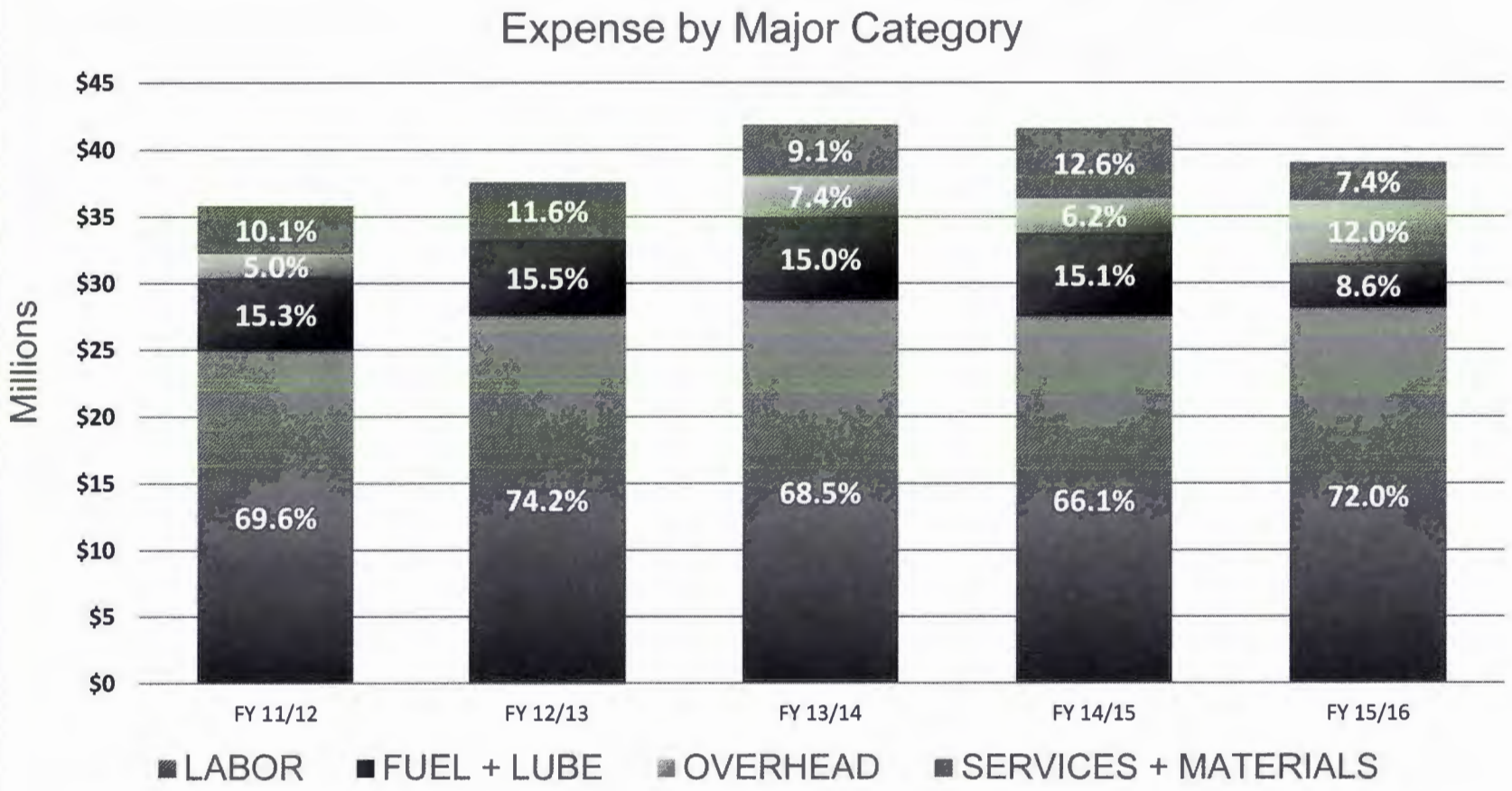
Position Headcount By Work Classification



This chart represents the Permanent, Pool & Base Temporary Positions based on a snapshot taken Feb. 23, 2017

Total Positions = 525

O&M Expense - Five Year Trend



Note: FY12-13 percentage totals 101.3% - this is due to a Highway Trust Fund transfer enacted as a result of Governor's moratorium that prevented the implementation of tolls as detailed in legislation. This also resulted in no overhead costs showing up in report due to coding related to referenced transfer.

Factors Driving Recent O&M Cost Increases

Fiscal Year	Description of Need for Increase	Annual Amount of Increase
2010	USCG Increased Vessel Crew Size Requirements (Required additional 44 crew members)	$2.2M
2012	Legislative Mandate for Turnpike to handle toll reservations & collections	$0.5M
2013	USCG Mandated 10 new Homeland Security positions	$0.5M
2014	Hatteras: "Alternate Channel" becomes permanent route	$2.0M
	Total =	**$5.2M**

O&M Cost Containment Measures

- 2015 Schedule Adjustments
  - Sound Routes - projected annual savings ($500K)
  - Pamlico River - projected annual savings ($790K)
  - Continue to evaluate demand on a monthly basis to determine possible areas for additional efficiencies
- 2015 Change in Dry-dock Requirements for M/V Hunt
  - Estimated savings of $2M over the expected life of the vessel
- Total of Combined Cost Containment Measures = $ 3.29M

Supplemental Revenue Generating Activities

- Wanchese Fish Company
  - 2012, 30 day lease, $38K
- Maintenance Services for Other Agencies:
  - Army Corps of Engineers – 4 dredges, $85K
  - NC Cultural Resources – Elizabeth II, $5K
  - NC Division of Marine Fisheries – Various Vessels, $28K
- Stevens Towing
  - 2015, Dock Lease, $38K
  - 2016, Dock Lease, $25K

Supplemental Revenue – Other Opportunities

- On Board Wi-Fi:
  - Tried on a trial basis in 2015. The vendor could not supply adequate service on sound routes.
  - The Ferry Division has met with a new vendor to see if providing this service is possible with the technology this company utilizes.

- Increased Vending and Concession Items
  - Looking at expanding vending & concessions, but increased revenues expected to be minimal.

- Ferry Tolling Revenues:
  - Tolls are collected on 3 routes. By legislation the tolls collected are placed into an account for each respective route. The legislation then states that these funds must go to vessel replacements along these respective routes.

Operational Challenges

- **Shipyard Scheduling:** Number of required inspections has doubled in recent years due to Coast Guard regulations
- **Peak period capacity constraints:** especially at Hatteras due to running the long route and need to increase dredging frequency
- **Shallow water with shifting shoals:** Especially at Hatteras, but dredging is required across entire Ferry Division
- **Asset Maintenance:** With the age of the fleet and other assets (ramps & gantries, bulkheads, etc.) ever increasing, there is an huge gap in funding that will be needed to adequately address existing needs.
- **Emergency Route**: Compromises to NC 12 occasionally require that the emergency ferry route be activated. When activated this operation places drains across the Ferry Division in regards to the large amount of assets required to operate. In the last 10 years this route has been activated 3 times at a total cost of approximately $4.2M

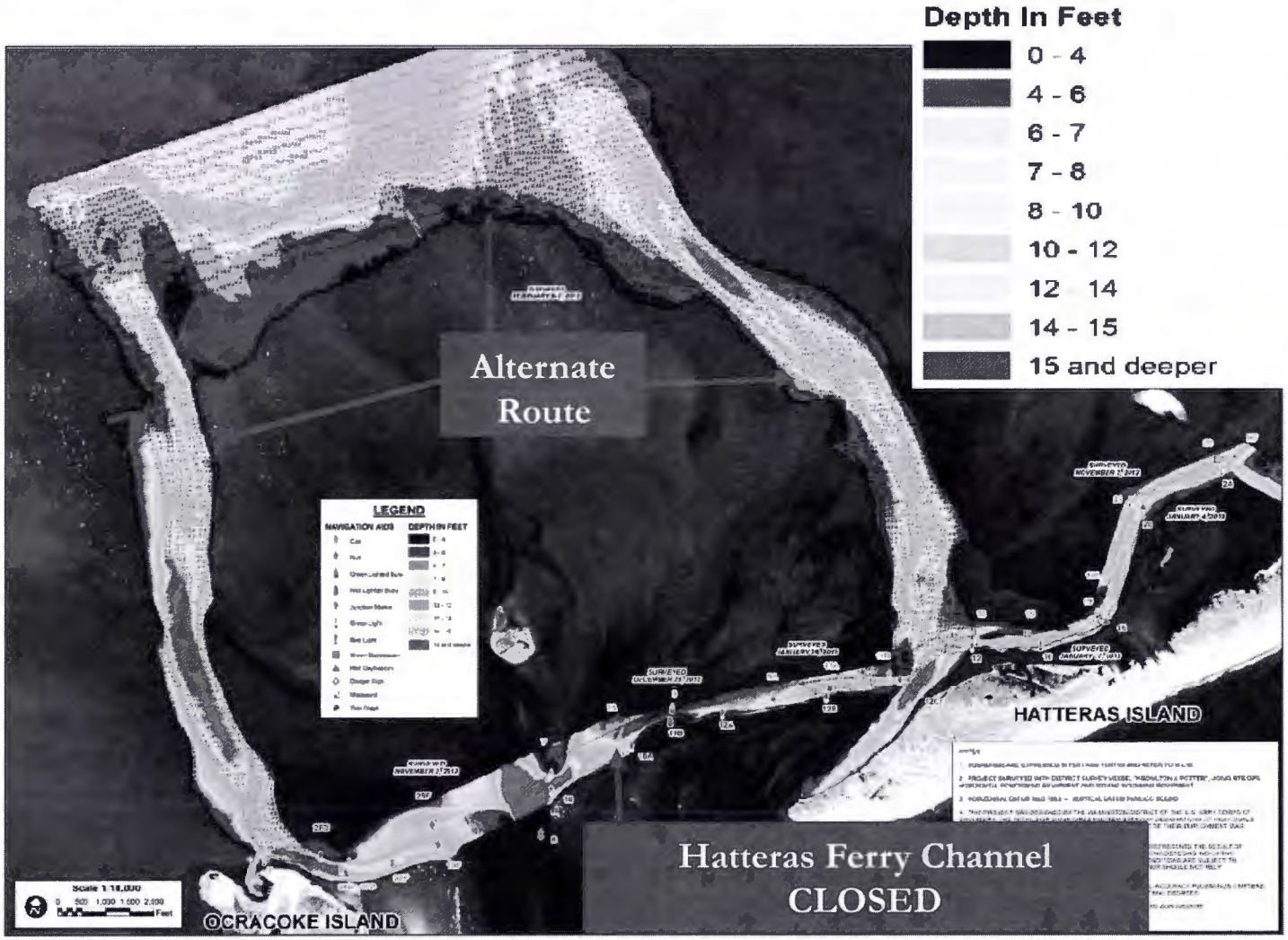
Operational Challenges - Shipyard Schedule

US Coast Guard requires ferries to be dry-docked twice every 5 years.

- Dry-dock requirements
  - Prior to 1998: 11 of 21 ferries
  - Current: 21 of 21 ferries
- Shipyard workforce
  - Prior to 1998 = 100
  - Current = 79
- Increase in man-hours per dry-dock
  - Approximately 8.5K to 12.5K



Operating Challenges / Shoaling
Hatteras - Ocracoke



Operating Challenges / Shoaling
Hatteras - Ocracoke

- **Hatteras Ferry Channel – 4.3 miles**
  - Critical sections are federally maintained
  - Constant dredging
  - **52 departures per day (peak)**

- **Alternate Route – 8.6 miles**
  - Natural deep water channel
  - Approx. increase of $175K per month in labor/fuel
  - **42 departures per day (peak)**

- **Groundings By NCDOT along the Hatteras Route**
  - FY2016 = 23
  - Note: Bump & Go's are no longer reported as per Coast Guard rule changes

Army Corps of Engineers
Funding for Hatteras Ferry Channel Dredging

Fiscal Year	Regular Federal Appropriations	Supplemental Fed. Appropriations/ Hurricane Relief	Non Federal Contributions
2009	$210,000	$191,000	$0
2010	$50,000	$142,000	$0
2011	$50,000	$0	$0
2012	$49,000	$2,000,000	$1,433,000
2013	$49,000	$2,000,000	$0
2014	$697,000	$0	$0
2015	$550,000	$0	$0
2016	$1,297,000	$0	$0

Recent Legislative Funding Items

Fiscal Year	Description of Funding	Amount
2017	General Assembly Initiated new funding (recurring) for vessel replacement	$4M
2017	General Assembly funded (non-recurring) funds for initiating new passenger ferry service from Hatteras to Ocracoke Village (not to exceed $3.65M). Reminder of funds for terminal infrastructure improvements (platen expansion at shipyard and ramp & gantry replacements division wide)	$6M
	Total =	**$10M**

Operational Challenges: Asset Maintenance

- Ferry vessel replacement funded through:
  - Ferry tolls dedicated to route via capital reserve accounts
  - Division funds through STI
  - Division generated receipts
- MAP 21 - FHWA formula based program
  - NC Ferry estimated allocation approximately $1.45M
- Current sources do not meet projected needs for fleet replacement and capital improvements
- Funding Shortfall Between Funding and Needs is approximately $2M per year for capital project needs and approximately $3.8M per year for operation and maintenance projects (example: vessel rehabilitations, ramp & gantry rehabilitation, etc.)

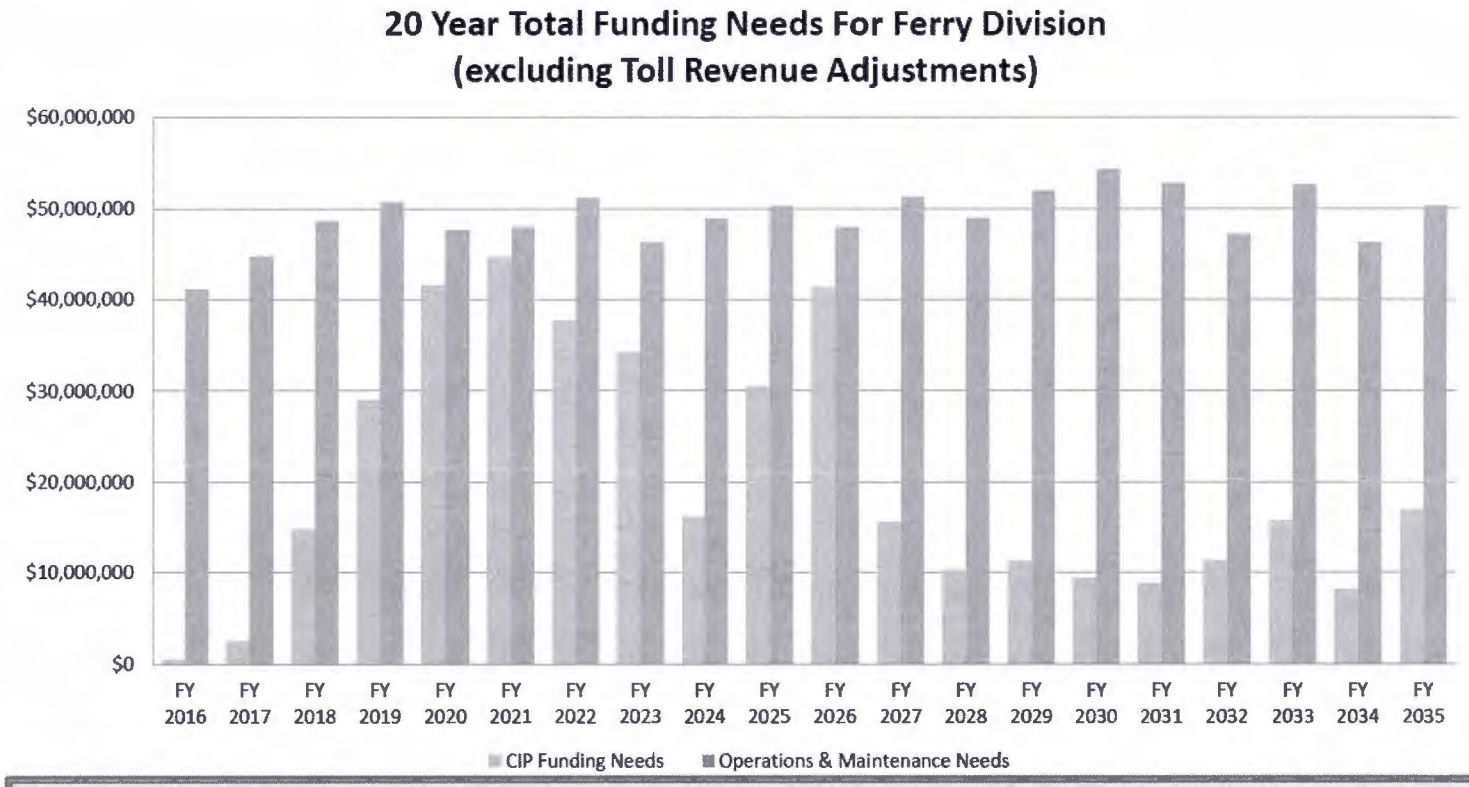
Fleet Condition

Age (years)	Hatteras Class	Sound Class	River Class	Condition
0 to 5	0	2	1	Good
6-15	0	0	5	Good
16-25	7	2	2	Average
25+	0	1	1	Critical

- Replacement Cost (FY16):
  - Sound Class Vessel New Construction approx. $18M
  - River Class Vessel New Construction approx. $13M*

* Note: This value is being updated and verified at this time as a part of project F-5700 (Replacement of the M/V Baum)

Capital Improvement Plan Summary



The Ferry Division 20 Year CIP & O&M Plan is being updated at this time to reflect Legislative impacts from the previous session. The new plan will be completed in early April 2017.

Passenger Ferry Feasibility Study





Reasons for Initiating Study:

- Ferry route to Ocracoke changed due to shoaling
- Longer route caused reduction in number of crossings
- Longer wait times at terminals
- Unmet travel demand (vehicles leaving queue)
- Increase in labor, fuel and maintenance costs

Passenger Ferry Project Timeline



Project Goal is to have this service operational by Spring 2018.

Questions?

Sterling Baker
sbaker@ncdot.gov



NORTH CAROLINA
Department of Transportation

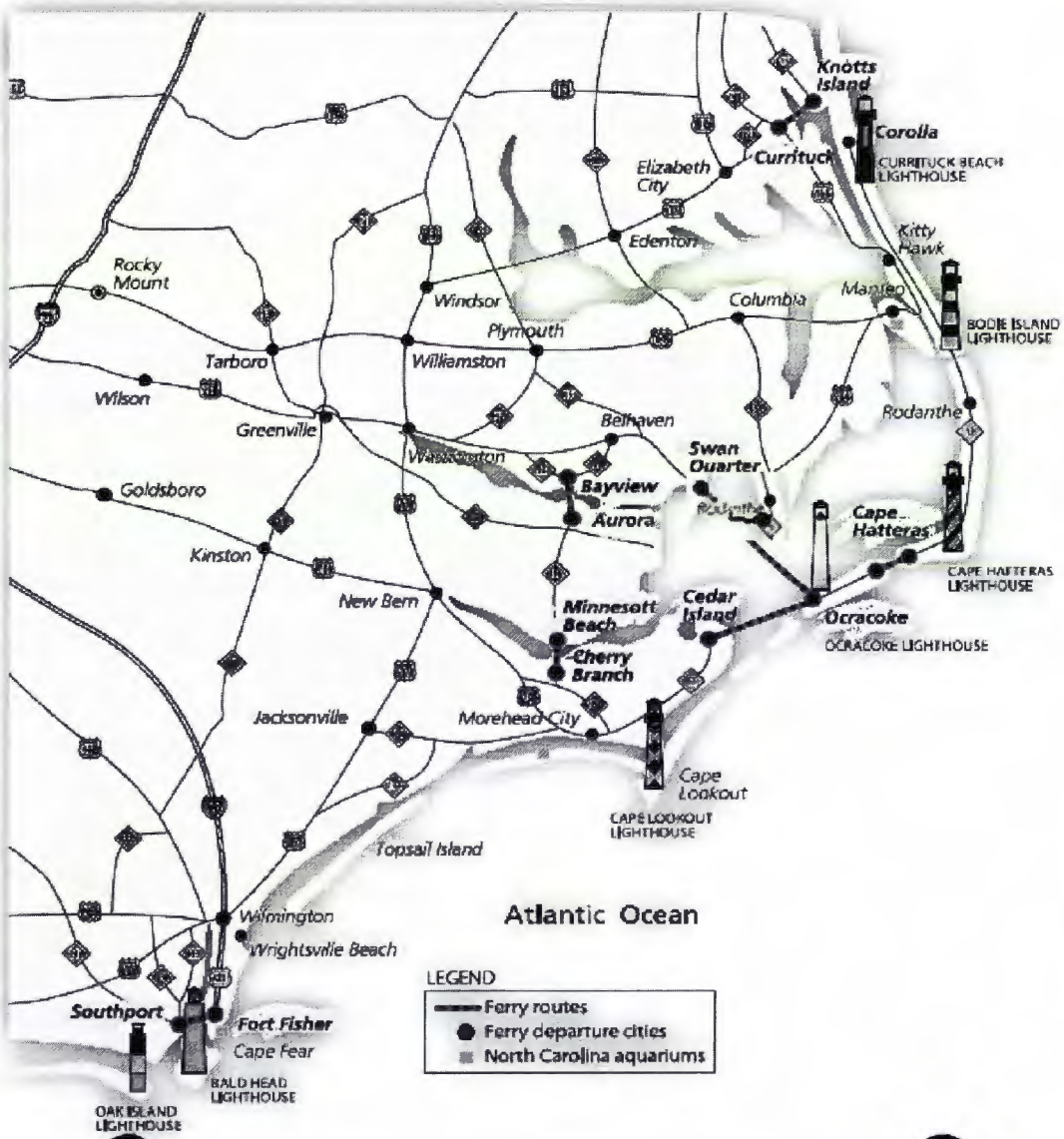


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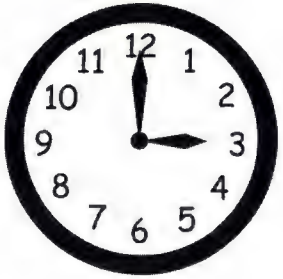
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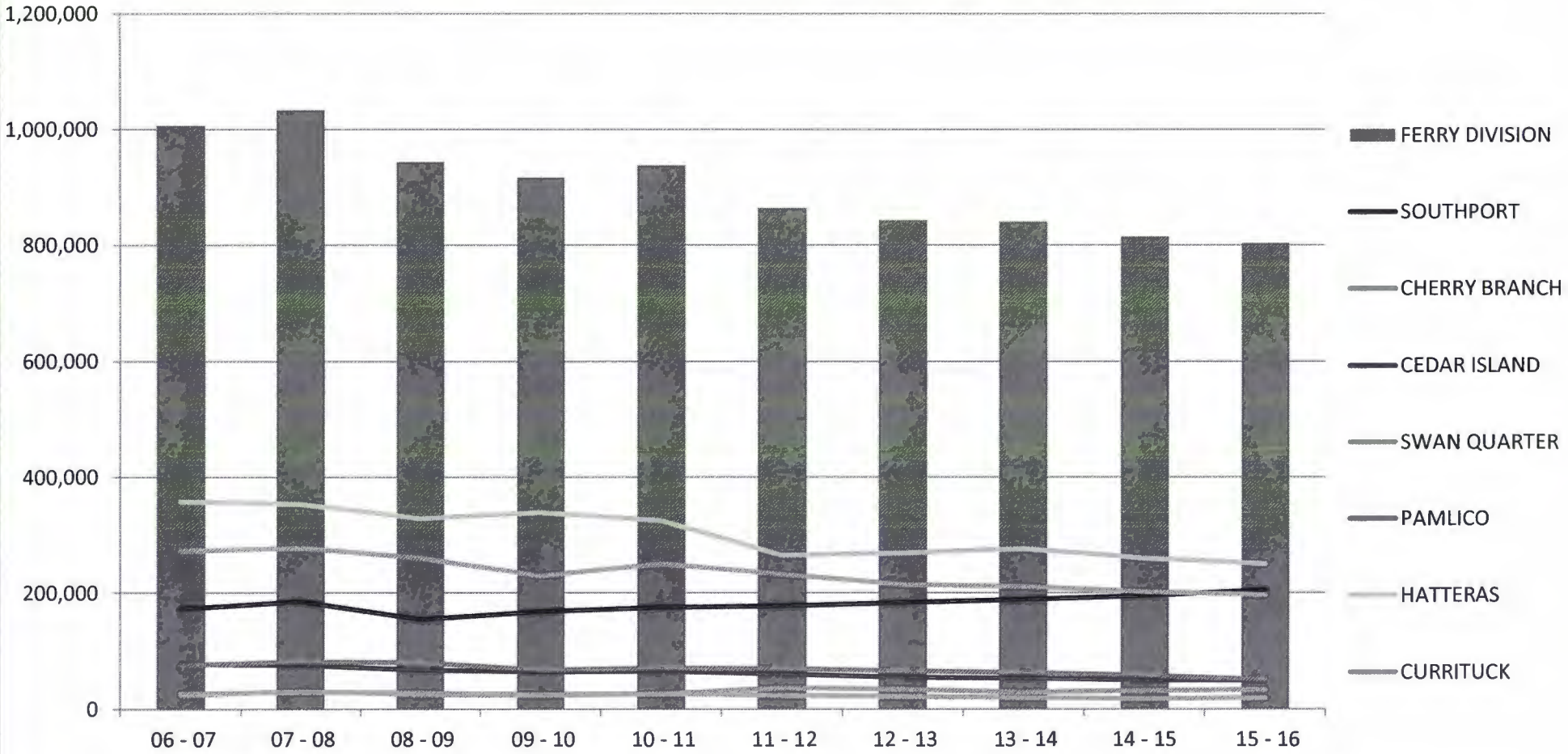
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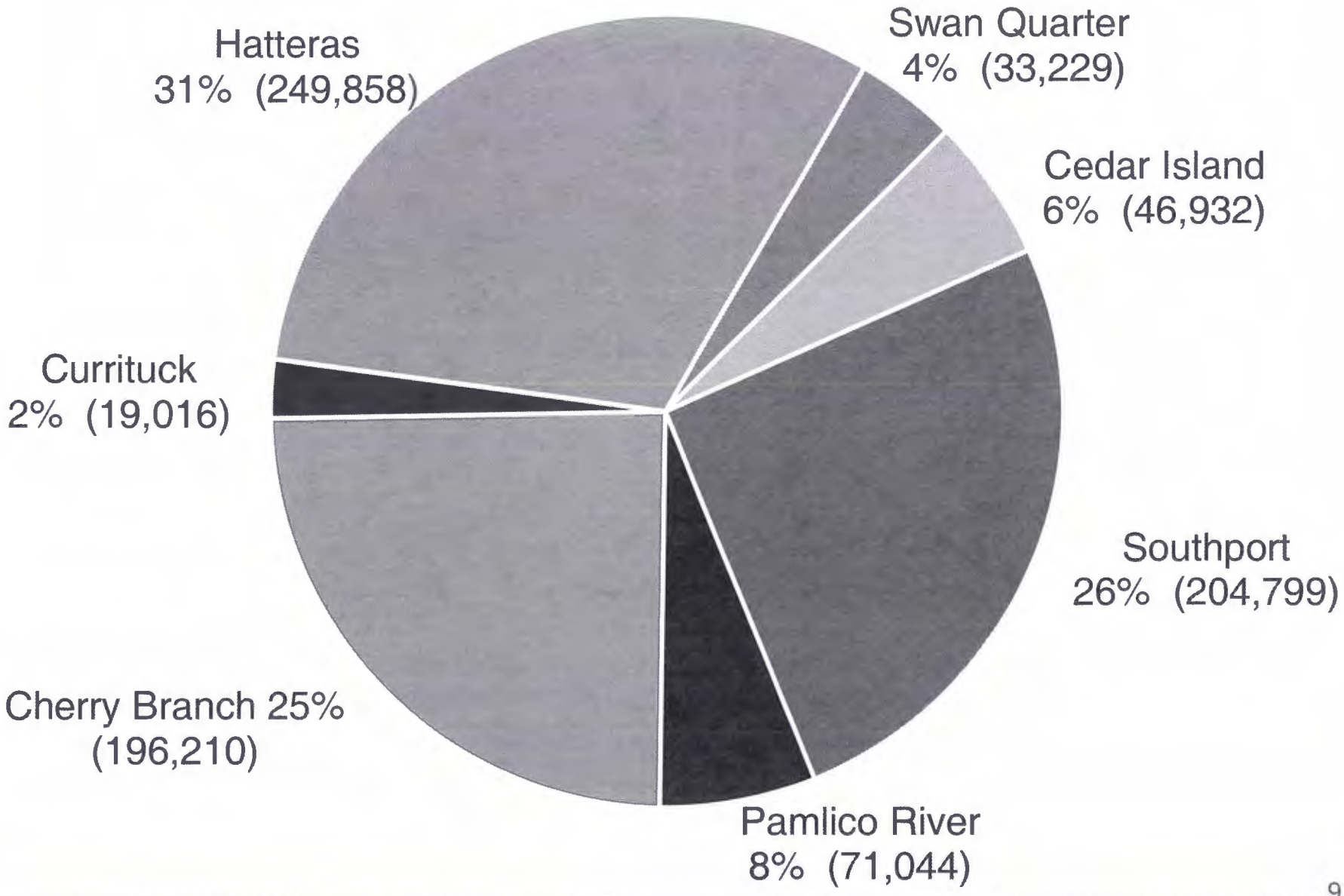
Vehicles Carried Route Comparison for FY16



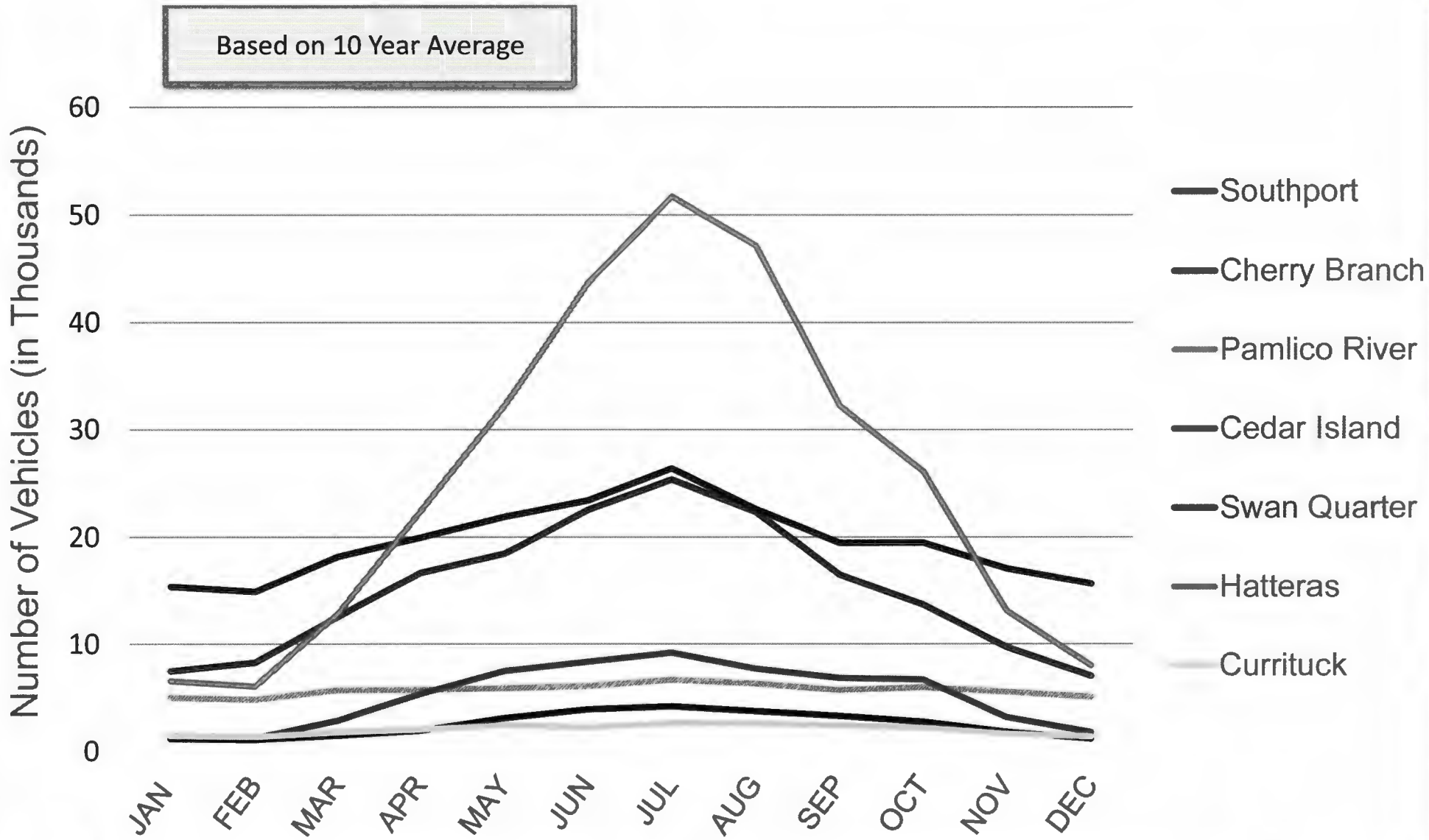
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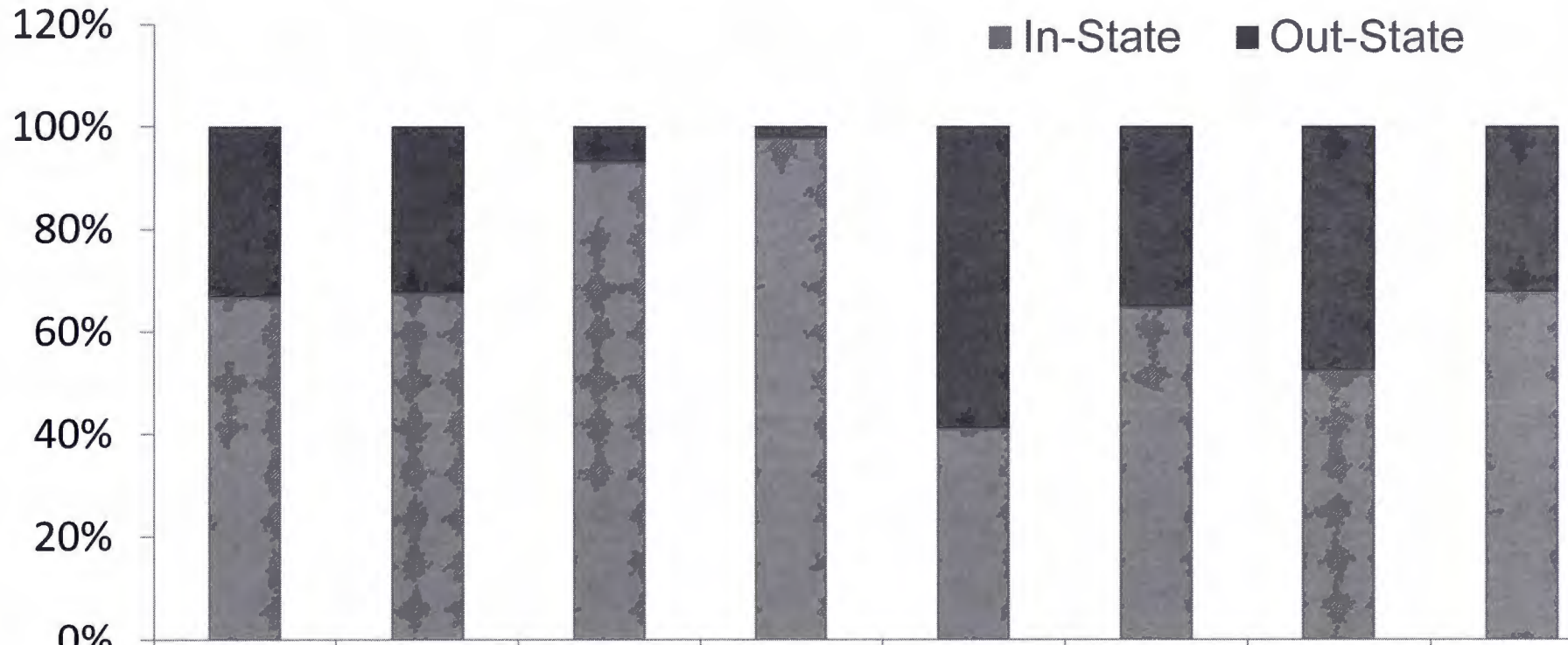
Route Comparison for FY 16



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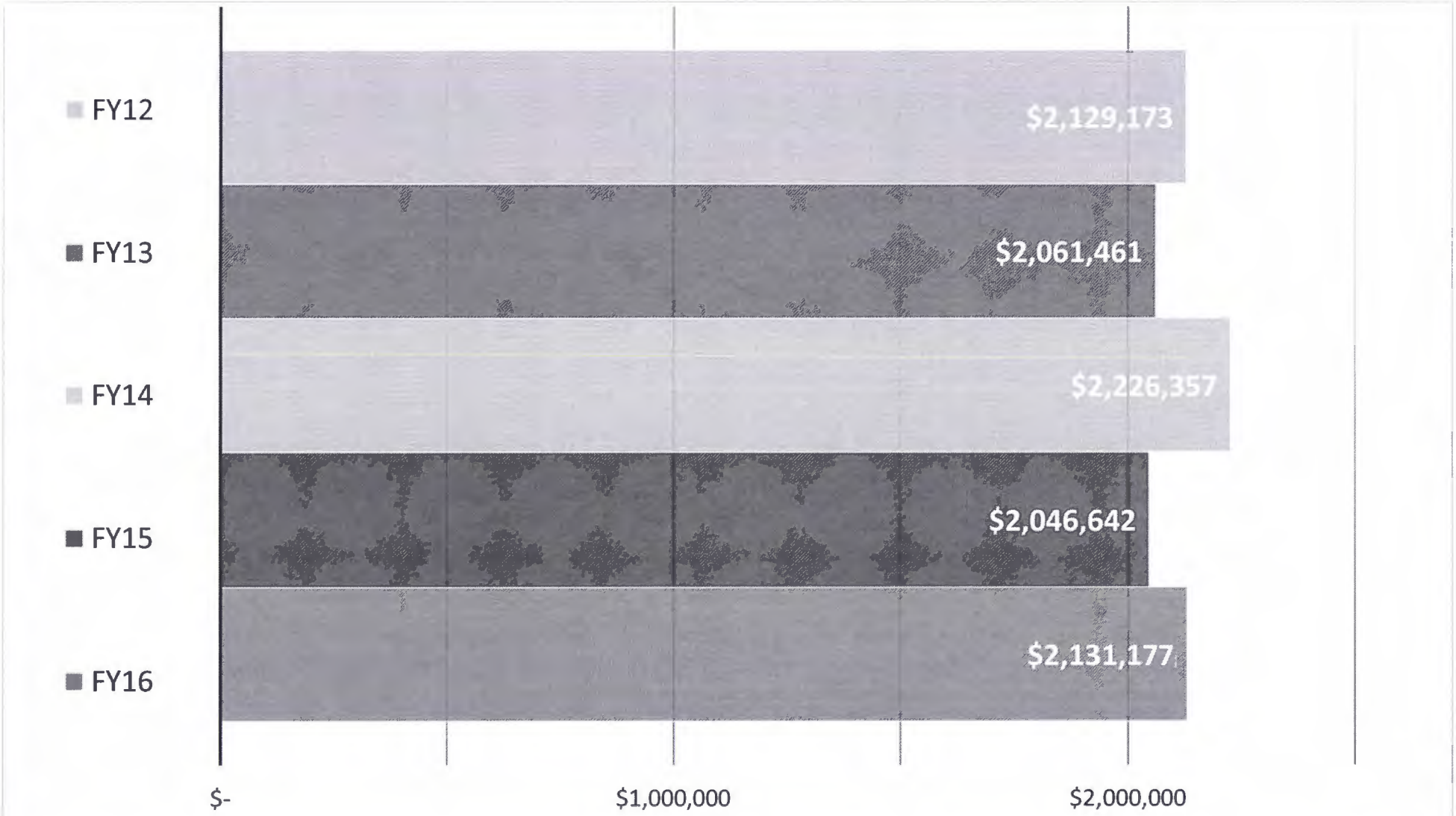


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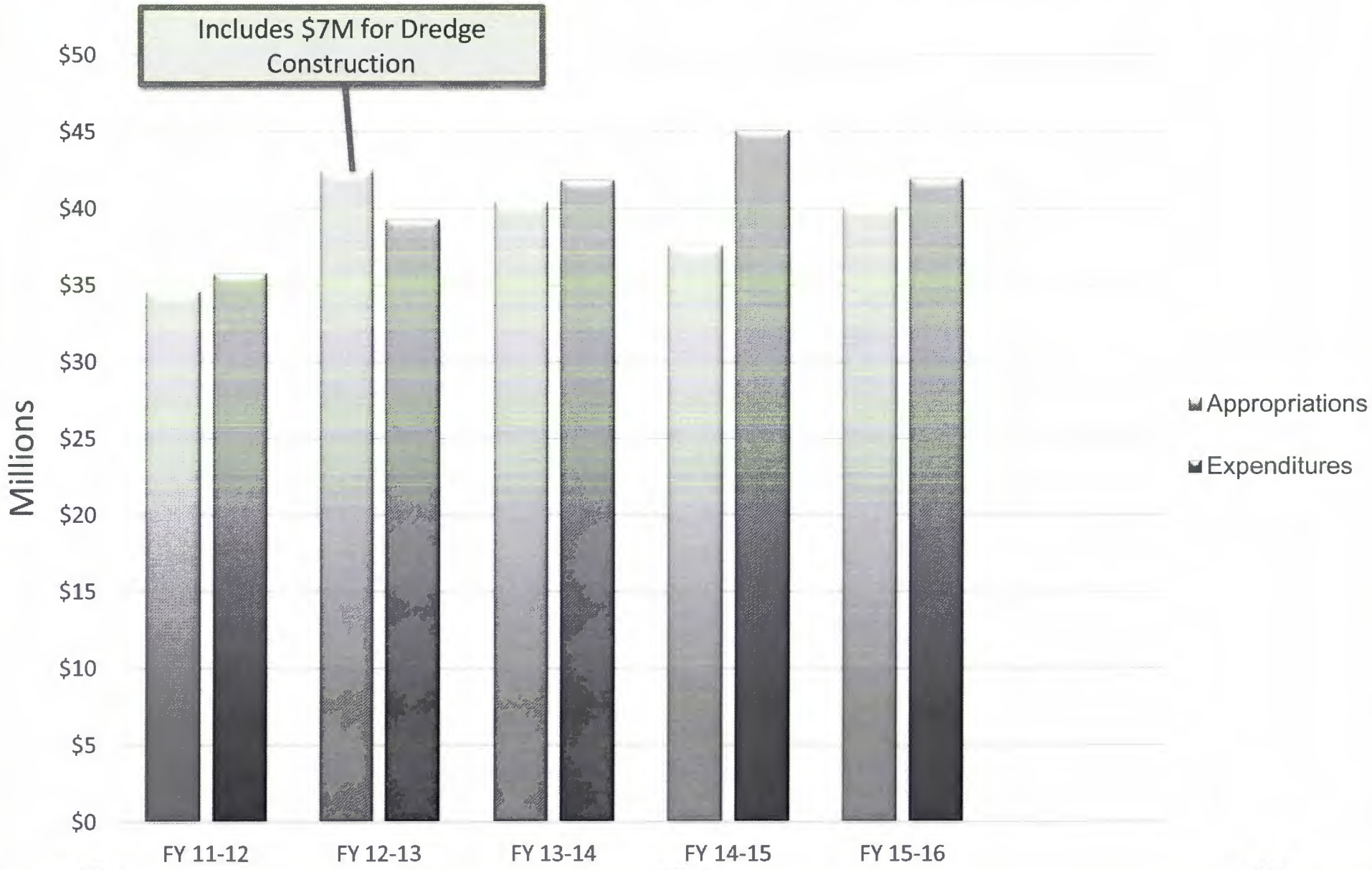
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Fare Class	Southport	Swan Quarter	Cedar Island
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Bicycle	$2	$3	$3
Motorcycle	$3	$10	$10
Vehicles			
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20 ft. to 40 ft.	$10	$30	$30
> 40 ft.	$15	$45	$45

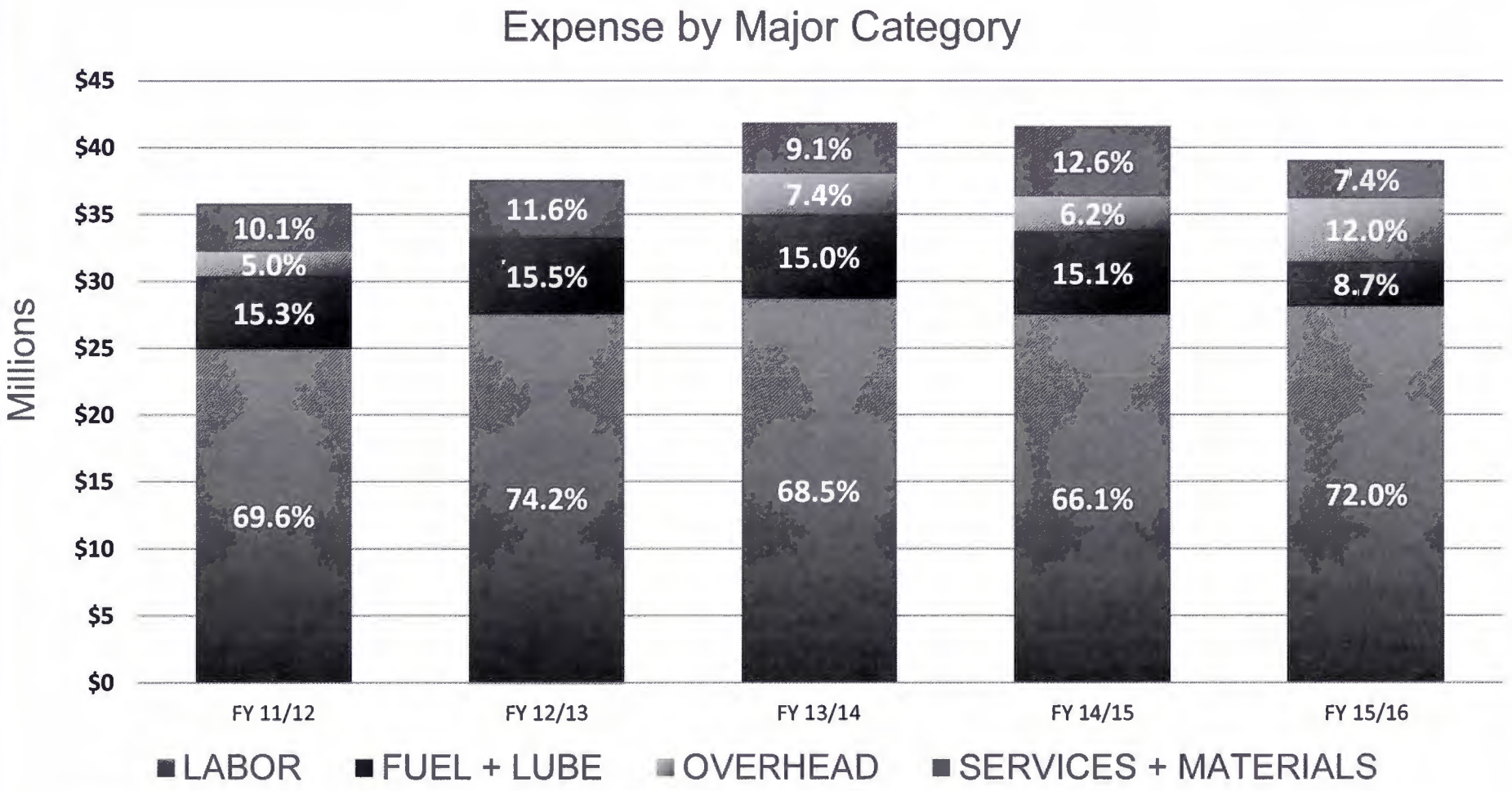
Toll Revenue Trends for Last 5 Years



Appropriations vs Actual Expenditures



O&M Expense - Five Year Trend

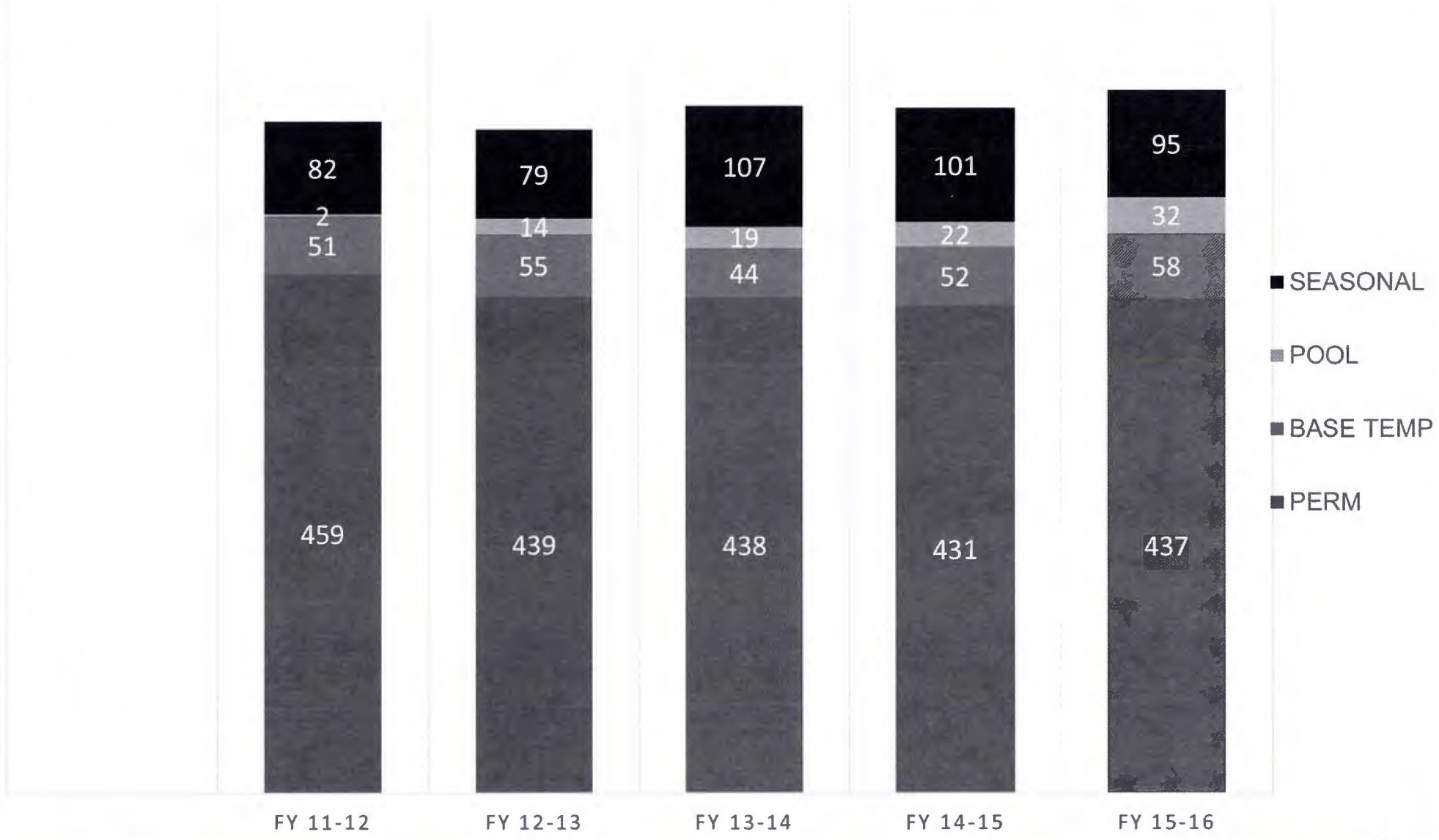


Note: FY12-13 percentage totals 101.3% - this is due to a Highway Trust Fund transfer enacted as a result of Governor's moratorium that prevented the implementation of tolls as detailed in legislation. This also resulted in no overhead costs showing up in report due to coding related to referenced transfer.

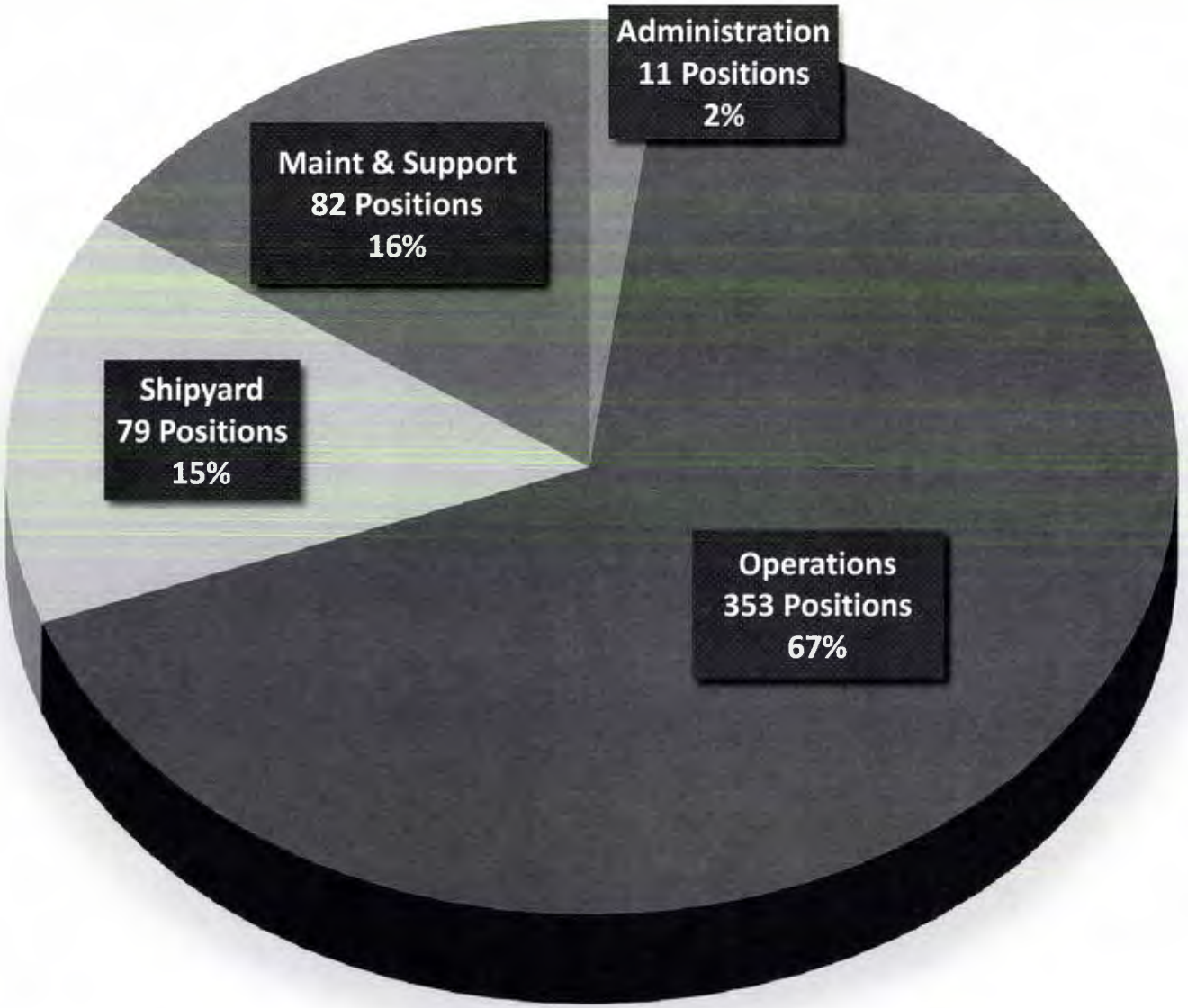
Staffing: Position Types

- Permanent Positions:
  - Standard permanent full time positions
- Base Temporary Positions:
  - 11 month temporary employees hired to meet normal operation needs
- Pool Employees:
  - On Call non-permanent positions that work less than 320 hours per year. Use of pool employees prevents unscheduled overtime for permanent employees
- Seasonal Temporary Positions:
  - Temporary employees that are utilized to address seasonal peak demands

Staffing Summary - Headcount



Position Headcount By Work Classification



This chart represents the Permanent, Pool & Base Temporary Positions based on a snapshot taken Feb. 23, 2017

Factors Driving Recent O&M Cost Increases

- 2010: USCG requires crew changes for 11 vessels. This change required hiring 44 crew members. Approx. + $2.2M per year
- 2012: Added Turnpike for reservations and toll collections. Up to $500K+ per year
- 2013: USCG mandates 10 new homeland security positions. +$500K per year
- 2014: Hatteras Alternate Channel becomes permanent route. + $2.0 Million per year.
- Combined (FY10-FY14) annual increases total +$5.2 Million
- 2016: General Assembly initiated funding for $4 Million recurring in Ferry Division Allocation for Vessel Replacement

  General Assembly funded an additional $6 Million in non-recurring funds. Of which up to $3.65 Million to initiating the Hatteras-Ocracoke passenger ferry. Remainder of funds for terminal infrastructure improvements.

O&M Cost Containment Measures

- 2015 Schedule Adjustments
  - Sound Routes - projected annual savings $500K
  - Pamlico River - projected annual savings $790K
  - Continue to evaluate demand on a monthly basis to determine possible areas for additional efficiencies
- 2015 Change in Dry-dock Requirements for M/V Hunt
  - Estimated savings of $2.0 Million over the expected life of the vessel
- Innovative Maintenance Practices
- Total of Combined Cost Containment Measures = $ 3,290,000

Supplemental Revenue Generating Activities

- Wanchese Fish Company
  - 2012, 30 day lease, $38K
- Maintenance Services for Other Agencies:
  - Army Corps of Engineers – 4 dredges, $85K
  - NC Cultural Resources – Elizabeth II, $5K
  - NC Division of Marine Fisheries – Various Vessels, $28K
- Stevens Towing
  - 2015, Dock Lease, $38K
  - 2016, Dock Lease, $25K

Supplemental Revenue – Other Opportunities

- On Board Wi-Fi:
  - This technology was tried on a trial basis in 2015. At that time the vendor could not supply adequate service on the sound routes.
  - The Ferry Division has met with a new vendor to see if providing this service is possible with the technology this company utilizes.
- Increased Vending and Concession Items
  - The Ferry Division is still looking at expanding vending & concessions, but recognized increased revenues are expected to be minimal.
- Ferry Tolling Revenues:
  - Tolls are collected on 3 routes. By legislation the tolls collected are placed into an account for each respective route. The legislation then states that these funds must go to vessel replacements along these respective routes.

Operational Challenges

- **Shipyard Scheduling:** Number of required inspections has doubled in recent years due to Coast Guard regulations
- **Peak period capacity constraints:** especially at Hatteras due to running the long route and need to increase dredging frequency
- **Shallow water with shifting shoals:** Especially at Hatteras, but dredging is required across entire Ferry Division
- **Asset Maintenance:** With the age of the fleet and other assets (ramps & gantries, bulkheads, etc.) ever increasing, there is an huge gap in funding that will be needed to adequately address existing needs.
- **Emergency Route**: Compromises to NC 12 occasionally require that the emergency ferry route be activated in order to provide some degree of continued service. When activated this operation places drains across the Ferry Division in regards to the large amount of assets required to operate this route In the last 10 years this route has been activated 3 times and cost approximately $4.2M

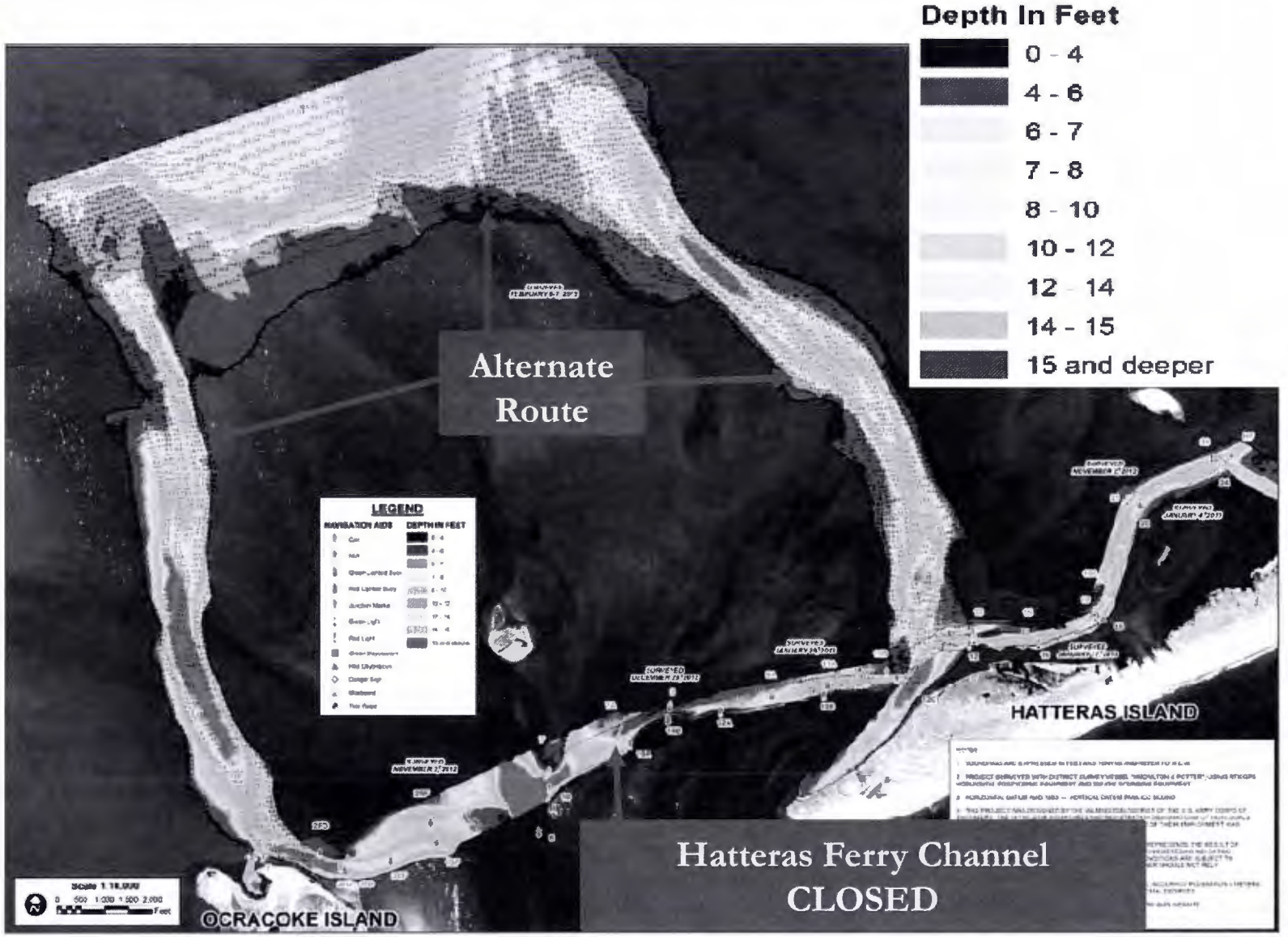
Operational Challenges - Shipyard Schedule

US Coast Guard requires ferries to be dry-docked twice every 5 years.

- Dry-dock requirements
  - Prior to 1998: 11 of 21 ferries
  - Current: 21 of 21 ferries
- Shipyard workforce
  - Prior 1998:100
  - Current: 62
- Increase in Man-hours per dry-dock
  - Approximately 8.5K to 12.5K



Operating Challenges / Shoaling
Hatteras - Ocracoke



Operating Challenges / Shoaling
Hatteras - Ocracoke

- **Hatteras Ferry Channel – 4.3-miles**
  - Emergency Area Federally Maintained
  - Constant Dredging
  - **52 departures/day (peak)**

- **Alternate Route – 8.6 miles**
  - Natural Deep Water Channel
  - Approx. increase of $175K per month in labor/fuel
  - **42 departures/day (peak)**

- **Groundings By NCDOT along the Hatteras Route**
  - FY2016 = 23
  - Note: Bump & Go's are no longer reported as per Coast Guard rule changes

Army Corps of Engineers
Funding for Hatteras Ferry Channel Dredging

Fiscal Year	Regular Federal Appropriations	Supplemental Fed. Appropriations/ Hurricane Relief	Non Federal Contributions
2009	$210,000	$191,000	$0
2010	$50,000	$142,000	$0
2011	$50,000	$0	$0
2012	$49,000	$2,000,000	$1,433,000
2013	$49,000	$2,000,000	$0
2014	$697,000		
2015	$550,000		
2016	$1,297,000		

Operational Challenges: Asset Maintenance

- Ferry vessel replacement funded through:
  - Ferry tolls dedicated to route via capital reserve accounts
  - Division funds through STI
  - Division generated receipts

- MAP 21 - FHWA formula based program
  - NC Ferry estimated allocation approximately $1.45M

- Current sources do not meet projected needs for fleet replacement and capital improvements

- Funding Shortfall Between Funding and Needs is approximately $2M per year for capital project needs and approximately $3.8M per year for operation and maintenance projects (example: vessel rehabilitations, ramp & gantry rehabilitation, etc.)

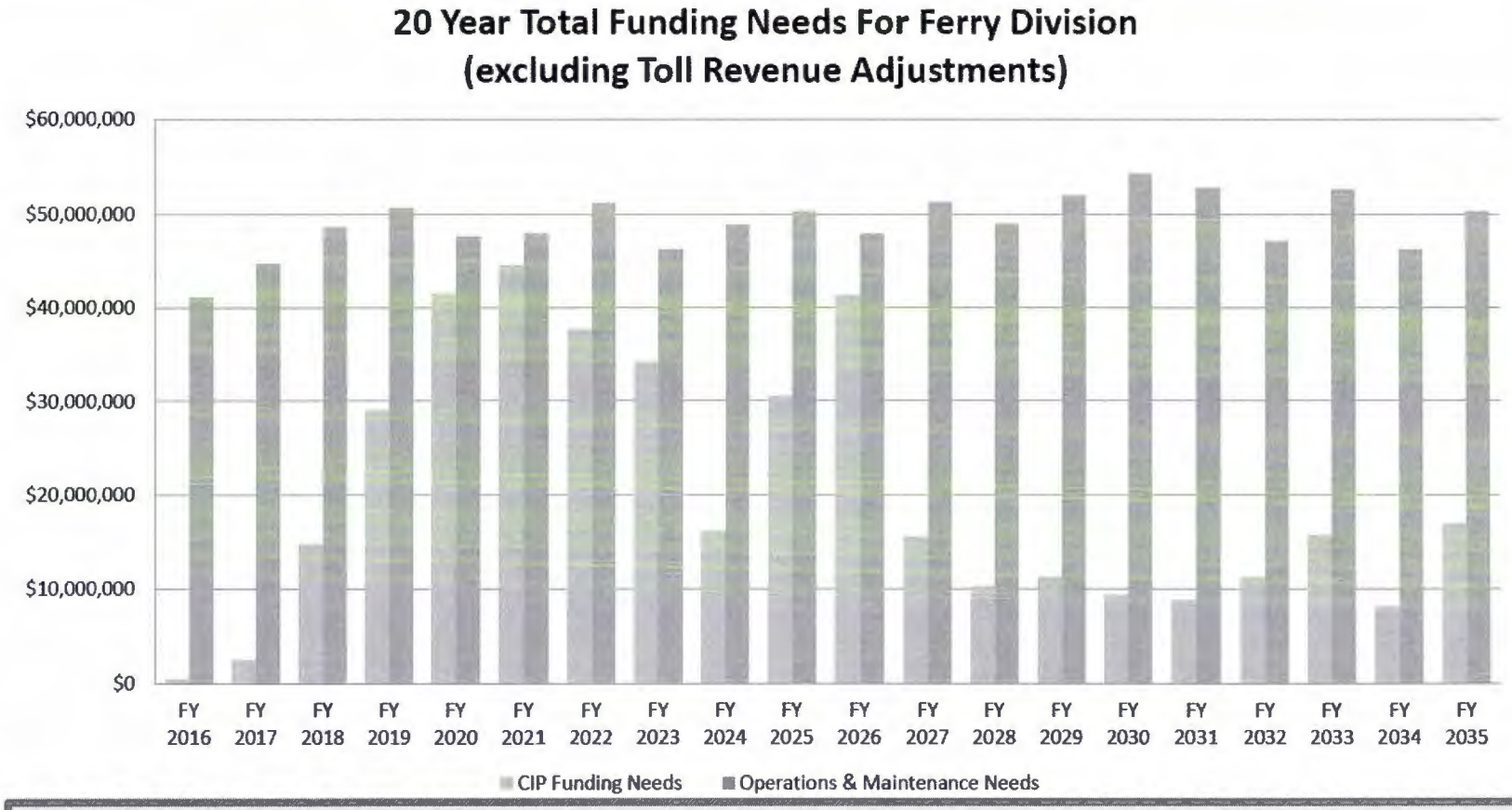
Fleet Condition

Age (years)	Hatteras Class	Sound Class	River Class	Condition
0 to 5	0	2	1	Good
6-15	0	0	5	Good
16-25	7	2	2	Average
25+	0	1	1	Critical

- Replacement Cost (FY16):
  - Sound Class Vessel New Construction approx. $18M
  - River Class Vessel New Construction approx. $13M*

* Note: This value is being updated and verified at this time as a part of project F-5700 (Replacement of the M/V Baum)

Capital Improvement Plan Summary



The Ferry Division 20 Year CIP & O&M Plan is being updated at this time to reflect Legislative impacts from the previous session. The new CIP will be completed in early April 2017.

Passenger Ferry Feasibility Study





Reasons for Initiating Study:

- Ferry route to Ocracoke changed due to shoaling
- Longer route caused reduction in number of crossings
- Longer wait times at terminals
- Unmet travel demand (vehicles leaving queue)
- Increase in labor, fuel, and maintenance costs

Passenger Ferry Project Timeline



Project Goal is to have this service operational by Spring 2018.

Questions?

Sterling Baker
sbaker@ncdot.gov



ITRE

2009



Benchmarking *and* Optimization *of the* North Carolina Ferry System



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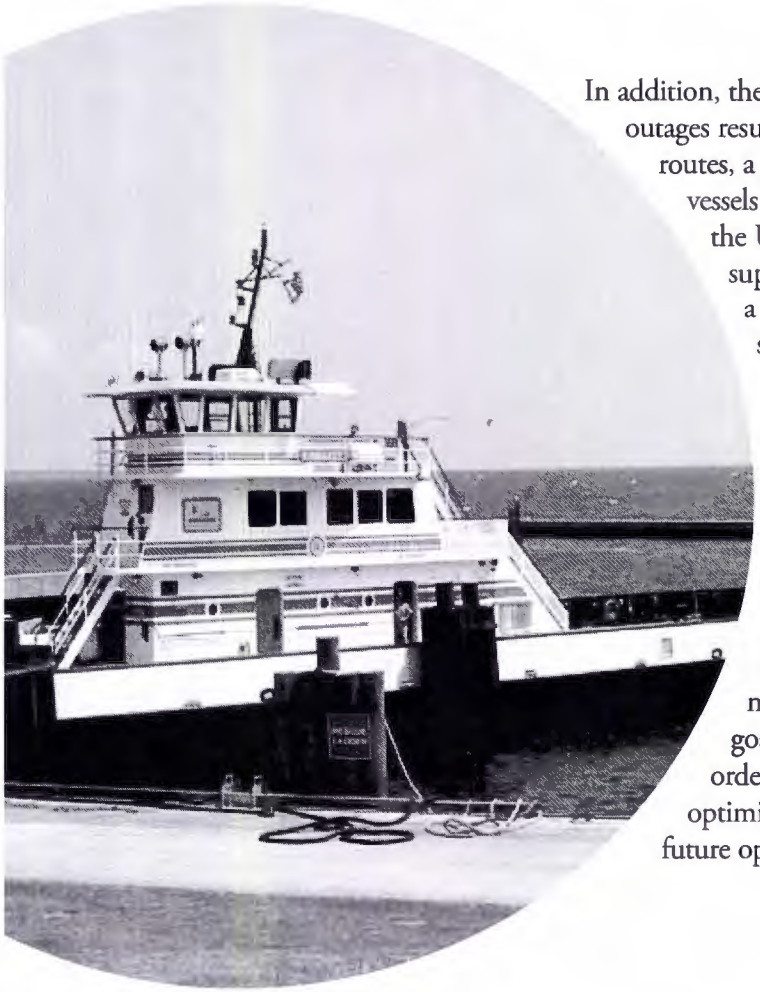
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I. BACKGROUND / INTRODUCTION

The North Carolina Department of Transportation operates the second largest state-owned ferry system in the United States. Its 21 ferry vessels serve seven routes, operate over 200 sailings daily, and transport more than 1.1 million vehicles and 2.5 million passengers annually. The North Carolina Ferry System (NCFS) is facing several challenges in recent years that have impacted the coastal communities. Recent U.S. Coast Guard regulations increasing the minimum crew size on vessels carrying over 149 passengers will require the NCFS to add 79 employees. Difficulty in finding additional funds and certified crew to meet these regulations, coupled with reductions in NCFS financial allocations from state budget cuts resulted in a reduced number of ferry sailings on some routes during the peak operations period in summer 2009.

"The North Carolina Ferry System is the second largest state-owned ferry system in the United States and transports more than 1.1 million vehicles and 2.5 million passengers annually."



In addition, the NCFS experienced challenges from ferry service outages resulting from aging ferry vessels operating on some routes, a lack of stand-by ferry vessels in case of breakdowns, vessels out of service due to increased vessels subject to the U.S. Coast Guard dry-dock inspections, unreliable support vessels that have exceeded their useful life, and a lack of certified welders and marine electricians to support the maintenance functions. The NCFS vessels also do not meet Environmental Protection Agency's (EPA) Tier 3 diesel emissions regulation and the NCFS will need to replace 110 diesel engines at a cost of $16 million.

However, these resource and operations challenges present an opportunity to analyze existing ferry operations, and to develop optimal scenarios to maximize the efficiency of the ferry system. The goal for this project was to analyze available data in order to provide the NCFS with recommendations to optimize its current resources, as well as to explore future opportunities.

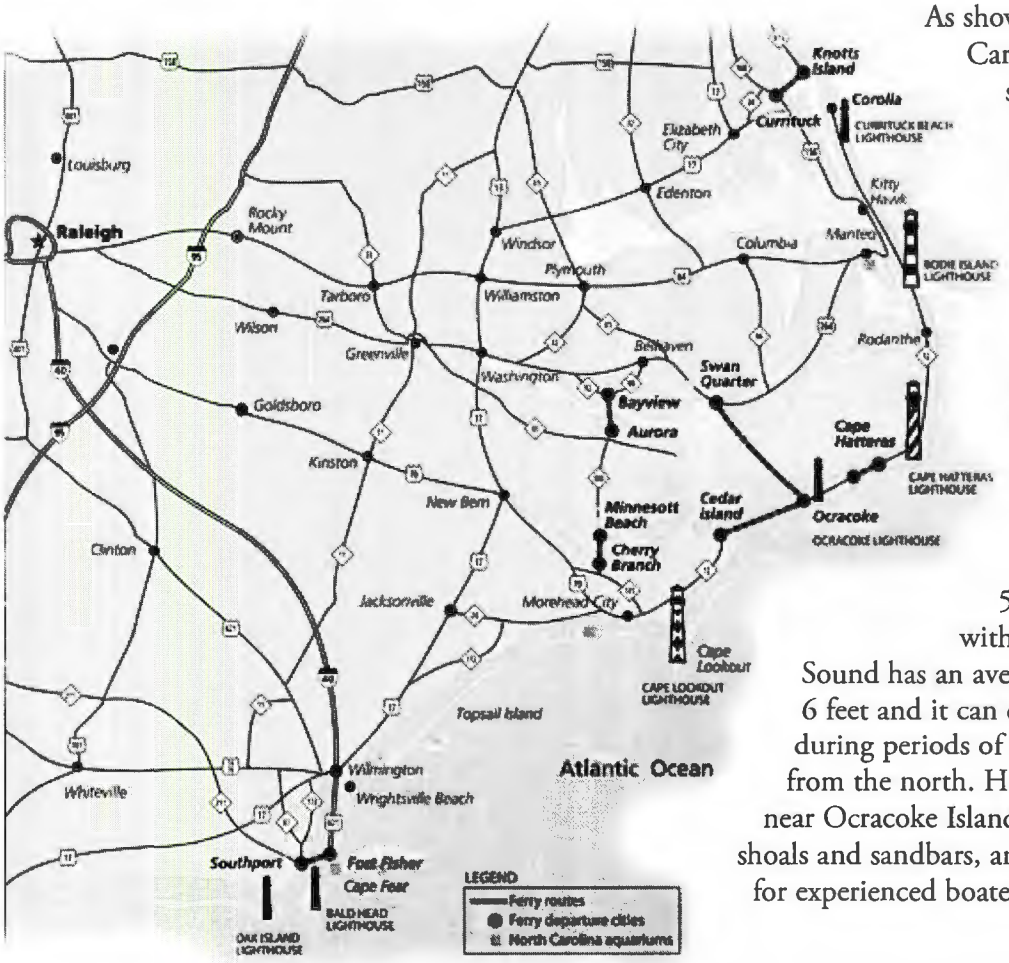
II. CURRENT STATE OF THE FERRY SYSTEM

The research team gathered information on various aspects of and impacts from, NCFS operations. First, some of the unique aspects of the NCFS are highlighted, followed by key findings from a survey of ferry passengers, concluding with a look at several economic dimensions of ferry operations in the state.

The North Carolina Ferry System

The NCFS meets several different types of travel needs in North Carolina's coastal communities, including daily work commutes, transportation to schools, and for recreational purposes. Ferries also serve in critical community service and public safety roles, providing emergency services to residents and visitors, offering a means of emergency evacuation, and sometime even rescuing distressed boaters. The NCFS is truly a part of fabric of our coastal communities.

Figure 1: Location of North Carolina Ferry Routes



As shown in **Figure 1**, North Carolina ferries operate over six bodies of water: Pamlico Sound, the Pamlico River, the Neuse River, Currituck Sound, the Cape Fear River, and Hatteras Inlet.

Pamlico Sound is the second largest estuary in the United States, with 80 miles of fetch in its north – south orientation. The Sound is shallow with water depths ranging from 5 to 20 feet and it is filled with shallow shoals. Currituck Sound has an average water depth of only 6 feet and it can easily become impassable during periods of prolonged strong winds from the north. Hatteras Inlet and the waters near Ocracoke Island are notorious for shifting shoals and sandbars, and are a challenge, even for experienced boaters, to navigate.

"The NCFS is truly a part of the fabric of our coastal communities."



The operating schedule for each ferry route is oriented to meet local community needs. For example, the Currituck – Knotts Island ferry transports commuters, tourists, and school buses. Three bus-loads of 7th- through 12th - grade students are ferried from the island daily to attend schools on the mainland. On days when the ferry cannot operate due to insufficient water depth from wind-driven tides, the alternative route involves a two-hour bus ride through Virginia.

The Bayview – Aurora ferry transports many employees who work at the Potash Corporation of Saskatchewan (PCS) phosphate mine in Aurora, which operates continuously. The Cherry Branch – Minnesott Beach ferry provides a shorter travel route for many local residents to cross the Neuse River, including commuters to Marine Corps Air Station (MCAS) Cherry Point.

The Swan Quarter – Ocracoke ferry offers direct transportation for residents of Ocracoke Village to the Hyde County seat of Swan Quarter. The alternate driving route would take nearly four hours, and require traveling via the ferry from Ocracoke to Hatteras Island.

The Hatteras – Ocracoke ferry route is the busiest route in the Ferry System, transporting over 60,000 vehicles per month during the summer peak tourist season to visit Ocracoke Village. The economy of the village depends on the ability of visitors to access it via the ferry service.

A summary is shown in **Table 1.**

Table 1: North Carolina Ferry System Route Profiles

				Sailings per day		Annual Traffic[1]		
FERRY ROUTE	DISTANCE (miles)	SAILING TIME	Number of VESSELS	PEAK	OFF-PEAK	VEHICLES	PASSENGERS	TOLL
Currituck - Knotts Island	5.0	45 min.	1	12	12	29,490	89,438	No
Bayview - Aurora	3.5	30 min.	1	22	22	81,572	129,564	No
Cherry Branch - Minnesott Beach	2.0	20 min.	3	56	56	277,254	486,782	No
Swan Quarter - Ocracoke	30	2.5 hrs.	2	8	4	27,431	64,634	Yes[2]
Cedar Island - Ocracoke	26	2.25 hrs.	3	12	8	75,783	183,583	Yes[2]
Hatteras - Ocracoke	4.5	40 min.	9	63	31	353,192	951,491	No
Southport - Fort Fisher	4.0	35 min.	2	28	24	185,447	499,796	Yes[3]

[1] 2007-2008 fiscal year ferry traffic data

[2] passengers: $1; bicycles: $2; motorcycles: $10; vehicles less than 20' long: $15; vehicles 20' - 40' long: $30; vehicles 40' - 65' long: $45

[3] passengers: $1; bicycles: $3; motorcycles: $3; vehicles less than 20' long: $5; vehicles 20' - 40' long: $10; vehicles 40' - 65' long: $15

The role of the NCFS extends beyond simply providing marine transportation. On October 23, 2009, the captain on the *Silver Lake*, traveling on the Cedar Island – Ocracoke route, noticed an overturned 16-foot skiff. The five fishermen from that boat had been in the 60-degree water for nearly 90 minutes. Ferry crew members successfully rescued all five fishermen. In early November 2009, a storm surge generated by Tropical Storm Ida, over-washed Highway 12 north of Rodanthe, cutting highway access to southern Hatteras Island. The closure prompted the NCFS to operate emergency ferry runs from Rodanthe to Stumpy Point to provide a means of access between the impacted communities in Dare and Hyde Counties.

Table 2: North Carolina Ferry System Vessel Specifications

Vessel Name	Vehicle Capacity	Passenger Capacity	Length In FT.	Breadth in Ft.	Draft in Ft.	Gross Ton	Year Built	Vessel Age	Modifications
Hunt	17 (1)	149	159' -3"	40'-0"	5'-0"	462	1984	25	30' Midbody extended (1999)
Ocracoke	30	149	42'-0"	8'-6"	4'-0"	275	1990	19	
Kinnakeet	30	149	151'-9"	42'-0"	4'-0"	280	1989	20	
Chicamacomico	30	149	149'- 9"	42'-0"	4'-0"	275	1990	19	
Cape Point	30	149	151' -9"	42'-0"	4'-0"	275	1990	19	Bow & Hull extended (1989)
Frisco	30	149	149'- 9"	42'-0"	4'-0"	275	1990	19	
Roanoke	30	149	149' -9"	42'-0"	4'-0"	248	1993	16	
Thomas A. Baum	30	149	149' -9"	42'-0"	4'-0"	248	1995	14	Bow thruster added (2000)
Hyde	35	300	161'-0"	48'-0"	7'-5"	574	1977	32	
Floyd J. Lupton (2)	40	300	180'-0"	44'-0"	6'-0"	374	2000	9	
Neuse (2)	40	300	180'-0"	44'-0"	6'-0"	374	1998	11	
Fort Fisher (2)	40	300	180'-0"	44'-0"	6'-0"	374	2000	9	
Croatoan (2)	40	300	180'-0"	44'-0"	6'-0"	376	2003	6	
Stanford White (2)	40	300	180'-0"	44'-0"	6'-0"	372	2003	6	
Hatteras (2)	40	300	180'-0"	44'-0"	6'-0"	407	2006	3	
Southport (2)	40	300	180'-0"	44'-0"	6'-0"	374	1996	13	
Daniel Russell (3)	40	300	180'-0"	44'-0"	6'-0"	418	1993	16	
Carteret	50	300	220'-0"	50'-0"	6'-6"	771	1989	20	60' Midbody extended (1998)
Cedar Island	50	300	220'-0"	50'-0"	6'-6"	648	1994	15	
Silver Lake	50	300	220'-0"	48'-0"	6'-0"	688	1965	44	60' Midbody extended (1987)
Pamlico	50	300	220'-0"	48'-0"	6'-0"	734	1965	44	60' Midbody extended (1986)

(1) Vehicle capacity reduces to 4 when transporting 3 school buses during school-travel times

(2) Vessels with Voith-Schneider propulsion system or "double-ender" that enable embark/disembark without turning the vessel around

(3) "Double-ender" with conventioanl propeller engines

The NCFS's 21 vessels consist of five Sound Class vessels that serve the two longest ferry routes: Cedar Island – Ocracoke and Swan Quarter – Ocracoke. Nine River Class vessels serve four river crossings: (1) Currituck – Knotts Island, Bayview – Aurora; (2) Cherry Branch – Minnesott Beach; and (3) Southport – Fort Fisher. Eight vessels serve the Hatteras – Ocracoke route. Specifications of each of these vessels are summarized in **Table 2**.

The average age of NCFS vessels is 18 years. The *Silver Lake* and the *Pamlico* are the two oldest vessels, each being 44 years old. The newest vessel is the *Hatteras*, built in 2006. Vessels purchased since 1996 are equipped with a Voith-Schneider propulsion (VSP) system. With that system, propulsion is provided by a circular plate with an array of vertical blades that protrudes from the bottom of the ship. The VSP offers high maneuverability, aiding in terminal docking that allows vehicles to load and unload from both ends to reduce terminal dwell time.

The NCFS also operates ten support vessels responsible for maintaining the navigation channels at the thirteen ferry terminals, as well as maintaining the terminal and shipyard pilings and docks, and assisting disabled ferries. The tug *Albemarle*, the dredge *Carolina*, and the crane barge *Skyco* conduct the majority of the dredging operations. The *Skyco* entered service in September 2008 and is the first vessel built entirely in-house at the NCFS shipyard in Manns Harbor. The dredge *Carolina* (built in 1968) and the tug *Albemarle* (built in 1977) however are in poor shape and are high maintenance items. Both vessels have long list of upgrade and repair needs. These needs range from mechanical equipment to perform vessel missions to safety equipment to protect the vessel crew.

Table 2 also describes some of the vessel modifications that were required to meet increasing capacity demands. The most notable modifications are the 60-foot, mid-body extensions to the three Sound Class vessels to accommodate additional vehicles and passengers. The *Hunt* was also extended by 30 feet to transport school buses crossing Currituck Sound. These significant modifications were performed by the NCFS shipyard in Manns Harbor. In spite of these admirable efforts to meet demands for additional vehicle capacity, the aging vessels require frequent maintenance resulting in significant out-of-service periods. Vessels must also be taken out of service for U.S. Coast Guard's dry-dock inspection twice every five years. Without a stand-by vessel, any breakdown incident results in a disruption to service.

The Manns Harbor shipyard is the largest state-owned and operated shipyard in the U.S. The shipyard is totally self-sufficient with its own electrical generating power plant and water system, and has the capabilities to work around the clock in any weather conditions. The shipyard is capable of conducting all maintenance, from basic dry docking to making any repairs required to meet U.S. Coast Guard regulations. The facility can also paint a vessel from top to bottom.

The NCFS's shipyard and the field maintenance facilities, however, are facing a critical shortage of skilled and certified shipyard workers. The number of NCFS vessels to be inspected has increased from nine to 21 vessels. The shipyard is having a difficult time attracting certified workers due to the high cost of living in coastal communities and competition with the Norfolk shipyard.

Key Findings from a Survey of Ferry Passengers

The research team conducted a survey of NCFS passengers to determine travelers' demographics, their assessments of the service they received, their willingness to pay for ferry service, as well as any suggestions for improving services. Passengers on the seven routes completed a total of 2,081 surveys in July 2009. The key findings from the survey are summarized as follows:

Respondents expressed a high overall satisfaction with their ferry experience. Overall, 72% were extremely satisfied with their experience, while another 25% were somewhat satisfied.

While passengers' primary concerns varied by route, the greatest concern on the majority of the routes was being able to board the intended departure (and not having to wait for a subsequent sailing).

- Survey respondents on five ferry routes (Bayview – Aurora; Currituck – Knotts Island; Fort Fisher – Southport; Cedar Island – Ocracoke; and Swan Quarter – Ocracoke) ranked boarding their intended departure as their primary concern. On average, 76% of those riders were extremely satisfied with their ability to board their intended departure.
- The number of scheduled trips was the primary concern of passengers on the Cherry Branch – Minnesott Beach route. Respondents were evenly divided in their satisfaction with the number of trips scheduled on that route.

72% [of surveyed ferry passengers] were extremely satisfied with their experience.

- Hatteras – Ocracoke passengers' primary concern was the length of wait-time to board; however, 63% of those travelers were extremely satisfied with the length of their wait-time.

The frequency of use varies by route. On the Cherry Branch – Minnesott Beach and Bayview – Aurora routes, the largest category of users are daily passengers (36% and 45%, respectively); however, the majority of passengers on the remaining routes reported utilizing the ferry route only once or twice a year, with the surveys indicating such usage at the following percentages: Currituck – Knotts Island (60%); Hatteras – Ocracoke (87%); Southport – Fort Fisher (75%); Cedar Island – Ocracoke (89%); and Swan Quarter – Ocracoke (79%).

Other information from respondents showed that:

- The majority of travelers board the ferries in a vehicle less than 20-feet long (86%).
- The majority of travelers are able to board their intended departure (92%).
- Overall, (61%) of survey respondents used a ferry for tourism or recreational activities, with 22% making work-related trips.

Travelers believe that using the ferry saves costs compared to driving via an all-land route, with 70% of travelers estimating savings of more than $10 (per one-way trip) and 40% estimating savings of more than $25 (per one-way trip).

Passengers also believed that they realized significant travel-time savings from using a ferry versus driving by an all-land route, with 66% reporting they saved more than one hour per one-way trip and 38% reporting they saved more than two hours per one-way trip as compared to an all-driving route.

Responses were split nearly evenly between those who indicated they were willing to pay, and those who were *not* willing to pay for the service they received. The greatest percentage of travelers (63%) willing to pay for the service they received traveled the Hatteras – Ocracoke route, while the lowest percentage of travelers (45 %) who indicated a willingness to pay traveled the Minnesott Beach – Cherry Branch route

Finally, a majority of passengers who indicated a willingness to pay believed ferry travelers should pay for 25% of the costs to operate the service. When asked to choose among 0%, 25%, 50%, and 75% of operating costs, approximately one-third replied 0% (unwilling to pay), and one-third indicated 25%.

Critical Economic Dimensions of the North Carolina Ferry System

The NCFS provides mobility to coastal areas for local residents and visitors by transporting approximately one million vehicles each year (FY 2007-2008). This mobility supports tourism, provides access for residents to employment opportunities, and travel time savings to a variety of destinations.

Traveling on one of the NCFS routes offers many travelers a shorter travel option than if they were to drive the entire trip. The ferry option provides an opportunity to save both travel time and vehicle operating costs. The total travel time benefits to Ferry System travelers are calculated to be over $26 million per year, with a net positive impact of over $8 million per year when ferry operating costs are subtracted.

The access provided by the NCFS is critical in supporting tourism in the coastal areas of North Carolina. Although a more rigorous study is needed to determine a more precise estimate of the contribution from the ferries to tourism, the research team generated an estimate based on visitor travel patterns. The parameters used in estimating the ferries' contribution to tourism included: the annual vehicle count from the NCFS, the percentage of visitors responding to the survey conducted during this study, and an average amount spent by visitors per trip ($562).[1] Based on calculations of these parameters, the contribution of the NCFS operations to tourism in North Carolina is estimated to be approximately $325 million, as shown in **Table 3** (Page 9).

The research team estimates approximately 24% of NCFS trips are work-related, as a result of information compiled from the traveler survey. That the ferry system serves a major role in facilitating access to local employment opportunities for residents is demonstrated by its providing nearly a quarter of a million annual work trips.

[1] Fast Facts – 2008 Economic Impact of Tourism. North Carolina Division of Tourism, Film and Sports Development. North Carolina Department of Tourism. Raleigh, NC, 2009.

Table 3: Travel Time, Tourism, and Local Employment Contributions

FERRY ROUTE	TRAVEL TIME BENEFITS	VESSEL OPERATING COSTS	NET IMPACT (Benefit - Costs)	TOURISM EXPENDITURES SUPPORTED	ANNUAL WORK TRIPS SUPPORTED
Swan Quarter - Ocracoke	$ 1,358,000	$ 2,081,000	$ (723,000)	$ 6,584,000	720
Currituck - Knotts Island	$ 1,186,000	$ 2,274,000	$ (1,087,000)	$ 9,447,000	5,310
Cedar Island - Ocracoke	$ 8,405,000	$ 5,346,000	$ 3,059,000	$ 17,428,000	2,710
Bayview - Aurora	$ 3,438,000	$ 1,728,000	$ 1,710,000	$ 15,128,000	42,420
Southport - Fort Fisher	$ 3,227,000	$ 3,246,000	$ (19,000)	$ 71,913,000	37,090
Cherry Branch - Minnesott Beach	$ 8,716,000	$ 3,623,000	$ 5,093,000	$ 35,838,000	130,310
Hatteras - Ocracoke	N/A - No Alternative Driving Route			$ 168,720,000	17,660
TOTAL	*$ 26,330,000*	*$ 18,298,000*	*$ 8,033,000*	*$ 325,058,000*	*236,220*

III. PEER ANALYSIS

The NCFS faces some challenges similar to those faced by other ferry operators including:

- A lack of capacity during peak periods;
- Aging vessels and facilities that will need to be replaced and/or rehabilitated, and a lack of corresponding long-term capital funding;
- Projected increases in demand for services; and
- Impacts to operations, maintenance, and capital improvements from budget reductions.

The North Carolina Ferry System, however, also faces several unique challenges including:

- Operating in areas of extremely shallow water with shifting shoals;
- Operations on both river and sound waters; and
- Difficulty in attracting and retaining skilled employees who must work in an area with a high cost of living.

To compare the ferry operations in North Carolina with peers, the seven North Carolina ferry routes were first classified according to their characteristics as "River," "Hatteras," or "Sound" routes. Potential peers were then selected based on statistical and qualitative similarities. To the extent possible, public sector operators were selected to provide a more similar comparison with North Carolina routes. **Table 4** (Page 10) lists the selected ferry routes.

Key findings from the peer analysis include the following: With regard to vessels, those used by the North Carolina Ferry System generally have a shallower draft than those of other operators, reflecting the constraints imposed from operating in areas of limited water depth and subject to shoaling. Many operators, such as Washington State Ferries (WSF), and the Texas Department of Transportation, use only double-ended vessels to eliminate having to turn a vessel at terminals. The age of many North Carolina vessels is less than that of many peers; however, not all peer vessels operate in a saltwater environment.

With regard to operations, typical operating speeds are similar to the average speeds for peers, particularly for Sound Class vessel operations. Crossings times are similar to those for peers when looking at routes of similar length.

Table 4: Selected Peer Statistics

Route	Crossing Length (miles)	Crossing Time (minutes)	Annual Vehicles (2006)	Car (<20') Toll per Mile
"River" Crossings				
North Carolina Ferry System				
• Currituck—Knotts Island,	5	45	18,382	No toll
• Aurora—Bayview	3	30	74,143	No toll
• Cherry Branch—Minnesott Beach	1.75	20	262,929	No toll
• Southport—Fort Fisher	3	30	183,306	$1.67
Louisiana Department of Transportation & Development/ Crescent City Connection Division				
• New Orleans—Algiers, LA	0.5	7	152,949	$2.00
• New Orleans—Chalmette, LA	0.5	7	1,080,605	$2.00
• Gretna—New Orleans, LA	0.5	7	31,431	$2.00
Lake Champlain Transportation Company				
• Grand Isle, VT—Plattsburgh, NY	1.4	12	N.A.	$6.79
• Charlotte, VT—Essex, NY	2.3	25	N.A.	$4.13
Virginia Department of Transportation				
• Jamestown—Scotland, VA	2.2	18	997,430	No toll
Washington State Ferries				
• Point Defiance—Tahlequah, WA	1.5	15	405,000	$12.33
"Hatteras" Crossings				
North Carolina Ferry System				
• Hatteras—Ocracoke	4.25	40	342,461	No toll
Hornblower Marine Services, under contract to Alabama DOT				
• Dauphin Island—Fort Morgan, AL	4.2	45	10,653	$3.81
Delaware River and Bay Authority				
• Cape May, NJ—Lewes, DE	17	80	359,450	$1.74
Casco Bay Island Transit District/Casco Bay Lines				
• Portland—Peaks Island, ME	2.5	15	26,566	$13.60
Texas Department of Transportation				
• Galveston—Bolivar, TX	3	20	2,134,999	No toll
• Port Aransas, TX	0.25	5	1,084,654	No toll
Washington State Ferries				
• Port Townsend—Keystone, WA	4.3	30	370,000	$2.59
• Fauntleroy—Southworth, WA	4.4	35	560,000	$2.53
"Sound" Crossings				
North Carolina Ferry System				
• Cedar Island—Ocracoke	23	135	78,759	$0.65
• Ocracoke—Swan Quarter	26	150	22,710	$0.58
Inter-Island Ferry Authority				
• Ketchikan—Hollis, AK	36	180	15,105	$2.78
The Bridgeport & Port Jefferson Steamboat Company				
• Bridgeport, CT—Port Jefferson, NY	14	75	480,000	$3.64
Fishers Island Ferry District				
• New London, CT—Fishers Island, NY	8	45	46,782	$3.38
Cross Sound Ferry Services, Inc.				
• New London, CT—Orient Point, NY	18	80	N.A.	$2.61
Maine State Ferry Service				
• Rockland—Vinalhaven, ME	15	75	20,298	$1.65
Woods Hole, Martha's Vineyard and Nantucket Steamship Authority				
• Hyannis—Nantucket, MA	30	150		114,377
Chrarlevoix Country Transportation Authority				
• Charlevoix—St. James, Beaver Island, MI	28	130		6,409
Lake Champlain Transportation Company				
• Burlington, VT—Port Kent, NY	9.8	55		N.A

Vessel replacement costs at peer ferry systems have been relative high. For example, in December 2008, WSF contracted for the construction of a 64-car ferry priced at $65.5 million. On October 13, 2009, WSF awarded a contract to construct two additional 64-car ferries for a total of $114 million.[2] In 2007, the Virginia Department of Transportation (VDOT) spent approximately $12.5 million to operate four ferry services and to maintain seven vessels. The estimated cost to replace two of the Scotland – Jamestown, Virginia, ferries was estimated at $20 million per vessel.[3]

Many ferry systems' employees are unionized. All WSF employees except those in management positions are members of various unions.[4] The Woods Hole, Martha's Vineyard and Nantucket Steamship Authority workforce is nearly totally unionized, with eight bargaining units represented by four different unions.

Many peers charge vehicle tolls; however, state-run systems in Virginia and Texas do not. Toll rates, calculated on a per-mile basis, are generally lower on those North Carolina routes on which tolls are now charged, than on peers' routes. Best practices in use by peers that could be applied to the NCFS include:

- Application of service standards. For example, Level of Service (LOS) standards recommended for the Washington State Ferries are the percent of total sailings filled to capacity in May, August, and January on a route-by-route basis. British Columbia Ferries (BC Ferries) tracks on-time ferry departures and overloads.
- Surveys of customers on a regular basis to determine their satisfaction with the services they receive, and to highlight areas in which improvements are possible. BC Ferries utilizes a comprehensive survey that addresses customers' satisfaction with all aspects of service, from making the reservation, arrival at the departure terminal, the actual ferry trip, as well as perceptions on safety and overall value.

[2] From the Internet: http://www.wsdot.wa.gov/News/2009/08/7_wsdot-seeks-bids-for-ferries.htm

[3] Biennial Report on the Condition and Performance of Surface Infrastructure in the Commonwealth of Virginia, Virginia Department of Transportation, Richmond, September 2007, Page 12.

[4] From the Internet: http://www.wsdot.wa.gov/ferries/info_desk/faq/index.cfm?faq_id=19.

- Many ferry routes that charge a toll allow reservations, and some require reservations. On-line reservations are available at many peer ferry routes. Several ferry systems impose a fee if a reservation is cancelled, or require a minimum advance notice for a cancellation.
- Some tolled routes, particularly from the mainland to an island, require purchasing a round-trip ticket on the mainland, reducing infrastructure and personnel costs.
- Some ferry operators have imposed fuel surcharges to help maintain a more constant rate of revenue generation.
- Some ferry operators charge a fare for vehicle drivers/ passengers, in addition to a toll for their vehicle.


River Class

Several strategies have been adopted to deal with impacts from reductions in budgets. For example, the VDOT implemented $1.27 million in total ferry service reductions starting in July 2009. While the Jamestown-Scotland Ferry retained 24/7 operations, streamlined internal operations and security practices will save $1.1 million annually. Vehicle security screening will change from a 24/7 process to a condensed, alternating schedule.


Hatteras

The Portland – Peaks Island, Maine, ferry reduced part-time employee work hours during FY 2009 with savings of $13,500, and continued those reductions through FY 2010. The number of seasonal employees was also reduced, saving $28,200. Use of fixed-price fuel contracts saved $165,000 for boats and $1,250 for the terminal facility. Finally, mothballing two boats during the winter season provided $25,884 in fuel savings.

On March 12, 2009, as a result of low ridership and a lack of alternative operating funds, the Alaska Inter-Island Ferry Authority board cancelled operations of the Coffman Cove, Wrangell, and Petersburg's South Mitkof Terminal route until additional operating funds can be identified. Low ridership, declining populations in the region, and the recent economic downturn led to the decision to discontinue service on the route.

In summary, many U.S. ferry operations reduced operating expenses during 2009 by reducing the number of sailings in order to reduce the number of vessels and crew. For the tolled ferry routes, NCFS's cost per-mile is generally less than that of peers. The current NCFS toll-return is approximately 6% of the system's operating cost, whereas Washington State's goal is to recover 90% of the operating costs through tolling. Washington State's vessel replacement program is funded through legislative action including fund transfers from the Motor Vehicle and Multimodal Accounts, dedicated gas tax funding, bond proceeds, and federal funding. North Carolina does not have a vessel replacement program — funding is allocated through the NCDOT Transportation Improvement Plan.


Sound Class

IV. Current Opportunities

Several opportunities are available to optimize resources and increase the financial sustainability of the NCFS.

Optimization of Resources

Ferry operating schedules have been established based on historical precedents. The research team assessed the schedules to determine if the various routes were operating at an optimal efficiency. Using FY 2007-2008 ferry ridership data, the research team analyzed monthly, weekly and daily travel demands for the seven routes.

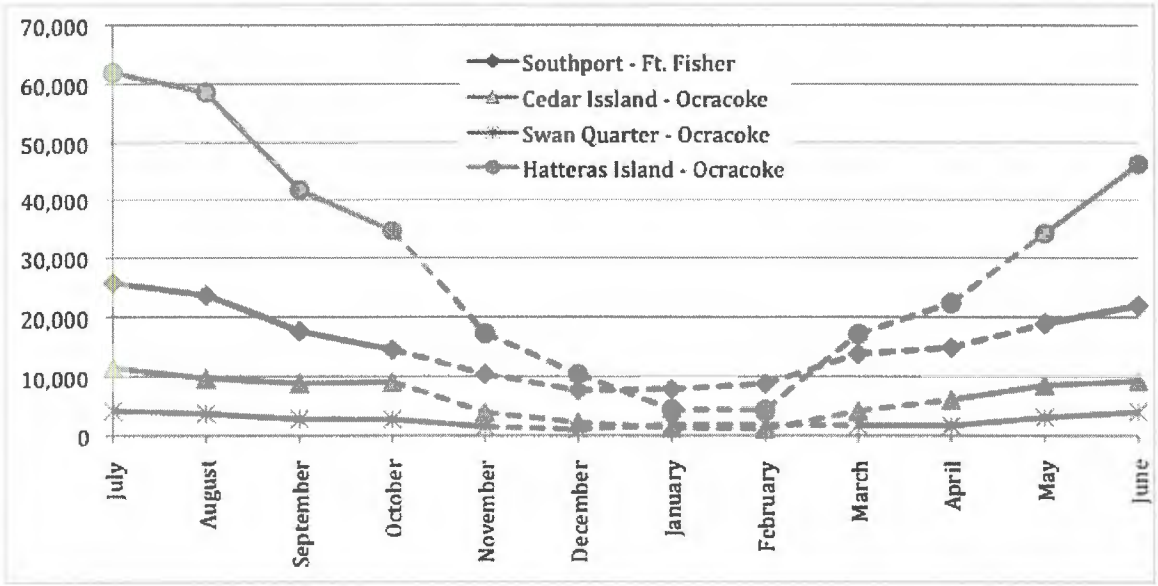
It is worthwhile noting that even though the NCDOT operates a ferry "system" involving 21 vessels, the ferry routes operate fairly independently from each other. This is a result of the seven ferry routes being located over a relatively great expanse of coastal North Carolina, and the routes having been established to meet distinct local needs. Therefore, there is little opportunity to optimize the overall ferry schedule to minimize the number of vessels without drastic system-wide service reductions.

The Swan Quarter – Ocracoke and Cedar Island – Ocracoke ferry routes share one common terminal at Ocracoke and might seem to be candidates for operation optimization. However, due to the long crossing times on those routes, the maximum working hours allowed by U.S. Coast Guard regulations, the limited overnight crew accommodations in Ocracoke, and constraints dictated by local needs, it is not possible to further optimize the fleet with the current mix of vessels.

Therefore, the research team focused its optimization efforts on studying seasonal, weekend/weekday, and daily demand variations. The findings are illustrated in the section below.

Four of the seven ferry routes exhibit pronounced seasonal ridership variations as a consequence of their heavy summer tourist ridership. That results in schedule changes with increased service to meet peak demands during the summer tourist season, and fewer sailings during the winter off-peak season. As shown in **Figure 2**, the four affected ferry routes are (1) Southport – Fort Fisher; (2) Cedar Island – Ocracoke; (3) Swan Quarter – Ocracoke; and (4) Hatteras – Ocracoke. The Hatteras – Ocracoke ferry route has the greatest seasonal variation, with more than a 90% decrease in ridership during January and February compared with that in July.

Figure 2: Monthly Ridership by Ferry Route



The dashed lines in **Figure 2** (Page 12) represent the period when ridership either falls below or rises above 50% of each route's peak ridership in July. Typically, ferry ridership begins to increase the week prior to Memorial Day weekend. At the end of the summer, ridership continues at relatively high levels beyond Labor Day through September, and then decreasing substantially in October.

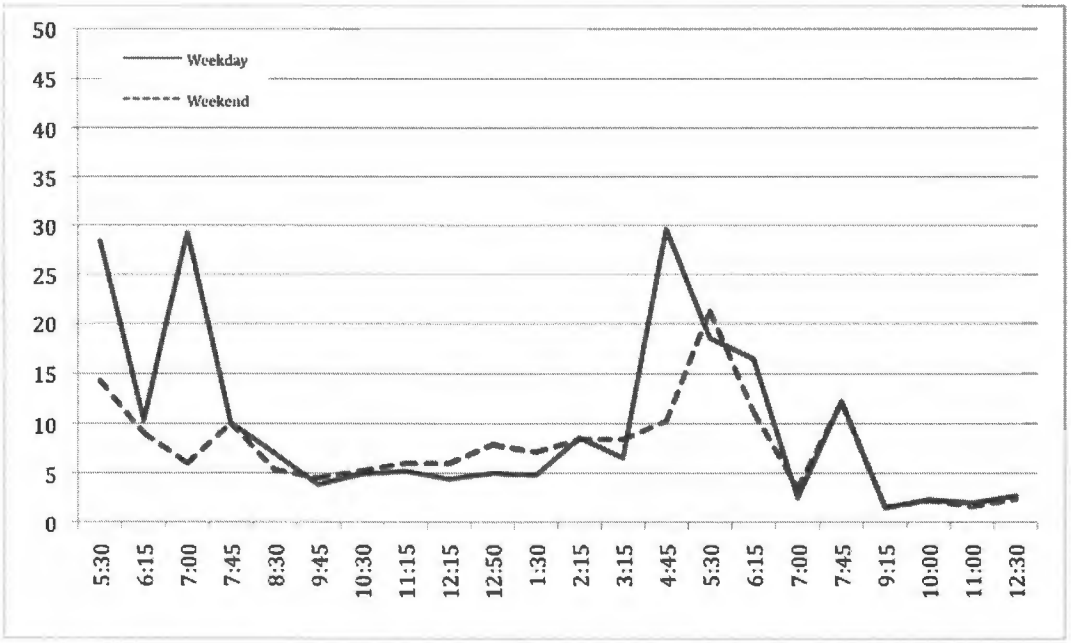
An analysis of monthly ridership, as shown in **Figure 2**, supports the NCFS's current practice of operating peak schedules during the period between Memorial Day weekend and Labor Day, and off-peak schedules during the winter.

The research team further analyzed ridership data for potential savings during the off-peak period on the three routes (Bayview – Aurora; Cherry Branch – Minnesott Beach; and Southport – Fort Fisher) that are heavily traveled by commuters to and from work. Potential savings could involve: (1) instituting abbreviated weekend sailing schedules due to less commuter traffic during weekends, (2) implementing additional schedule cut-backs during non-commuting time periods throughout the day. February 2008 ridership data was used because it best represents commuter traffic and is influenced the least by tourist travel.

The Bayview – Aurora ferry route operates from 5:30 a.m. to 12:30 a.m., making 22 sailings per day. The peak sailing demands align with the shift schedule at the Potash Corporation of Saskatchewan (PCS) facility in Aurora. Because PCS operates 24 hours per day, seven days per week, weekend demand is similar to weekday demand, with only slightly lower vehicle counts during peak periods of demand. According to a PCS spokesperson, this reduction in the workforce is attributable to fewer maintenance workers being at the facility during weekends.

As shown in **Figure 3**, the sailings with the lowest demand are those after 7:45 p.m. They are the most appropriate candidates for elimination. This finding coincides with the Ferry System's decision to eliminate sailings in order to reduce the number of vessel crews in 2009.

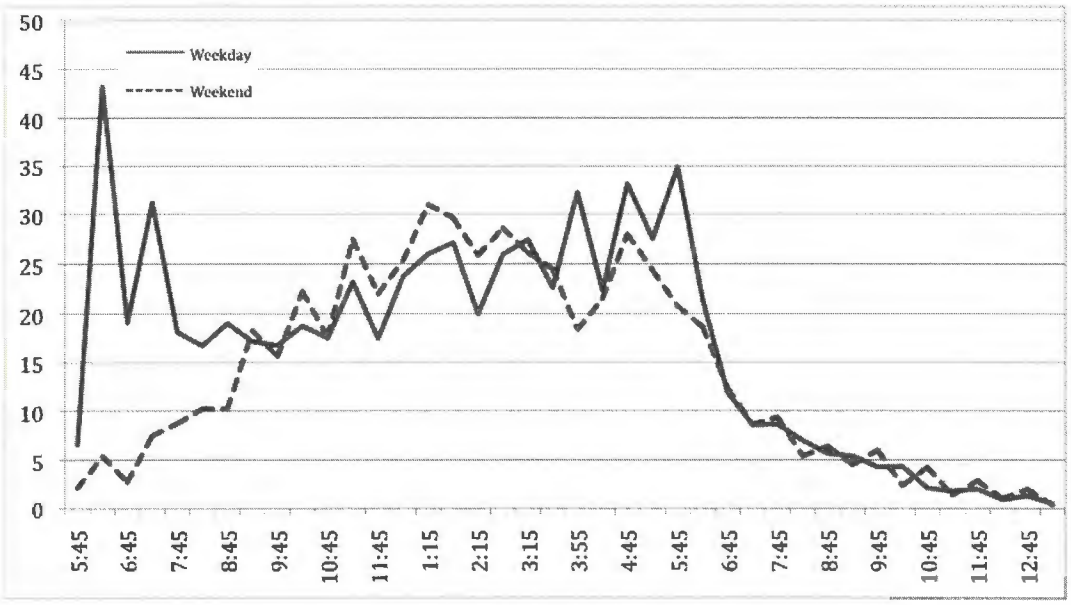
Figure 3: Bayview – Aurora Ferry Route Average Daily Traffic Count, February 2008



The Cherry Branch – Minnesott Beach route is the second most heavily used ferry route in the NCFS, transporting nearly 280,000 vehicles and 490,000 passengers annually. There is only a small difference in ridership between July and February for this route (13,000), reflecting a high proportion of travelers being commuters. The data in **Figure 4** shows high ridership during the morning commute period from 6:15 a.m. to 8:45 a.m., but demand is sustained at a relatively consistent level throughout the day, averaging 23 vehicles per sailing for both weekdays and weekends. Ridership drops off gradually after the 9:45 p.m. sailing.

During the summer of 2009, 32 sailings were eliminated on the Cherry Branch – Minnesott Beach route in order to operate with one less vessel crew and with only one instead of two vessels during part of the day. Because of the relative high demand throughout the day, if funding were available to hire an additional crew, we recommend that the majority of the sailings during that period be restored.

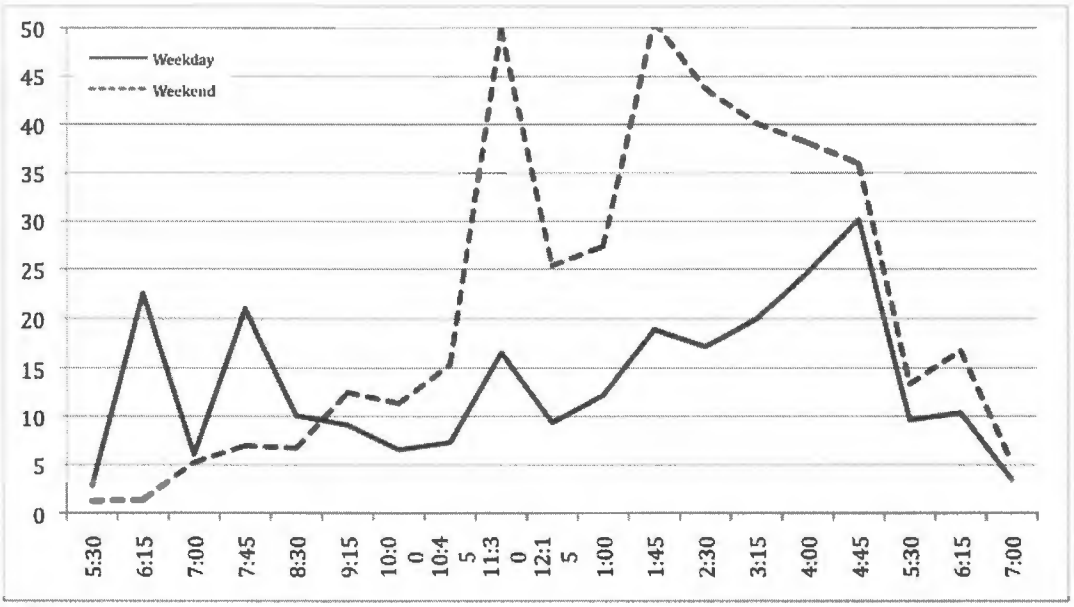
Figure 4: Cherry Branch – Minnesott Beach Ferry Route Average Daily Traffic Count, February 2008



The Southport – Fort Fisher ferry route exhibits differing demands between weekdays and weekends compared with other ferry routes heavily used by commuters. According to February 2008 data as shown in **Figure 5** (Page 15), weekend demands were higher than those on weekdays. There is the potential for achieving cost savings by eliminating the 5:30 a.m. and 6:15 a.m. weekend sailings; however, demand peaks on the 11:30 a.m. and 1:45 p.m. sailings during the weekend. These high demand periods reflect the accumulation of vehicles unable to board the intended sailing due to the reduction of four sailings during the off-peak season.

According to the preceding analyses, in responding to funding restrictions in 2009, the Ferry System did an excellent job identifying and taking advantage of opportunities to reduce sailings with minimal impacts to the level of service on most routes. The use of Memorial Day and Labor Day to distinguish between peak and off-peak sailing schedules is supported by this analysis. Few opportunities exist to eliminate early morning weekend sailings on the Minnesott Beach – Cherry Branch and Southport – Fort Fisher routes. However, ridership data support restoration of the mid-day weekend sailings on the Southport – Fort Fisher route. Ridership data also support restoration of a portion of both the weekday and weekend mid-day sailings on the Minnesott Beach – Cherry Branch route. Unfortunately, if those changes were to be implemented, that would add to the costs to operate those routes.

Figure 5: Southport – Fort Fisher Ferry Route Average Daily Traffic Count, February 2008



Financial Sustainability

This section first discusses the need for a stable long-range plan for ferry vessel replacement, including an exploration of potential revenues generated from a system-wide toll structure. It also provides information on tolling techniques and technologies, including discussions of potential tolling techniques that can help expedite the ferry boarding process, and manual versus electronic collection methods, and concludes with a potential application of tolling techniques and technologies to the seven NCFS routes.

Vessel Replacement

Since 1990, NCFS has introduced a new vessel, on average, every one to three years. The most recent addition to the ferry fleet was in 2006. The oldest vessels are *Silver Lake* and *Pamlico* which serve the two longest Sound crossing routes along with the vessels *Carteret* and *Cedar Island*. During the summer peak schedule, mechanical failures disrupt service because there is no stand-by vessel for the Sound crossing routes. Compounding this, an increased number of vessels (from the current nine to 21) will need to undergo USCG's Certificate of Inspection at a frequency of twice every five years. These factors lead the research team to believe that a vessel replacement program must become a part of NCFS's sustainable long-range plan.

There are a limited number of options facing the NCFS in order to implement a vessel replacement plan:

Status Quo – As described in previous sections of this report, the NCFS has done an admirable job maintaining operations and dealing with the demands of an aging fleet. If no action is taken to develop a long-term vessel replacement program, however, the research team believes that it will not be possible to continue to maintain the level of service to which ferry riders have grown accustomed. While the demand for ferry services shows no signs of significantly decreasing, any shortage of in-service vessels can potentially impact the schedules of several ferry routes, resulting in a decrease in the number of sailings.

Legislative Action – In 2009, $20 million was allocated from the Transportation Improvement Program for the purchase of a new ferry vessel. In order to maintain levels of service expected of the NCFS, it may be necessary for vessel replacement funding to be a regular feature of the North Carolina state budget.

Tolling – In terms of the financial sustainability and longevity of the NCFS, the adoption of a system-wide tolling structure to generate a Capital Replacement Fund for ferry vessels should be considered a viable option. Revenues generated by such a tolling structure could provide a reasonably stable long-term source of funding to ensure the timely replacement of the aging ferry fleet. The remaining portion of this section will examine various tolling structures as a means to generate Capital Replacement Funds.

Tolling

To examine how tolling might contribute to revenues that could be used to generate a Capital Replacement Fund, a modeling tool was developed that uses data from a variety of sources — historical ridership, system operations, and survey results — to generate potential toll structures that satisfy given conditions. As with all models, it is important to understand the assumptions used in creating the model and the limitations those assumptions may impose.

. . . any strategy in developing a toll structure should strive for a reasonable compromise between optimal revenue generations and be simple to understand and practical to implement.

Currently, a toll is not charged on four of the seven NCFS routes. If a system-wide tolling structure were to be adopted, travelers that have never paid a toll to ride a ferry on some routes would be required to do so. That would represent a major paradigm shift for the NCFS, the residents, commuters and tourists that use the ferries, and the North Carolina coastal community as a whole. It is important, therefore, to not underestimate anticipated impacts from adopting ferry tolls, and to carefully consider those impacts before implementing any change to the tolling structure.

It is the magnitude of this shift that presents the biggest challenge in modeling toll revenues for the NCFS. As stated previously, the NCFS is unique in many aspects, perhaps most notably in that the services it provides are currently provided either free of charge or at a greatly discounted price to travelers when compared to other ferry systems. Simply put, it is difficult to project how the public — whether a resident or tourist, commuter or school bus rider — will react to a system-wide adoption of tolls. And, although in the toll structure scenarios the revenue model assumes there will be a decrease in ferry demand due to increased tolls, at this point it is impossible to know exactly how large that reduction might be.

Setting a Toll Rate

Toll Revenue Model Assumptions

To examine the impact of various toll structures, the research team developed a toll revenue model. The model uses historical ridership data from FY 2005-06 through FY 2007-08 including average vehicle (all lengths) counts by month and by route. Tolling structures presented here assume all vehicles are less than 20-feet in length, which represents the overwhelming majority of ferry traffic.

In order to analyze toll revenue models, the concept of demand elasticity may be incorporated into the model. Simply put, demand elasticity means increased toll rates will result in a decreased demand. The price/demand characteristics of the NCFS with regard to tolling are not known at this point. Therefore, it is essential to clearly understand the implications of any elasticity assumptions. It is suspected that demand elasticity will vary widely among individual routes, largely dependent on passenger demographics. For instance, demand for the Hatteras – Ocracoke route, which is heavily oriented to tourists, would be expected to exhibit more inelastic behavior (less decrease in demand) than a route which primarily transports commuters. Once again, the adoption of tolls in a system in which the majority of travelers have always traveled free of charge is a fundamental systemic change that cannot be easily modeled. For the purpose of developing a toll structure for this study, an overall non-discretionary trip demand elasticity of -0.34 from a Washington State Ferries 2008 study[5] will be used.

All potential toll structures include the implementation of a monthly Commuter Pass. As in the existing toll structure for the three NCFS tolled routes, a Commuter Pass would provide a 100% discount per vehicle, per one-way trip. For the toll structure example presented here, the monthly cost of a Commuter Pass is set from $100 to $125. The effective annual toll discount from the Commuter Pass would be equivalent to one-way tolls of $2.40 to $3.00 for daily travelers (those making 500 one-way trips per year).

[5] Final Long-Range Plan, Washington State Ferries, December 2008, page 52.

System-wide Toll Structure Examples

Based on the assumptions described above, the tolling examples presented here can provide a template for estimating revenue generation for the entire ferry system. These examples are generated based on historical ridership data from FY 2005-06 through FY 2007-08 including average vehicle counts by month and by route. The simulation tool developed by the research team can also be used to examine revenue generation due to route specific demand elasticity, seasonal demand variations, vehicle length, and to provide guidance in negotiation of final toll rates.

The seven ferry routes have very different ridership and cost characteristics that could suggest the use of diverse toll rates. The research team believes any strategy in developing a toll structure should strive for a reasonable compromise between optimal revenue generation and simplicity of understanding, and practicality in implementation. To that end, the toll structure examples presented here will assume a "two-band" toll structure – one toll for the Sound routes and a different toll for all other routes.

The first example shown in **Table 6** is a two-banded toll structure: $10 for short crossings and $30 for long crossings. The Commuter Pass cost is $100 per month with a 100 percent discount. The projected annual revenue of $10.4 million assumes there will be no decrease in traffic demand. The projected annual revenue decreases to $8.45 million when demand elasticity is introduced in the calculations. Daily commuters averaging 500 one-way trips per year can expect an effective toll of $2.40 per one-way trip, assuming they purchase a Commuter Pass.

Table 6: Example 1 – Two-Band Toll Structure

CHERRY BRANCH – MINNESOTT BEACH	BAYVIEW – AURORA	CURRITUCK – KNOTTS ISLAND	HATTERAS – OCRACOKE	SOUTHPORT – FORT FISHER	CEDAR ISLAND – OCRACOKE	SWAN QUARTER – OCRACOKE
$10.00	$10.00	$10.00	$10.00	$10.00	$30.00	$30.00
Monthly Commuter Pass: $100 / 100% discount						
Projected Total Revenues: $10.4 million						
Projected Total Revenues — with Elasticity: $8.45 million						

The example shown in **Table 7** increases the toll from $10 to $12 for short crossings and from $30 to $50 for long crossings. The Commuter Pass cost is increased to $120 with no charge at the time of use. The projected annual revenue is $13.8 million, assuming there will be no decrease in traffic demand. The projected annual revenue with demand elasticity is $8.25 million, a decrease from the previous example due to the comparatively large increase in the Sound toll, which results in significantly decreased non-commuter demand for those routes. Daily commuters averaging 500 one-way trips per year would see an effective toll of $3.00 per one-way trip, assuming they purchase a Commuter Pass.

Table 7: Example 2 – Two-Band Toll Structure

CHERRY BRANCH – MINNESOTT BEACH	BAYVIEW – AURORA	CURRITUCK – KNOTTS ISLAND	HATTERAS – OCRACOKE	SOUTHPORT – FORT FISHER	CEDAR ISLAND – OCRACOKE	SWAN QUARTER – OCRACOKE
$12.00	$12.00	$12.00	$12.00	$12.00	$50.00	$50.00
Monthly Commuter Pass: $125 / 100% discount						
Projected Total Revenues: $13.8 million						
Projected Total Revenues — with Elasticity: $8.25 million						

Tables 6 and 7 illustrate possible tolling structures that have the potential to generate revenues for a Capital Replacement Fund to support a vessel replacement program for the NCFS. These toll structures minimize impacts to daily commuters while providing sufficient revenues to replace one vessel every other year. It is important to reiterate that the demand characteristics for each route are unknown and demand elasticity will likely be different than what was used in these examples. It will be necessary to index tolls to inflation to maintain similar purchasing power in future years.

Tolling Techniques and Technologies

The current NCFS toll collection at the Swan Quarter – Ocracoke and Cedar Island – Ocracoke routes is accomplished on-site or by an online reservation system. The Southport – Fort Fisher route toll is collected on-site at the terminals. The current tolling methods have worked well for those three routes; however, there will be significant increases in labor costs and traffic queuing at some terminals if all routes are tolled. On the Currituck – Knotts Island route, due to the low traffic volume, costs from manning an on-site tolling facility similar to those on the Southport – Fort Fisher route may result in so little revenue that it would not be feasible to impose a toll on that route. On-site tolling at the Hatteras terminal will further exacerbate queuing congestion spill-overs to Highway 12 during the peak season, and an online reservation system may not be utilized by most "day-trippers" visiting Ocracoke Village. Because of these concerns, this section describes various tolling techniques and technologies for consideration on a case-by-case basis by the Ferry System.

. . . the NCFS should collaborate with the North Carolina Turnpike Authority to adopt seamless tolling system that serves both the highway and ferry users. This will be the nation's first multi-modal tolling system.

Given the variations among the seven NCFS routes, a "one size fits all" approach is not appropriate for the application of tolling techniques/technologies. The number of variations, however, should be minimized to the extent possible in order to facilitate operations, maintenance, and oversight of the applications. In addition, the NCFS should collaborate with the North Carolina Turnpike Authority to adopt a seamless tolling system that serves both highway and ferry users. This would be the nation's first such multi-modal tolling system.

Different techniques could be applied to several categories of routes, as outlined below.

Potential applications for relatively low volume ferry routes including Knotts-Island – Currituck; Swan Quarter – Ocracoke; Cedar Island – Ocracoke; and Bayview – Aurora:

- Manual toll collection with attendants at terminals, and some self-service kiosks;
- Round-trip ticketing with tolls collected only at one end of a route, and electronic ticketing (on-line ticket purchasing similar to buying an airline ticket).

Potential applications for medium volume routes including Cherry Branch – Minnesott Beach and Southport – Fort Fisher:

- A combination of manual (attendants at terminals, and self-service kiosks) and electronic toll collection (electronic toll readers with in-vehicle transponders)
- Electronic ticketing, which could be linked to a reservations process.

Potential applications for the high-volume Hatteras – Ocracoke route:

- Electronic toll collection (electronic toll readers with in-vehicle transponders;
- Electronic license plate readers;
- Attendants at only a few lanes, primarily to monitor electronic equipment;
- Electronic ticketing, which could be linked to a reservations process.

V. Future Options

Several potential options for changes to ferry operations in the longer term include the use of public transportation on Ocracoke Island, implementation of a high-speed ferry, and a new vessel construction approach that meets the Ferry System's vessel replacement needs while benefiting North Carolina's economy.

Public Transportation

To help meet increased travel demands, public transportation can be used in conjunction with ferry transportation to provide a multi-modal transportation system that would allow some travelers to avoid using their car. As such, public transportation offers a means to increase ferry route capacity by shifting some ferry travelers from driving aboard to walking aboard, allowing ferry vessels to carry more people.

A study conducted by the KFH Group, Inc., in 2005[5], outlined items the would need to be addressed if any future public transportation venture were to be successful on Ocracoke Island:

- **Parking** – the lack of space for vehicle parking at the Hatteras ferry terminal would require a parking facility to be located at a remote location with a shuttle to the ferry terminal. This would involve an additional transfer that would discourage riders. A parking facility would also need to successfully address an environmental review process.
- **Operations** – vehicles would operate on narrow, congested streets within Ocracoke village, and the lack of space for pull-outs would compromise riders' safety when boarding and alighting vehicles.
- **Seasonal demand** – the need for operations for only a few months would under utilize vehicles. That low vehicle productivity could result in a lack of interest by private contractors or increase the cost of such an operation.
- **Funding** – there are many challenges in developing partnerships/agreements among potential federal (National Park Service), state (NCDOT), and local (county and municipal) funding agencies.

Alternate Ferry Vessel Designs

In conjunction with developing a sustainable financial plan to fund future vessel replacements, the research team conducted a preliminary exploration of modern ferry vessel designs. Two potential opportunities are implementations of a high-speed auto/passenger ferry and use of composite materials in the vessel superstructure.

High-speed auto/passenger ferries have been in service for nearly two decades. In the U.S., the *Lake Express* vessel that traverses Lake Michigan is currently the sole high-speed auto/passenger ferry. Initiated in June 2004, it links Milwaukee, Wisconsin, and Muskegon, Michigan, with a 2.5-hour crossing time between terminals.

The first auto/passenger ferry in North America was *The CAT*, launched in 2002; however, that vessel was pulled from service in December 2009 due to low travel demand. Connecting Maine and Nova Scotia, Canada, it was nearly twice as large as the *Lake Express*, and carried 775 passengers and 250 vehicles.

There was an increase in the number of high-speed auto/passenger ferries following the European economic unification, and there are currently approximately 100 such vessels in operation. Greece has had a high concentration of such ferries since 1996.

The major difference from traditional ferry vessels is that high-speed auto/passenger boats are twin-hulled catamarans. This design reduces vessel weight and draft while maintaining stability. The capital cost of a high-speed auto/passenger ferry is estimated to be three times that of a traditional ferry. The operating cost per hour

[5] "Ocracoke Island Public Transit Implementation Study: Final Report," KFH Group, Inc., Bethesda, Maryland; June 10, 2005, prepared for the North Carolina Department of Transportation and Hyde County (N.C.) Transit.

is estimated to be twice that of a traditional ferry.[6] The potential cost savings from use of a high-speed ferry include a reduced cost per sailing due to a shorter sailing time and the potential for a smaller fleet size to meet a given schedule.

Use of a high speed ferry would be feasible only on the two longest routes that cross Pamlico Sound. A high-speed ferry could reduce the sailing time from 2.5 hours to less than one hour. During the off-peak season, with slight schedule adjustments, it would be feasible to operate the Swan Quarter – Cedar Island – Ocracoke system with a single high-speed ferry vessel instead of three traditional ferry vessels. During the peak-season, it would require more drastic schedule adjustments, and three high-speed ferries would be needed to operate the peak-season schedule.

An obstacle to introducing a high-speed ferry to the NCFS is the onshore dock ramp configuration for vehicles to embark/disembark from the vessels. The current configuration is designed specifically for mono-hull vessels. It is not known if the current docking configurations at Ocracoke, Cedar Island, and Swan Quarter could be retrofitted to accept both a high speed catamaran and the traditional mono-hull vessels.

The second alternative vessel design studied by the research team is the use of composite materials for a vessel superstructure (the above deck portion of the vessel).

"Potential exists for North Carolina to tap into its own workforce of skilled boat builders to construct ferry vessels...."

The use of a composite superstructure was explored first by the Swedish ship-building industry. The goal of using lightweight building materials was to improve operating efficiency, increase speed, reduce fuel costs, and provide greater stability and carrying capacity. The primary benefit of a composite superstructure for the NCFS would be a lighter vessel with greater vehicle carrying capacity without increasing the vessel's draft. Such vessels could help the NCFS to sustain the current level of service and to meet future demand challenges.

The first composite ferry vessel in the U.S. is currently under construction for Kitsap Transit in the State of Washington. The passenger-only vessel will serve the Bremerton to Seattle route. The vessel will be 77 feet in length, and capable of transporting 118 passengers at speeds of 33 to 38 miles per hour. The goal for this specific application of a composite superstructure is to create an ultra low-wake vessel to minimize environmental impacts. The estimated cost of the vessel is $5.3 million.

There are two challenges to designing and constructing a ferry with a composite superstructure for the NCFS. First, the U.S. Coast Guard does not have standards in place regulating composite superstructures. Use of a composite superstructure in vessels is approved on a case-by-case base. Second, traditional commercial vessel builders in the U.S. may not have the workforce with the necessary skills to work with composite materials, as the vast majority of commercial vessels are built of steel. The use of composite materials, however, prevails in the recreational boat-building industry. There are approximately 100 recreational boat builders in North Carolina that sell $500 to $600 million dollars worth of boats per year, making that industry a major contributor to the state's economy.

Given the Ferry System's desire to develop a sustainable vessel replacement program for the next 30 years, coupled with an interest in composite superstructure vessels to improve operating efficiency, it could make economic sense for North Carolina to tap into its own workforce of skilled boat builders to construct ferry vessels and to elevate the state's boat-building capabilities to a new level.

[6] "Maryland – Virginia Ferry Feasibility Study" for Somerset County, the City of Crisfield, Northumberland County, and the Northern Neck Planning District Commission, PB Consultant, Inc., 2004

VI. Summary of Findings

The NCFS is doing an exceptional job operating 21 vessels on seven unique routes serving North Carolina coastal communities. In addition to transporting commuters and tourists, the Ferry System serves critical community service and public safety roles, provides emergency services to residents and visitors, offer a means of emergency evacuation, and sometimes even rescues distressed boaters. The reduction in services during the summer of 2009 impacted some communities more severely than others. There will be significant impacts to these communities if additional service reductions take place.

Coastal community residents and visitors have a high overall satisfaction with the Ferry System's services. The number of sailings per day ranked high on travelers' concerns for routes with heavy commuter use, especially those that experienced cuts during the summer of 2009. Responses were split nearly evenly between those who indicated they were willing to pay, and those not willing to pay for the service they received. A majority of passengers who indicated a willingness to pay believed ferry travelers should pay for 25% of the cost to operate the service.

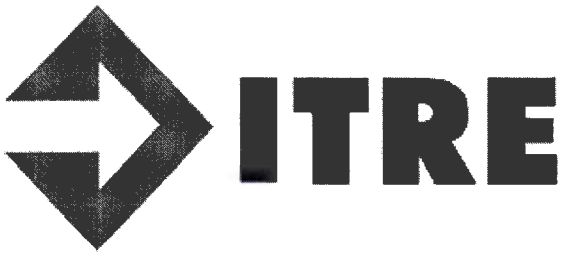
The aging vessels — especially those crossing Pamlico Sound — cause frequent service interruptions due to breakdowns and the lack of stand-by vessels. In addition, key support vessels have passed their usefulness, and at least one has failed a U.S. Coast Guard inspection.

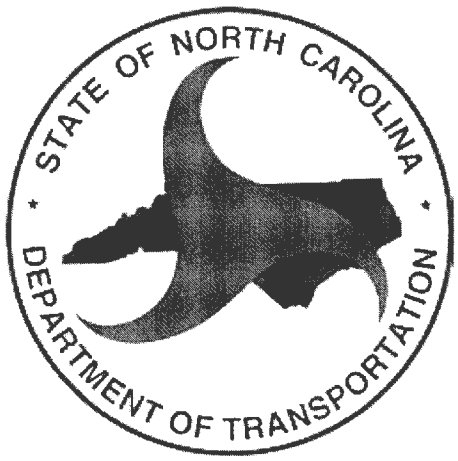
The NCFS needs to develop a vessel replacement program in order to replace ten vessels by 2020. This can be accomplished through either North Carolina General Assembly appropriations or through expanded tolling. Without such a vessel replacement program, reduction or elimination of current services will occur as a result of missed sailings due to increased Coast Guard inspection frequency, lack of stand-by vessels to substitute for vessels undergoing inspection, and for those experiencing a mechanical breakdown. The impacts to the shipyard workforce need to be properly evaluated in order to meet the maintenance demands.

An opportunity exists to collaborate with the North Carolina Turnpike Authority to adopt a seamless tolling system that serves both North Carolina highway and ferry travelers. There is no suitable one-size-fits-all tolling technique or technology — each ferry route will require a different solution. The Hatteras – Ocracoke route may require adoption of a hybrid ferry/public transit model to meet unique local needs.

North Carolina should also explore public-private partnership opportunities to supplement the Ferry Division's maintenance and inspection needs, as well as vessel replacement construction. The state has a rich history in the boat-building industry and can leverage these opportunities to benefit the state's economy, improve ferry services, and continue to provide mobility in the coastal region.









Prepared for the North Carolina Department of Transportation by
The Institute for Transportation Research and Education at North Carolina State University

February 2010

VISITOR REGISTRATION SHEET

Approp on Transportation
(Committee Name)

3-15-17
Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY
Joy Hilton	NCDOT
[signature]	RATC - NCMA - APA
John Bode	BMA
[signature]	[illegible]
H. TASKICO	NCDOT
Katy Kingsbury	OP
Phoebe Landon	MHS
Jacqueline Gonzalez	Staff Sen Ford
BERRY JENKINS	CAROLINAS AGC

VISITOR REGISTRATION SHEET

Appropriations on Transportation
(Committee Name)

3-15-17
Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY
Josh Lanier	SML
Durwood	NS
Dan Palmateer	OSBM
Alden Douglas	NCDOT
Jade Cu	NCC

3/15/17
(DATE)

APPROPRIATIONS OF TRANSPORTATION
(COMMITTEE)

SENATE SERGEANT-AT-ARMS

HAL ROACH

ARCHIE SMITH

HOUSE SERGEANT-AT-ARMS

DAVID LEIGHTON

JOE CROOK

RUSSELL SALISBURY

Senate Pages Attending

COMMITTEE: Jt. App: Dept. of Transp. **ROOM:** 1027LB

DATE: 3-15 **TIME:** 8:30

PLEASE PRINT LEGIBLY!!!!!!!!!!!!!!....*or else!!!!!*

	Page Name	Hometown	Sponsoring Senator
1.	Jillian Jessup	Raleigh	Sn Alexander
2.	~~[illegible]~~ Grayson Burnett	~~[illegible]~~ Southport	~~[illegible]~~ Sn. Rabon
3.	Chrisean Chrisean Hardy	Winston-Salem	Sn. Paul Lowe
4.			
5.			
6.			
7.			
8.			

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

House Pages
Assignments
Wednesday, March 15, 2017
Session: 2:00 PM

Committee	Room	Time	Staff	Comments	Member
Appropriations on Department of Transportation	1027/1128	8:30 AM	Savannah Barnes		Rep. Speaker Tim Moore
			Mariah Pride		Rep. Speaker Tim Moore
Appropriations on Education / Higher Education	Other	8:30 AM	Kelley Hamilton		Rep. Darren Jackson
			Makenzie Waites		Rep. Sarah Stevens
Appropriations on General Government and Information Technology	425	8:30 AM	Marissa Huggins		Rep. Mike Clampitt
			Hannah Lewis		Rep. Speaker Tim Moore
Appropriations on Health and Human Services	643	8:30 AM	Emilie Norwood		Rep. Speaker Tim Moore
			Sophia Sload		Rep. Speaker Tim Moore
Appropriations on Justice and Public Safety	415	8:30 AM	Yara Mahmoud		Rep. Speaker Tim Moore
			Eleanor McNamee		Rep. Speaker Tim Moore

Joint Committee on Appropriations, Transportation
Tuesday, March 21, 2017 at 8:30 AM
Room 1027/1128 of the Legislative Building

MINUTES

The Joint Committee on Appropriations, Transportation met at 8:30 AM on March 21, 2017 in Room 1027/1128 of the Legislative Building. Representatives Bumgardner, Garrison, Iler, G. Martin, Presnell, Shepard, Torbett, and Watford attended. Senators D Davis, J Davis, Dunn, McInnis, and Meredith attended.

Representative Frank Iler, Chair, presided.

Division of Aviation Overview presentation was given by Bobby Walston, Aviation Director Department of Transportation (see attached and on committee website)
North Carolina State Ports Authority Overview presentation was given by Paul Cozza, Executive Director, NorthCarolina State Ports Authority (see attached and on committee website)

The meeting adjourned at 9:20am.

Representative Frank Iler, Chair
Presiding

Viddia Torbett, Committee Clerk

NORTH CAROLINA HOUSE OF REPRESENTATIVES
JOINT COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2017-2018 SESSION

You are hereby notified that the **House Committee on Appropriations, Transportation** will meet **JOINTLY** as follows:

DAY & DATE: Tuesday, March 21, 2017
TIME: **8:30 AM**
LOCATION: **1027/1128 LB**
COMMENTS: **Representative Iler, presiding**
Aviation/Ports

Respectfully,

Representative Frank Iler, Co-Chair
Representative Michele D. Presnell, Co-Chair
Representative Phil Shepard, Co-Chair
Representative John A. Torbett, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 4:42 PM on Thursday, March 16, 2017.

___ Principal Clerk
___ Reading Clerk – House Chamber

Viddia Torbett (Committee Assistant)

Joint Appropriations Committee on Transportation

March 21, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis	Representative Frank Iler, Chairing
Senator Tom McInnis	Representative Michele Presnell
Senator Wesley Meredith	Representative Phil Shepard
	Representative John Torbett

1. Call to Order

2. Aviation Base Budget Review- *Handout*

    - No presentation
    - Prepared by Susan Tyler, Fiscal Analyst, Fiscal Research Division North Carolina General Assembly

3. Division of Aviation Overview

    - Bobby Walston, Aviation Director Department of Transportation

4. North Carolina State Ports Authority Overview

    - Paul Cozza, Executive Director North Carolina State Ports Authority

Next meeting: Rail Base Budget Review/RailOverview/North Carolina Railroad Company- Wednesday, March 22nd, 8:30 a.m.

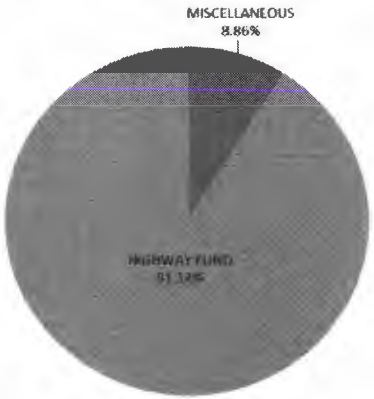
Department of Transportation

Aeronautics

Fund Code: 0041

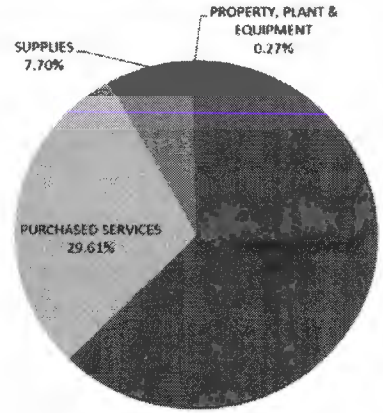
Purpose: The Division of Aviation develops, maintains, and promotes a safe and effective statewide aviation system. The division manages and provides oversight for grants to local communities and airport sponsors for aviation improvements associated with the State Aid to Airports program and the Federal State Block Grant program. A key focus of the division is identifying aviation system safety deficiencies and implementing programs to address the problems. The division provides assistance to the private sector along with local, federal, and state agencies to improve air services throughout the state and conducts safety and education programs statewide for pilots, schools, and the public. Division aircraft provide photogrammetry and aerial survey services for the department and other governmental agencies, and air transportation services in support of all state agencies. Shown here is the administrative budget for this program.

Source of Funds



Miscellaneous:
- Represents the receipts from providing flight services .

Expenditure of Funds



Purchased Services:
- 51% is for the rental of buildings and property
- 13% is for insurance on aircrafts and equipment.

Supplies:
- 90% is for gasoline

BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$1,329,398	$1,430,550	$1,435,003	$ -	$1,435,003	$ -	$1,435,003
PURCHASED SERVICES	711,518	680,645	680,645	-	680,645	-	680,645
SUPPLIES	28,431	177,125	177,125	-	177,125	-	177,125
PROPERTY, PLANT & EQUIPMENT	22,109	6,300	6,300	-	6,300	-	6,300
OTHER EXPENSES AND ADJUSTMENTS	15,684	-	-	-	-	-	-
INTRA-GOVERNMENTAL TRANSFERS	-	-	-	-	-	-	-
Total Requirements	**$2,107,140**	**$2,294,620**	**$2,299,073**	**$ -**	**$2,299,073**	**$ -**	**$2,299,073**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	81	-	-	-	-	-	-
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	334,844	203,717	203,717	-	203,717	-	203,717
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 334,925**	**$ 203,717**	**$ 203,717**	**$ -**	**$ 203,717**	**$ -**	**$ 203,717**
Net Appropriation	**$1,772,215**	**$2,090,903**	**$2,095,356**	**$ -**	**$2,095,356**	**$ -**	**$2,095,356**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	16	16	16	0	16	0	16
Total FTE		**16**	**16**	**16**	**0**	**16**	**0**	**16**

Increase/Decrease Detail- NR Items Removed

None

2016-17 Session Significant Budget Actions- Money Items

None

2016-17 Session Significant Budget Actions- Special Provision

None

2017-20 Session Significant Issues

None

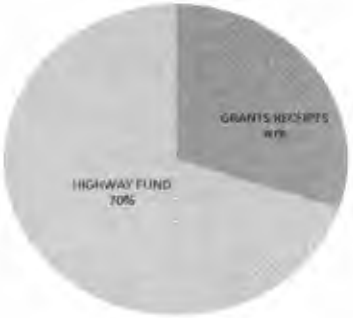
Department of Transportation

Airports Program

Fund Code: 7830

Purpose: This program is administered by the Division of Aviation and is responsible for the planning, engineering, and general administration necessary for the operation of the State Aid to Airports Program and the Federal State Block Grant Program disbursed to local governments for airport development needs. The Highway Fund appropriation and Federal grant funding are shown here. Funds are used for airport improvements to improve the safety and efficiency of the statewide network of airports, and can be used for educational programs, to conduct airport planning, land acquisition, and airport construction and maintenance, and many other missions included in Chapter 63 of NCGS. The Division has a North Carolina General Aviation Development Plan that outlines goals and gives direction for improvements necessary to optimize safety and utility of the statewide airport system and encourage the economic development of the aviation communities.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
AID AND PUBLIC ASSISTANCE	$29,236,198	$66,517,417	$66,517,417	$ -	$66,517,417	$ -	$66,517,417
Total Requirements	**$29,236,198**	**$66,517,417**	**$66,517,417**	**$ -**	**$66,517,417**	**$ -**	**$66,517,417**
PARTICIPATION REVENUE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GRANTS RECEIPTS	13,293,460	20,000,000	20,000,000	-	20,000,000	-	20,000,000
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$13,293,460**	**$20,000,000**	**$20,000,000**	**$ -**	**$20,000,000**	**$ -**	**$20,000,000**
Net Appropriation	**$15,942,738**	**$46,517,417**	**$46,517,417**	**$ -**	**$46,517,417**	**$ -**	**$46,517,417**

NO FTE

Increase/Decrease Detail- NR Items Removed

None

2016-17 Session Significant Budget Actions- Money Items

- Increased funding for grants-in-aid for general aviation airport development, $14,817,417 R FY2016-17.

2016-17 Session Significant Budget Actions- Special Provision

None

2017-20 Session Significant Issues

- Commerical airport maintenance funding
- STI caps in Statewide and Regional Categories
- Other sources of funding for shortfall identified in Governor's Task Force findings

NORTH CAROLINA
Department of Transportation



Division of Aviation

Bobby Walston, Director

March 21st, 2016

Annual Economic Impact of NC's System of Publically Owned Airports

Commercial and General Aviation Airports provide more than **$31.1 billion in economic impact** each year.





Source: NC State University, Institute for Transportation Research and Education, 2016

Annual Economic Impact of NC's System of Publically Owned Airports

- Commercial and General Aviation Airports support over **123,000 jobs** throughout North Carolina.
- Commercial and General Aviation Airports support jobs which result in more than **$4.1 billion** in personal income.





Source: NC State University, Institute for Transportation Research and Education, 2016

Annual Tax Revenues collected because of NC's System of Publically Owned Airports

State and local governments received more than **$910 million** in sales, property, corporate, and personal taxes due to airport activity.

- **$550 million** in state tax revenue related to business activity.
- **$360 million** in local tax related to airport business activity.





Source: NC State University, Institute for Transportation Research and Education, 2016

Aerospace Manufacturing Industries in NC

- NC aerospace manufacturing industries provide more than **$10.5 billion** in economic impact each year.

- NC aerospace manufacturing industries support over **42,600 jobs** throughout North Carolina.

- NC aerospace manufacturing industries support more than **$3 billion** in personal income for aviation-related jobs.

GE Aviation

HondaJet

UTC Aerospace Systems
Where ingenuity takes off

HAECO

SPIRIT AEROSYSTEMS

Signature FLIGHT SUPPORT

Source: NC State University, Institute for Transportation Research and Education, 2016

NCDOT Division of Aviation Mission

Promote the economic well being of North Carolina through air transportation system development and improved aviation safety and education.



Division of Aviation Core Functions

Provide:

1. Administer State and FAA Airport Grants and Programs
2. Provide air transportation for all state agencies
3. Manage the state's Unmanned Aircraft System (UAS) Program
4. Conduct Aviation Safety and Education Programs



Division of Aviation Core Functions

Provide:

1. Administer State and FAA Airport Grants and Programs



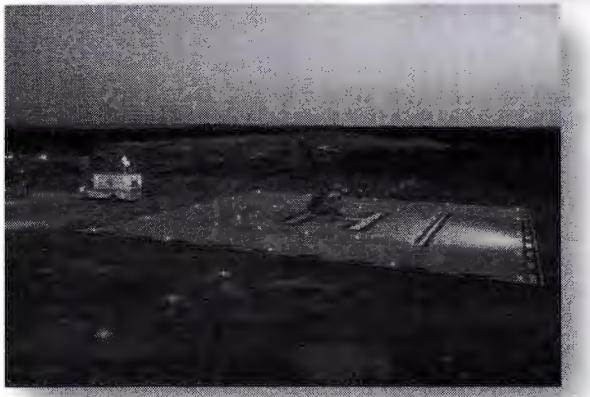
Airport Grants

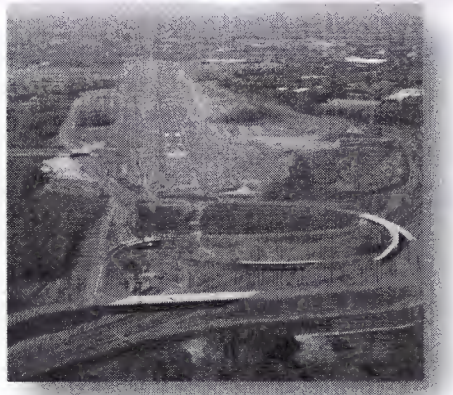






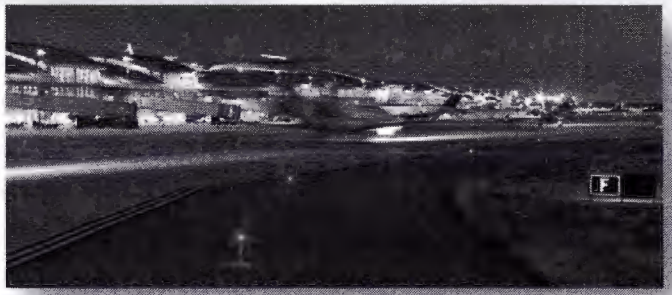












North Carolina's Aviation System

72 Publicly Owned Airports in North Carolina



Airport Statewide Programs

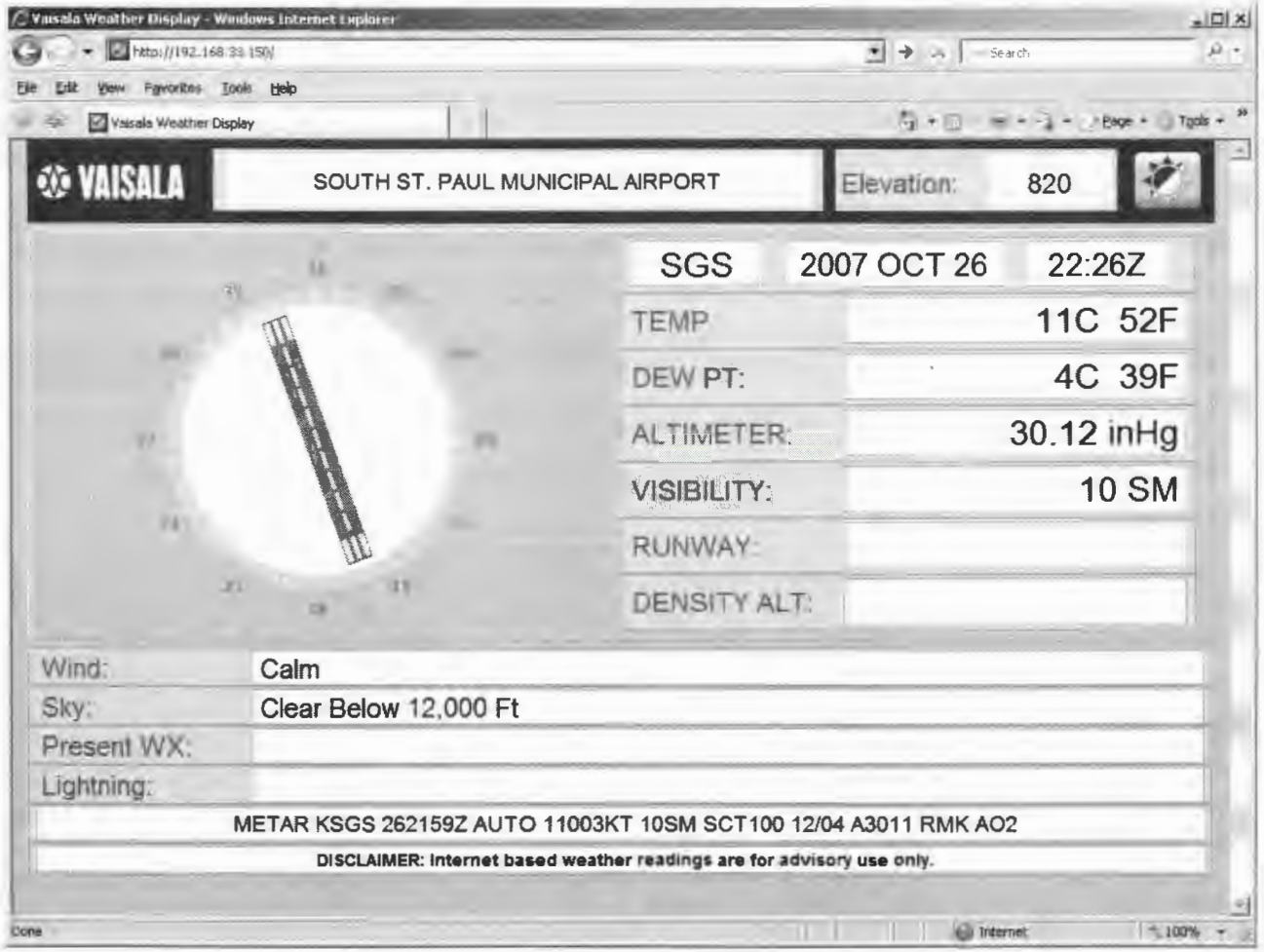




Automated Weather Observation Station (AWOS) Program

- 47 systems across the state

- Provides real time weather observations via VHF and phone connections to pilots and the public



12

Wildlife Hazard Mitigation Program



Work in conjunction with USDA Wildlife Services to address wildlife issues at airports

- Wildlife Hazard Assessments
- Site Visits
- Training Days
- Wildlife Hazard Management Plans

USDA

13

Airport Safety Preservation (Maintenance Program)





Airport Safety Preservation (Maintenance Program)



Division of Aviation Core Functions

Provide:

1. Administer State and FAA Airport Grants and Programs
2. Provide air transportation for all state agencies
3. Manage the state's Unmanned Aircraft System (UAS) Program
4. Conduct Aviation Safety and Education Programs





NCDOT Flight Operations Aircraft Fleet



2007 King Air 200
9 Passengers



2007 King Air C90
Photogrammetry or 6 Passengers



1998 S-76 Helicopter
7 Passengers
For Sale

Types of Flight Missions

Mission Specific:

- Passenger Transport
- Photogrammetry Operations
- Emergency and Reconnaissance Operations
- Maintenance and Training Operations

Primary Users:

- Transportation
- Commerce (Business & Industry)
- State Executives
- Public Safety
- State Universities



2016 Flight Operations Accomplishments

- Improved cost recovery by implementing higher aircraft rates and lower fuel and insurance cost
- Overall flight utilization was up 22% from previous year on core passenger aircraft
- Flew more agencies and more multi-purpose trips
- Established MOA with UNC Medical Air Operations improving flight efficiencies and aircraft utilization
- 100% passenger satisfaction!





2016 Flight Operations

NCDOT Aircraft

Aircraft Type	SFY 2015 Hours	SFY 2016 Hours	Percentage change (+/-)
King Air 200	235	283.4	20.6%
King Air C90	243	222.4	-8.48%
Citation Bravo	170	212.1	24.76%
S-76 Helicopter	16	12.8	-20
Total Fleet	**664**	**736.7**	**10.95**

Total Revenue Generated

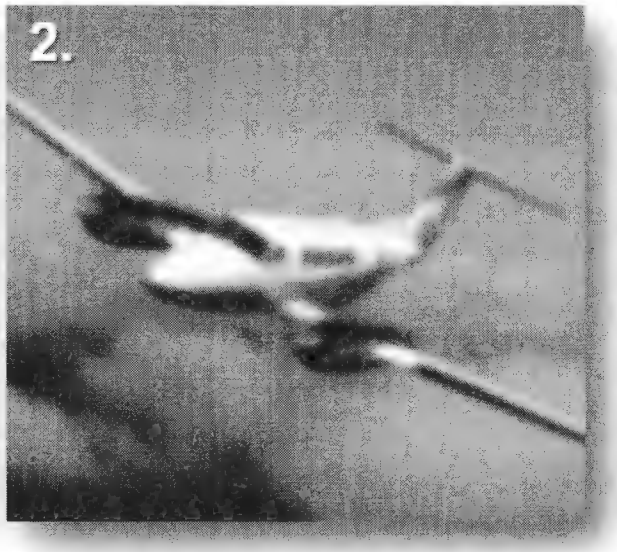
SFY 2015	SFY 2016	Percentage change (+/-)
$887,287	$976,277	10.03%

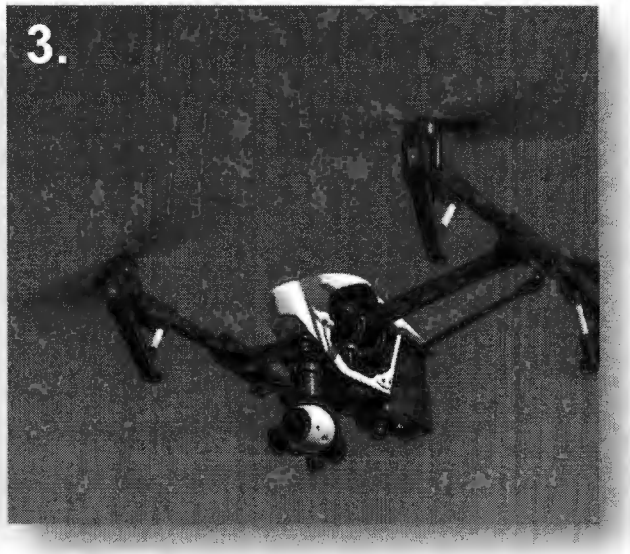
Division of Aviation Core Functions

Provide:

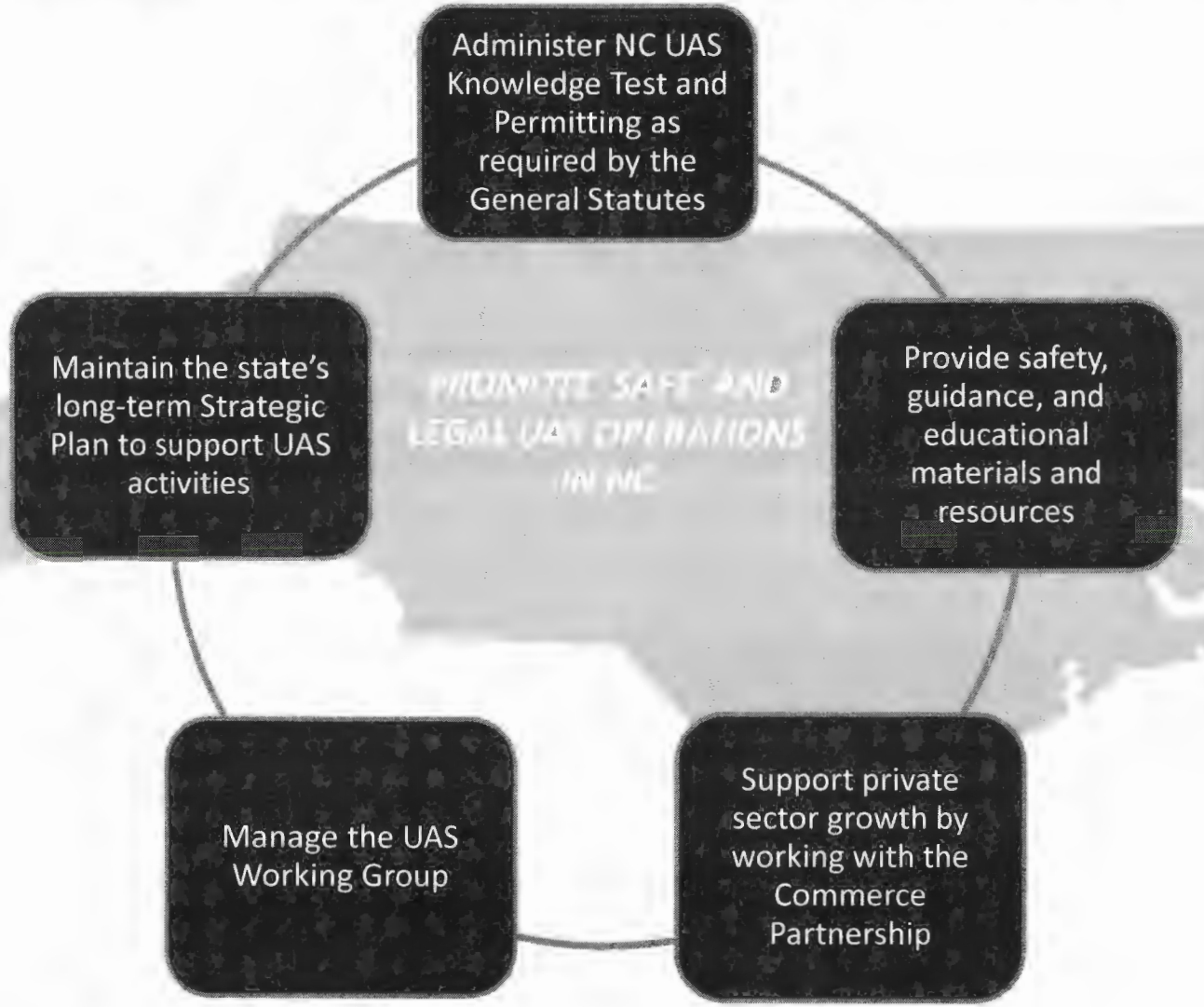
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2. Provide air transportation for all state agencies
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4. Conduct Aviation Safety and Education Programs



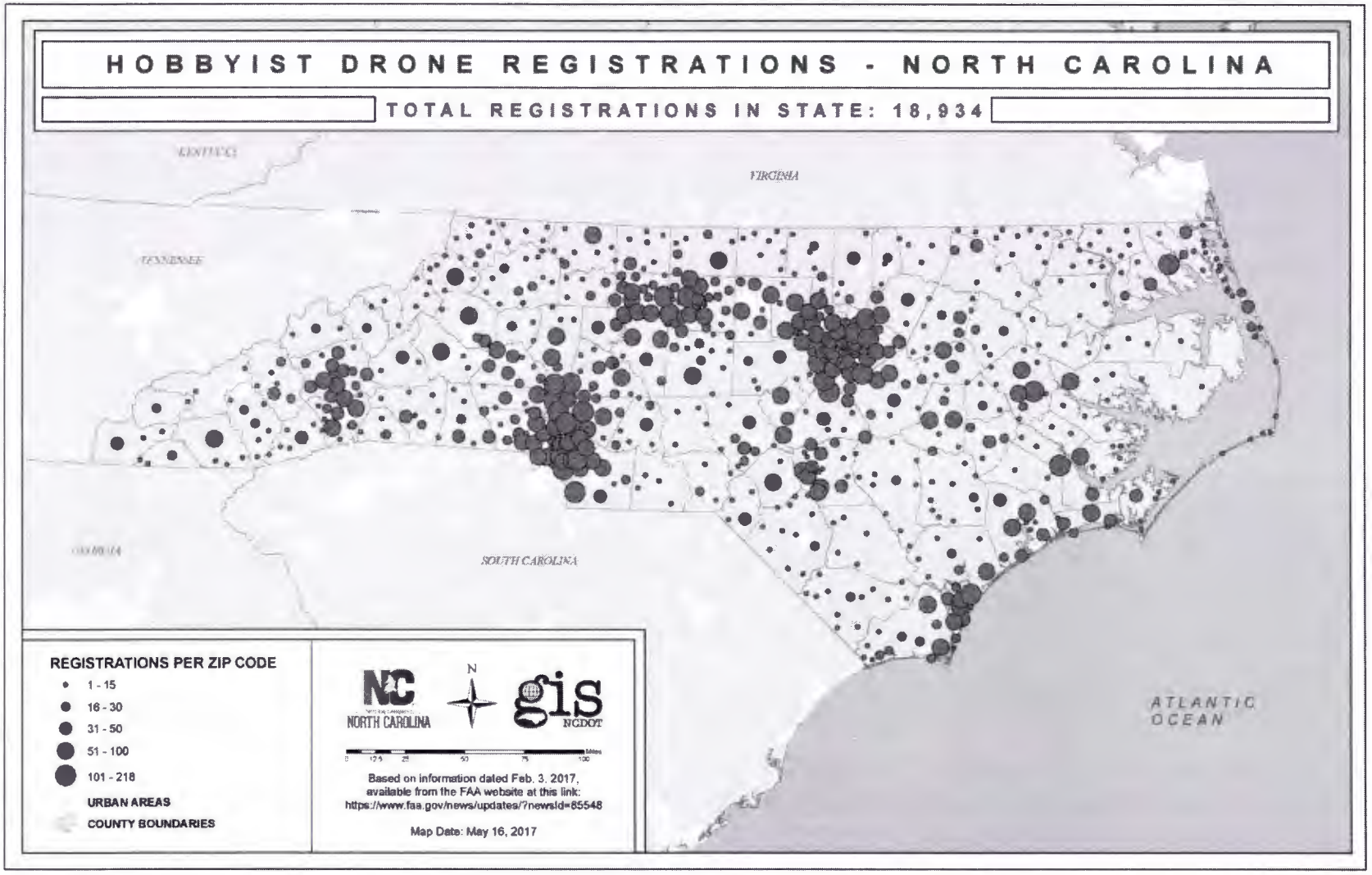




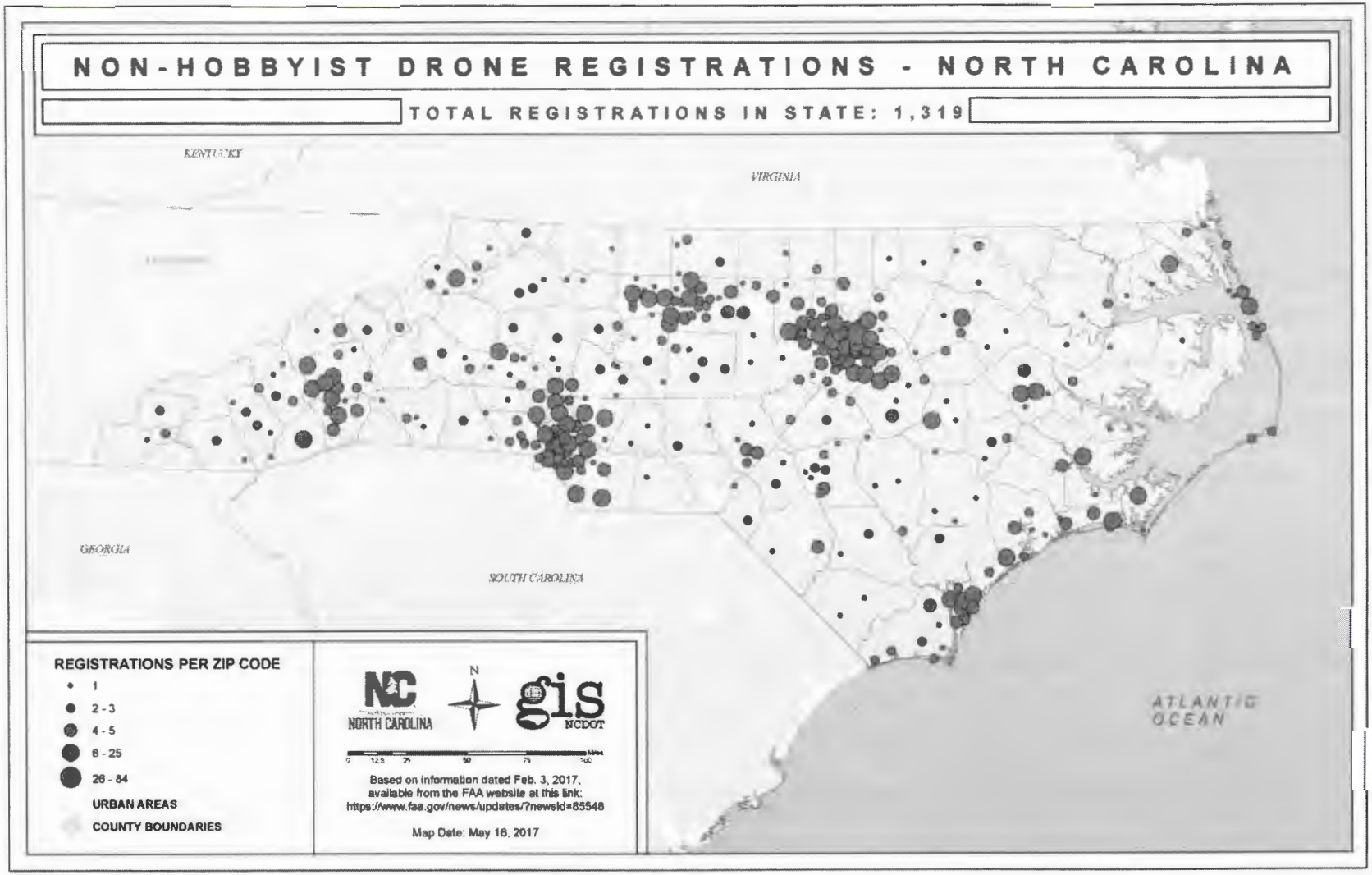
NCDOT Aviation UAS Program Office



NC UAS Registration



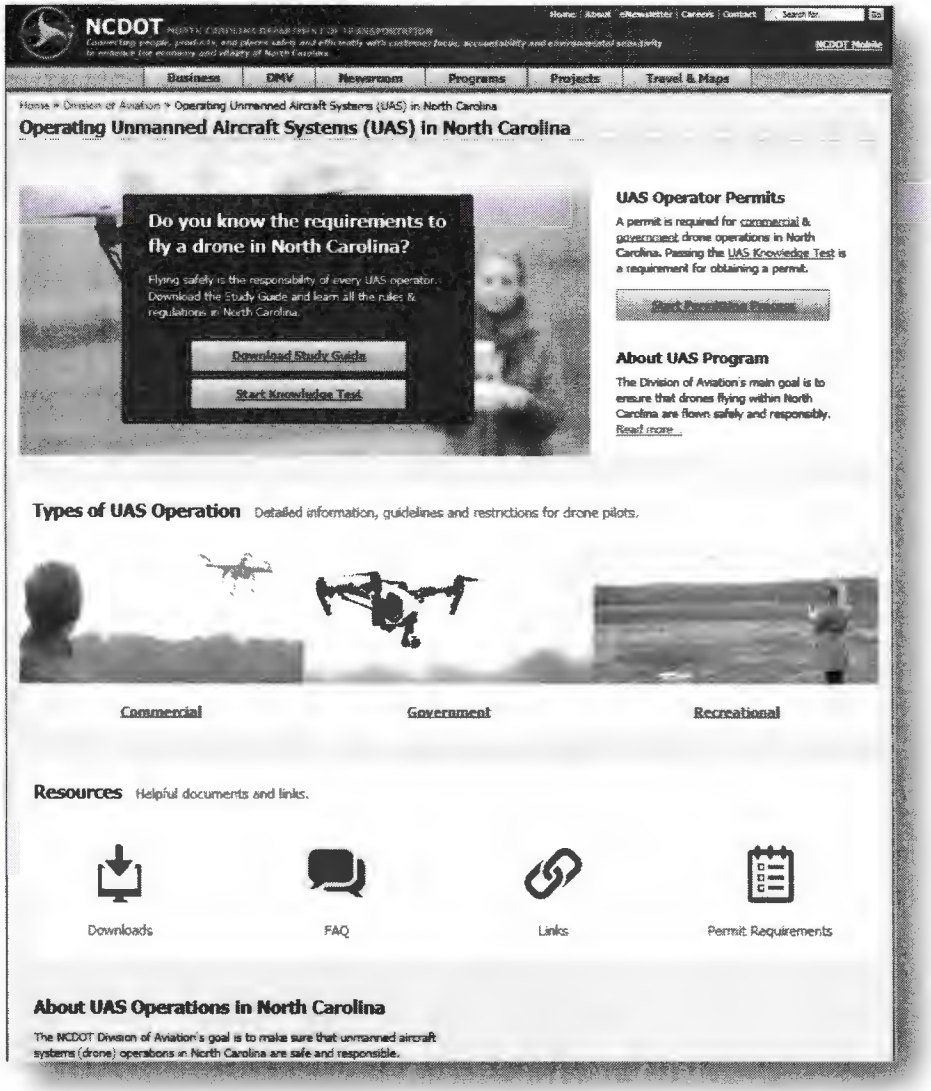
NC UAS Registration



NC UAS Website

- Online administration of NC UAS Operators Knowledge Test
- Commercial and Government UAS Operator's Permits can be acquired online
- UAS Safety Guide and NC Statutes
- Helpful Link:

ncdot.gov/aviation/uas/



Public Outreach on UAS



ncdot.gov/aviation/uas/

Division of Aviation Core Functions

Provide:

1. Administer State and FAA Airport Grants and Programs
2. Provide air transportation for all state agencies
3. Manage the state's Unmanned Aircraft System (UAS) Program
4. Conduct Aviation Safety and Education Programs



Aviation Safety & Education

- Conducts pilot and aircraft mechanic safety seminars
- Promotes aviation education and career opportunities
- K-12, college, and specialty programs









Aviation SFY 2017 Fund Allocation

Airport Grants	**$36.6 M**
Commercial Service and General Aviation Airport Grants	
Airport Statewide Programs	**$5.1 M**
Safety Preservation & Maintenance, Automated Weather Observation Stations, Wildlife Hazard Management, Safety Inspections	
Airport Technical Assistance	**$1.6 M**
Project Management (salary, benefits, travel) and Professional Services Contracts	
UAS / Safety & Education Programs	**$2.7 M**
Unmanned Aircraft System, Aviation (Pilot Proficiency, Aircraft Mechanics, and Youth Events & Camps)	
Administration	**$2.6 M**
Staff, Facilities, IT, and Flight Department	
Total	**$48.6 M**

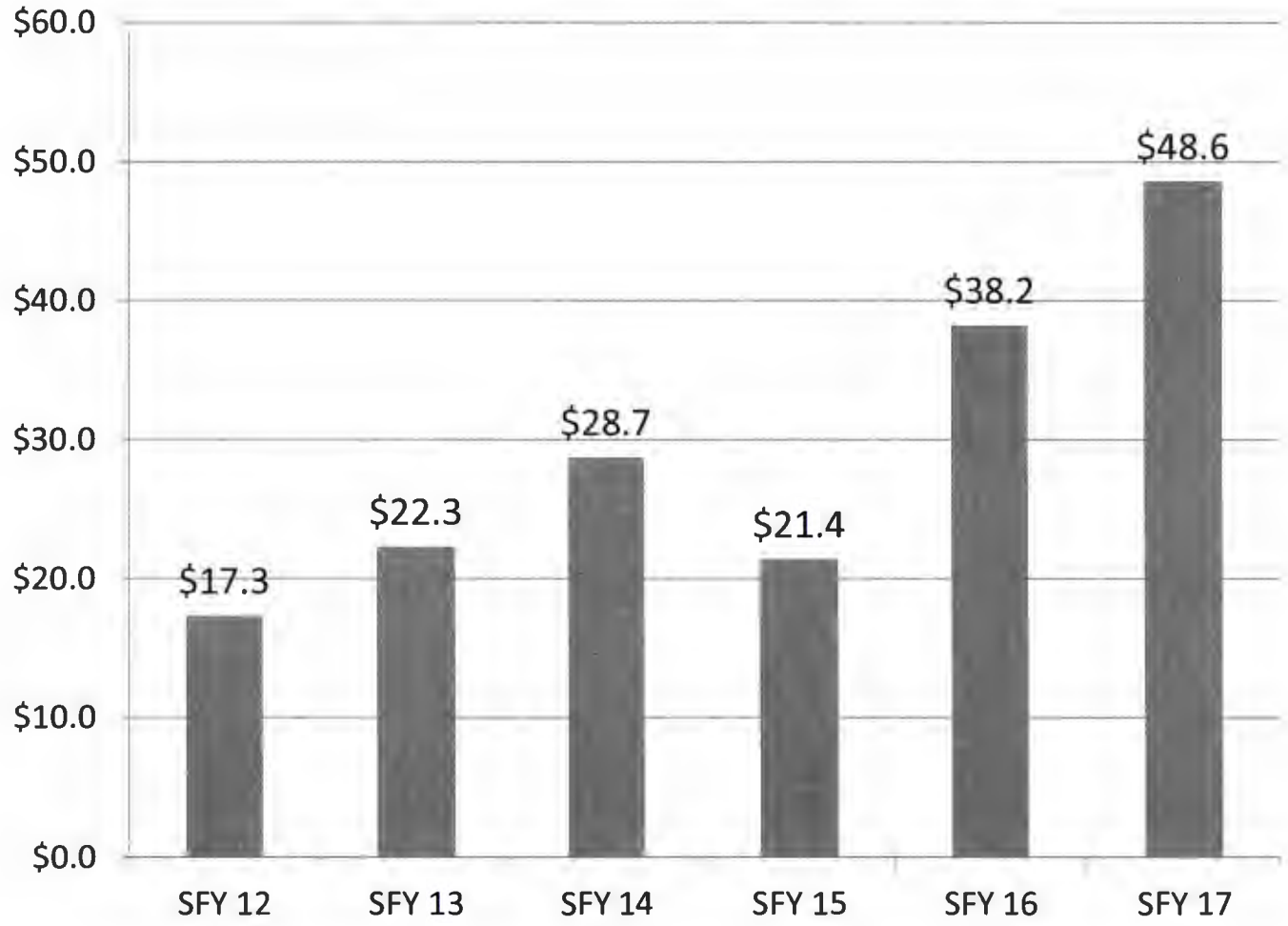
Source: NCDOT – Division of Aviation

Aviation SFY 2017 Fund Allocation



Source: NCDOT – Division of Aviation

State Funding (in millions) SFY 2012-2017



Eligibility Definitions – Highways

	Statewide	Regional	Division
Highway	• Interstates and Future Interstates • Routes on the NHS as of July 1, 2012 • Routes on Department of Defense Strategic Highway Network (STRAHNET) • Appalachian Development Highway System Routes • Uncompleted Intrastate projects • Designated Toll Facilities	• Other US and NC Routes	• All SR Routes

Eligibility Definitions – Non Highways

	Statewide	Regional	Division
Aviation	Large Commercial Service Airports. Funding not to exceed $500K per airport project per year	Other Commercial Service Airports not in Statewide. Funding not to exceed $300K per airport project per year	All Airports without Commercial Service. Funding not to exceed $18.5M for airports within this category
Bicycle-Pedestrian	N/A	N/A	All routes
Public Transportation	N/A	Service spanning two or more counties and serving more than one municipality. Funding amounts not to exceed 10% of regional allocation.	Service not included on Regional. Multimodal terminals and stations serving passenger transit systems
Ferry	N/A	State maintained routes, excluding replacement vessels	Replacement of vessels
Rail	Freight Capacity Service on Class I Railroad Corridors	Rail service spanning two or more counties not included on Statewide	Rail service not included on Statewide or Regional

FY 2016-20 Aviation STI Projects

Tier	Quantity	Cost
Statewide Mobility	11	$5.5 M
Regional Impact	5	$1.5 M
Division Needs	20	$32.2 M
Total	**29**	**$39.2 M**

Note: STI funds Capital Projects only

FY 2016 Aviation STI Projects

Tier	Quantity	Cost
Statewide Mobility	2	$1.0 M
Regional Impact	-	-
Division Needs	5	$5.4 M
Total	**9**	**$6.4 M**

Note: STI funds Capital Projects only

FY 2017 Aviation STI Projects

Tier	Quantity	Cost
Statewide Mobility	2	$ 1.0M
Regional Impact	3	$ 0.9M
Division Needs	6	$ 9.3M
Total	**11**	**$ 11.2M**

Note: STI funds Capital Projects only

Federal Funding

FFY 2016 Funding

NC Block Grant Program administered by the Division of Aviation to 62 GA Airports:

$14.9M

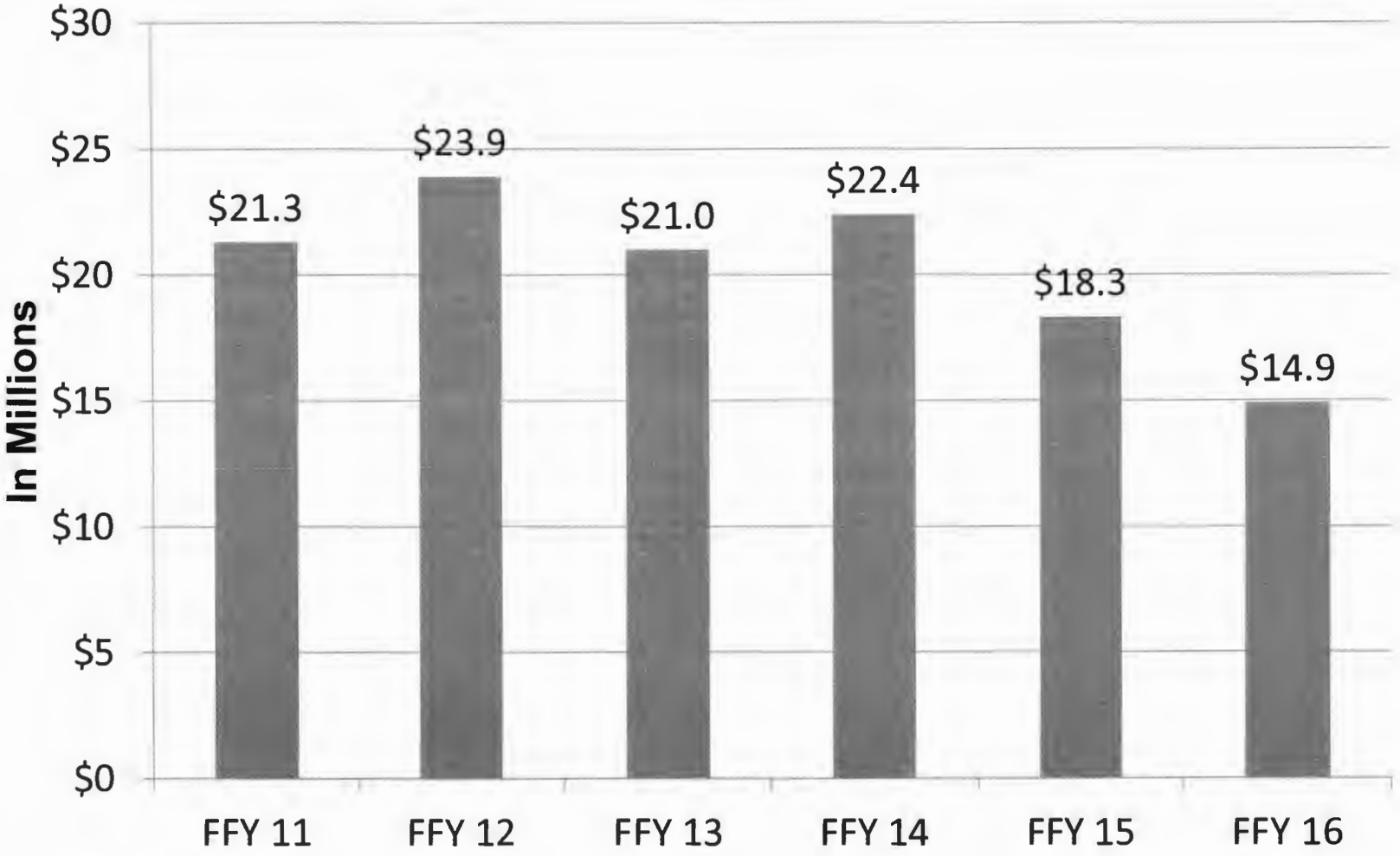
- Apportionment - **$5.8M**
- Non-Primary Entitlement - **$9.1M**

Airport Improvement Program (AIP) administered by FAA to 10 Commercial Service Airports:

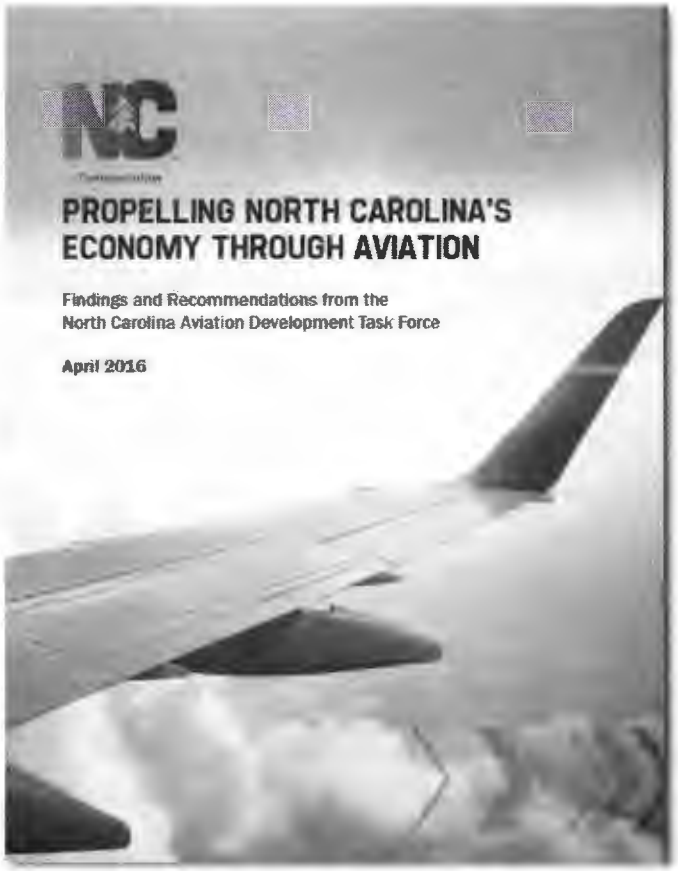
$57.9M



FAA State Block Grants FFY 2010-2016



Governor's NC Aviation Development Task Force



The Governor established the NC Aviation Development Task Force to submit a comprehensive report and recommendations to the secretary of transportation for the enhancement of the state's aviation programs.

Aviation Development Task Force Findings

- **Funding Issues**: Funding is far less than needs; needs have evolved
- **Economic Impact**: Return on Investment is tremendous - need advocacy group
- **Military Contribution**: NC is doing a good job retaining and recruiting
- **DoA Processes**: Complicated State and federal requirements, inadequate staffing, communication limitations





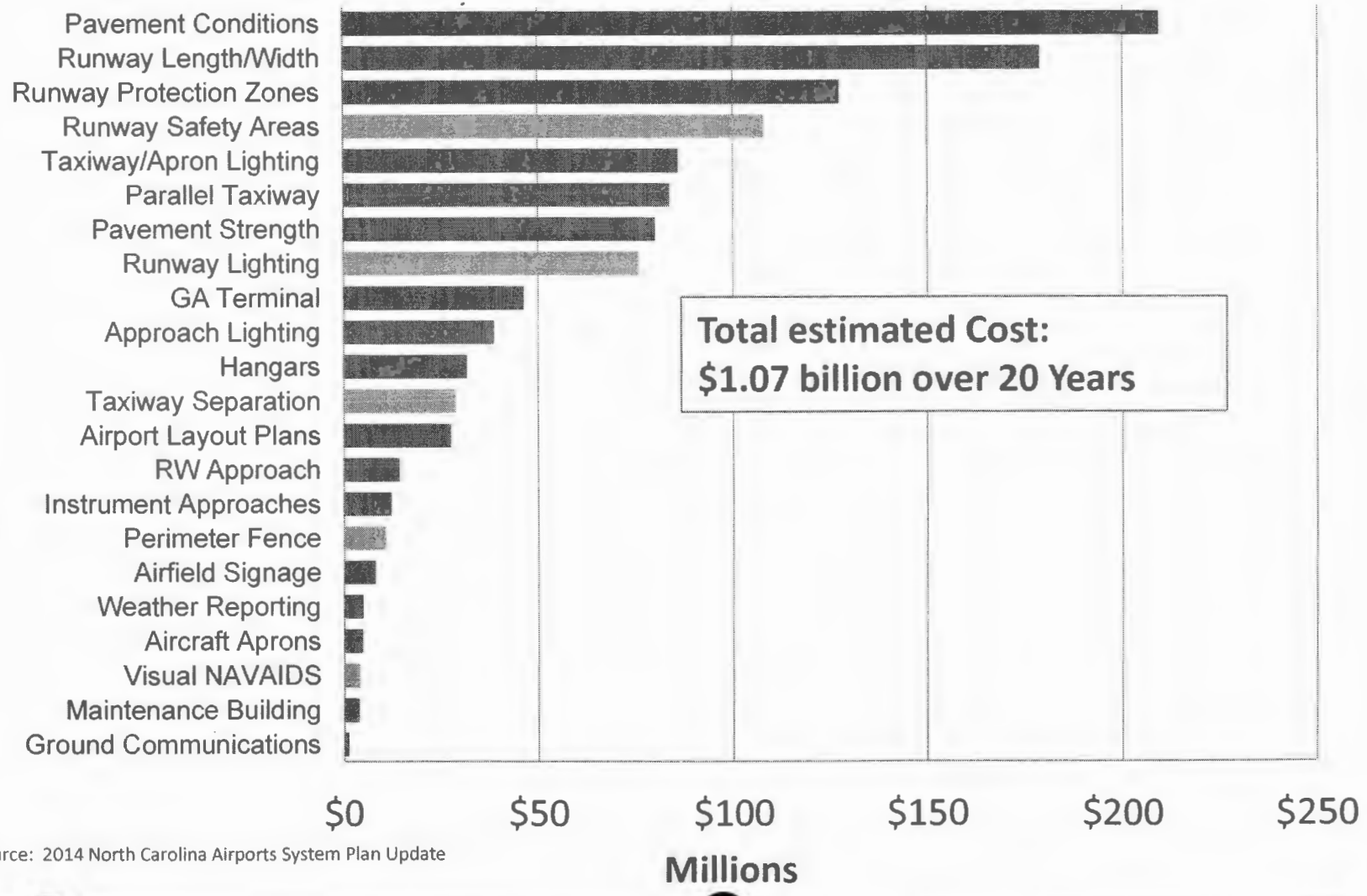
Task Force Preliminary Recommendations

- **Funding Issues**: Aviation tax recovery and reinvestment, a sustainable funding stream should be created
- **Economic Opportunities**: Enhance community college programs, Economic Development Partnership of North Carolina (EDPNC) involvement, marketing and education
- **Military Contribution**: Database of retired vets, additional tax exemptions on military income, maximize military use of existing airports
- **Agency Processes**: Creation of Aviation Commission, training for airports statewide, continuation of Working Group efforts



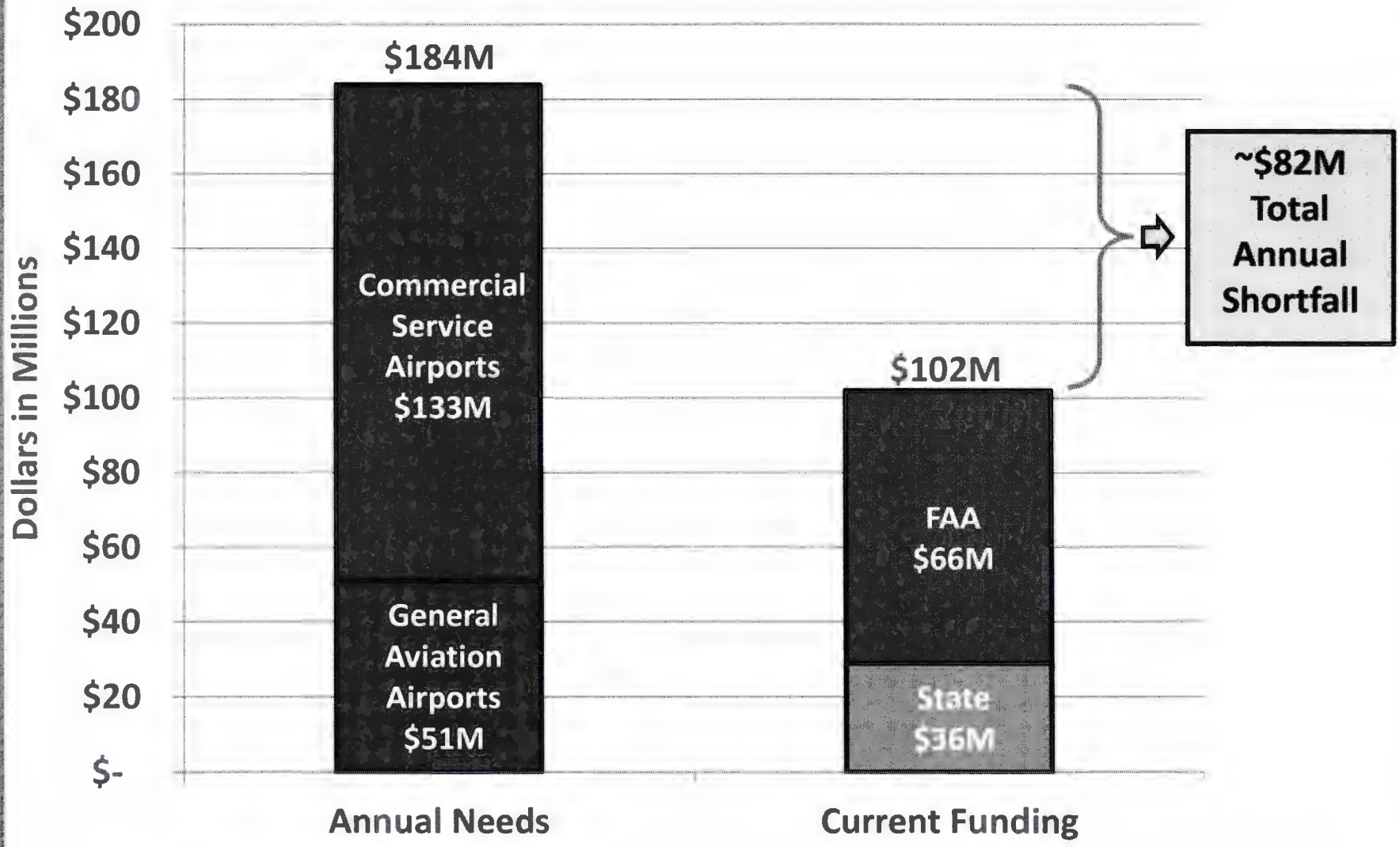


Cost by Airport Development Plan Category for GA Airports



Source: 2014 North Carolina Airports System Plan Update

NC Airports Annual Funding Gaps



Current Funding based on FY 2016 State Funding and FY 2015 FAA Funding

Discussion



Bobby Walston, PE
NCDOT - Aviation Director
www.ncdot.gov/aviation/

DIVISION OF AVIATION
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA PORTS

Investing for North Carolina's Future

Joint Transportation Appropriations Committee
March 21, 2017

Paul J. Cozza
Executive Director, North Carolina State Ports Authority

Agenda

- Overview / Status of Performance
- Port of Morehead City
- Port of Wilmington
- Advantages & Opportunities
- Intermodal Rail Capability
- Infrastructure Investment
- Summary

Overview / Status of Performance

North Carolina Ports at a Glance

- **Own and operate two ports and two inland facilities**

- **Financial & volume statistics**
  - 300,000 containers annually
  - More than 4 million tons of bulk cargo
  - Generates revenue in excess of $46 million
  - Employs directly/indirectly 2,000 on any given day
  - Generates earnings and cash flow to meet annual operating requirements

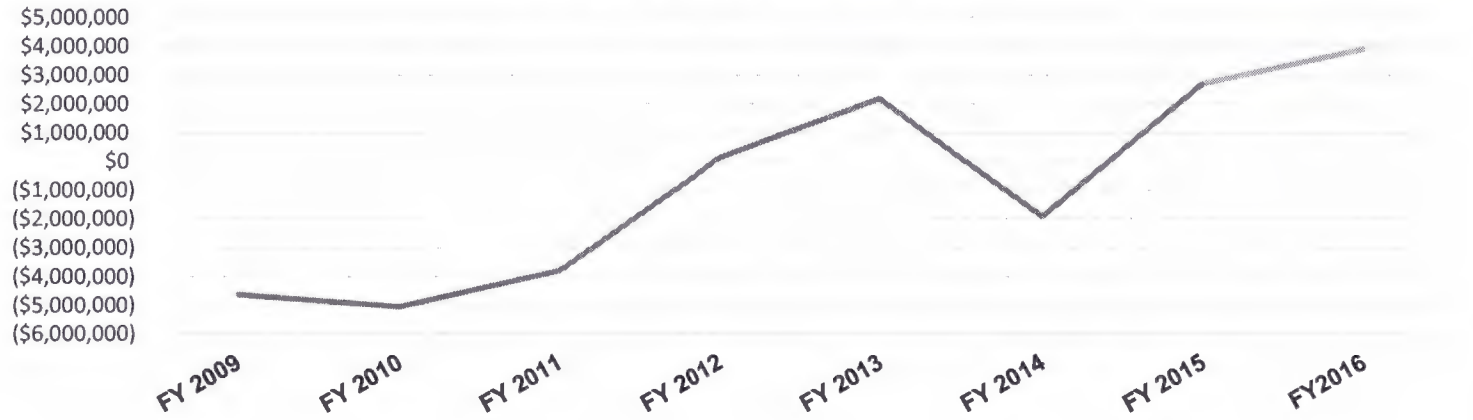
- **Actively promotes, markets and sells port services**
  - Full suite of container services
  - Cargo stevedoring
  - Container and bulk cargo storage
  - Staging & warehousing
  - Packing & stripping of cargo
  - Experienced labor force (Breakbulk)

FY16 Status of Performance

- **Profit Driven**

FY2016 Best Financial Year in NCSPA History

N.C. State Ports Authority
Adjusted Net Income



FY17

- **Extremely Challenging Market**
- **All Shipping sectors seeing record losses**
- **Hanjin Bankruptcy**

FY16 Financial Results

in millions				Variance	
	Actual	Budget	Prior Year	Budget	Prior Year
Container (moves, in thousands)	**157.2**	174.6	163.7	-17.4	-6.5
General Cargo (tons, in millions)	**3.02**	3.01	2.93	0.01	0.09
Revenues	**$46.6**	$44.8	$43.8	$1.8	$2.8
Expenses	**40.0**	40.2	37.7	0.2	-2.3
Operating Income	**6.6**	4.6	6.1	2.0	0.5
Non-Operating Items	**-2.7**	-2.9	-3.4	0.2	0.7
Ordinary Net Income	**$3.9**	**$1.7**	**$2.7**	**$2.2**	**$1.2**

** Adjusted to exclude extraordinary items*

Highlights

- Operating revenue above plan and prior year level
  - Strong general cargo oversetting below budget container volume
- Operating Expenses under budget
  - Positive effect from vacancies, lower fuel prices, professional services, depreciation and delayed repair projects
- Timing of grant funding

Port of Morehead City

Port of Morehead City



Fast, Efficient, & Low Cost
- Vessel reliability
- Crane productivity
- Gate productivity
- Favorable rates
- Overweight permits

- Bulk, breakbulk, roll-on roll-off
- 128 acres, plus an additional 150 acres on Radio Island
- Navigation channel: 45' ft. M.L.L.W.
- 9 Berths with 5,366 ft. of wharf frontage
- One bridge crane, two gantry cranes, and one mobile crane
- NC Ports employees perform terminal operations
- More than 1 million sq. ft. of storage space
- Rail served by Norfolk Southern

Port of Morehead City Commercial Advancements

- **Total tonnage up 69% FY 2016 compared to FY 2014**



FY 2017 Highlights

- Continued success in specialized cargoes
  - Spirit Air Fuselage
  - Bridge Girders - Tappan Zee Bridge
  - Windmill Farms
- Attracting imports of organic grain

FY 2017 Challenges

- Dredging issues continue to plague MHC

Primary Cargoes

- Phosphates
- Woodchips
- Fertilizer (liquid and dry bulk)
- Natural Rubber
- Steel Products (finished and raw materials)
- Grain

Port of Wilmington

Port of Wilmington

- Containers, bulk, breakbulk, roll-on roll-off
- 284 acres
- Navigation channel: 42' ft., tide of 4' ft.
- Accommodate 1,150 ft. LOA & 158 ft. beam vessels
- 600,000 TEU annual thruput capacity – abundant room to grow
- Multiple berths for Panamax and post-Panamax vessels
- NC Ports employees perform terminal operations
- On dock intermodal rail (CSX)
- Refrigerated container on-terminal capability (200+ plugs)



Fast, Efficient, & Low Cost

- Vessel reliability
- Crane/Gate productivity
- Favorable rates
- Overweight permits
- No congestion

Port of Wilmington Export Pellet Facility





- Long-term lease on port property
- Designed, financed, built facilities, $35M investment
- Commenced exports in late 2016
- Forecast 1M+ tons per year
- Production facilities in Sampson County and Richmond County

North Carolina is Home to Protein

Smithfield

Mountaire Fresh Young Chicken

HOUSE OF RAEFORD



Sanderson Farms

BUTTERBALL

Prestage Farms

- 101,537 square feet of initial construction
- 200,000 square feet of expansion space planned

NC Agriculture ranks nationally:
#1 sweet potatoes
#2 pork and turkey production
#5 poultry production

Advantages & Opportunities

Best in Class Productivity

Land & waterside lack of congestion



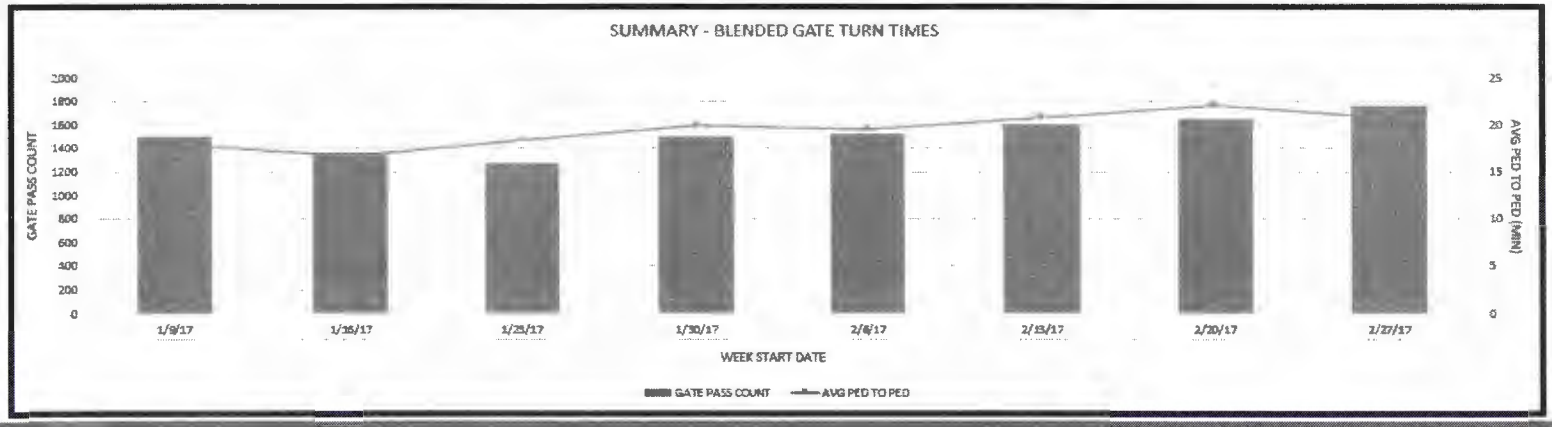
Vessel productivity

Last 12 month average: 44 net crane moves/hr.

Gate turn time productivity

Last 12 month dual truck turn time: 32 minutes

Last 12 month single truck turn time: 19 minutes



Global Outlook – Container Shipping Alliances



Port of Wilmington Container Services – October 2016

ICL
- North Europe Service
- 2,800 TEU Vessels

→ ICL

SeaLand
- Latin America Service
- 1,700 TEUs

→ SeaLand

SeaLand
- Latin America Service
- 1,300 TEUs

Port of Wilmington Container Services – Spring 2017

THE Alliance - Transpacific
- EC2 Weekly Service
- 8,500 TEU Vessels

2M Alliance - Transpacific
- TP10/Amberjack Service
- 4,500 TEU Vessels

ZIM – Southeast Asia
- Z7S Service
- 5,000 TEU Vessels

2M Alliance - Transatlantic
- TA2/NEUATL2 Service
- 6,500 TEU Vessels

ICL - Transatlantic
- North Europe Service
- 2,800 TEU Vessels

SeaLand – Latin America
- SAE Service
- 1,700 TEUs

SeaLand – Latin America
- Atlantico Service
- 1,300 TEUs

YANG MING

NYK LINE

Hapag-Lloyd

MOL Mitsui O.S.K. Lines

"K" LINE

MÆRSK

msc MEDITERRANEAN SHIPPING COMPANY

ZIM

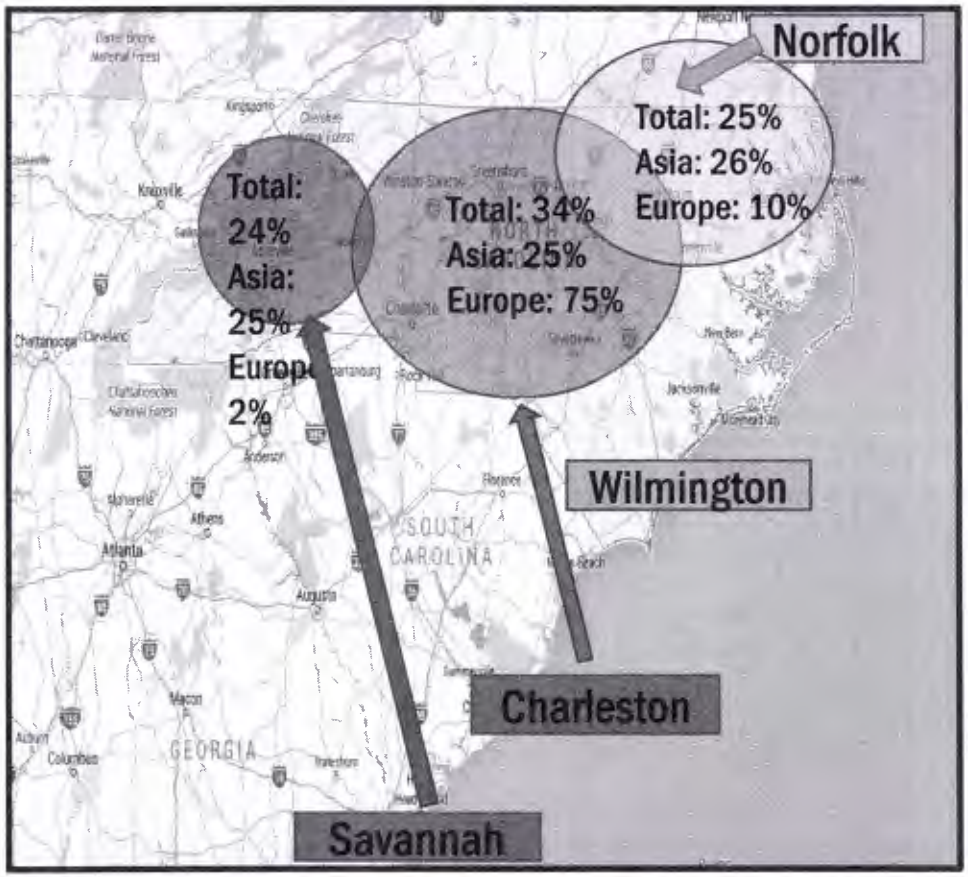
MÆRSK

msc MEDITERRANEAN SHIPPING COMPANY

ICL

SeaLand

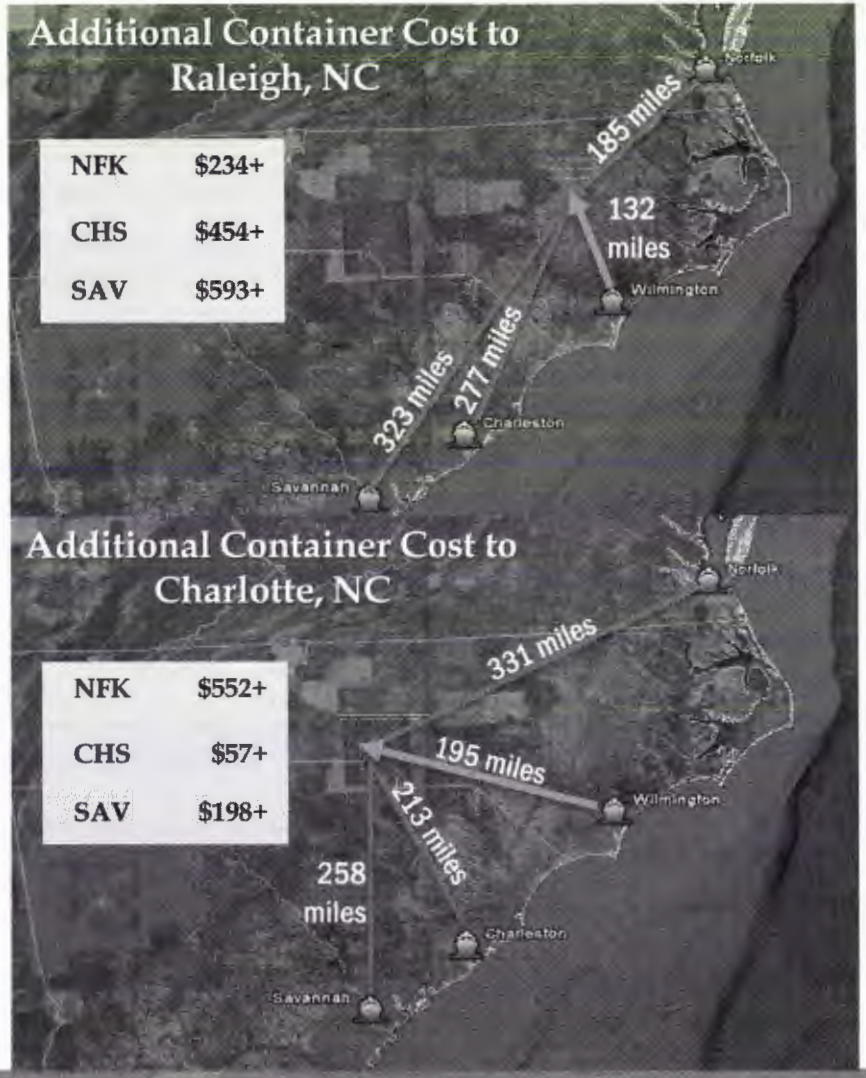
Ocean Carrier Growth & Savings Opportunity

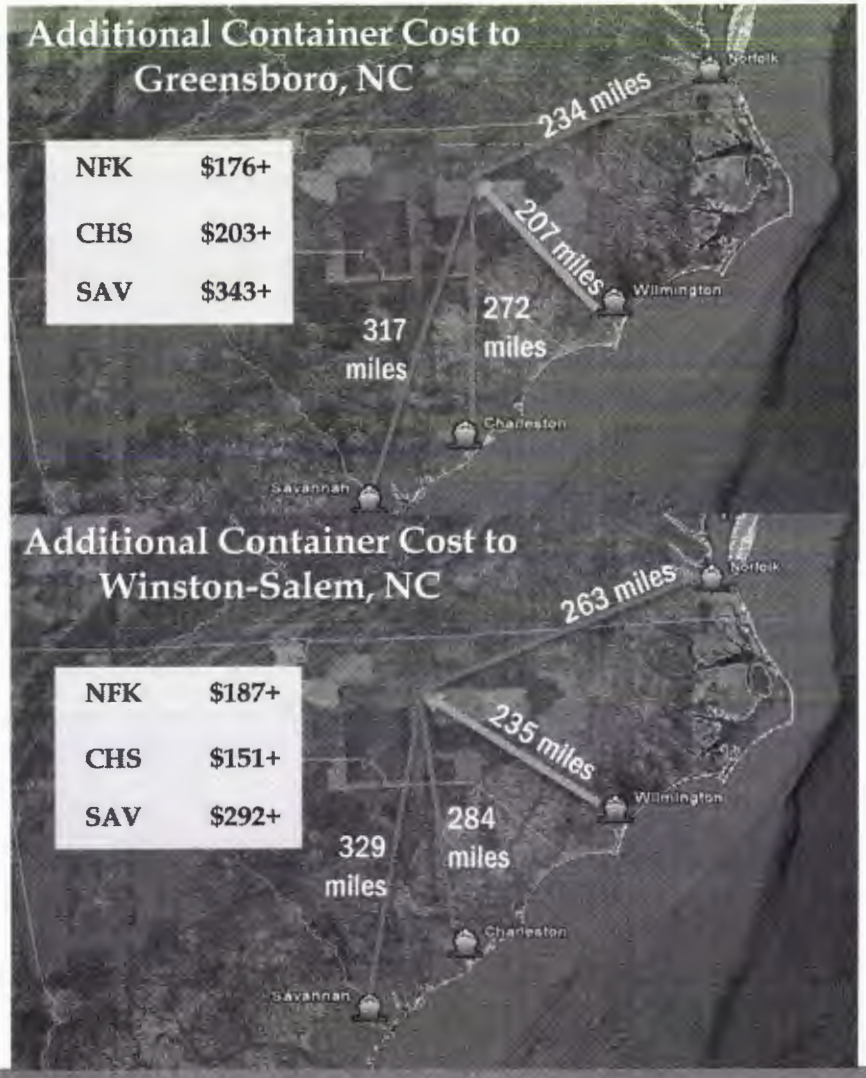


In addition to a vast market, Port of Wilmington offers:

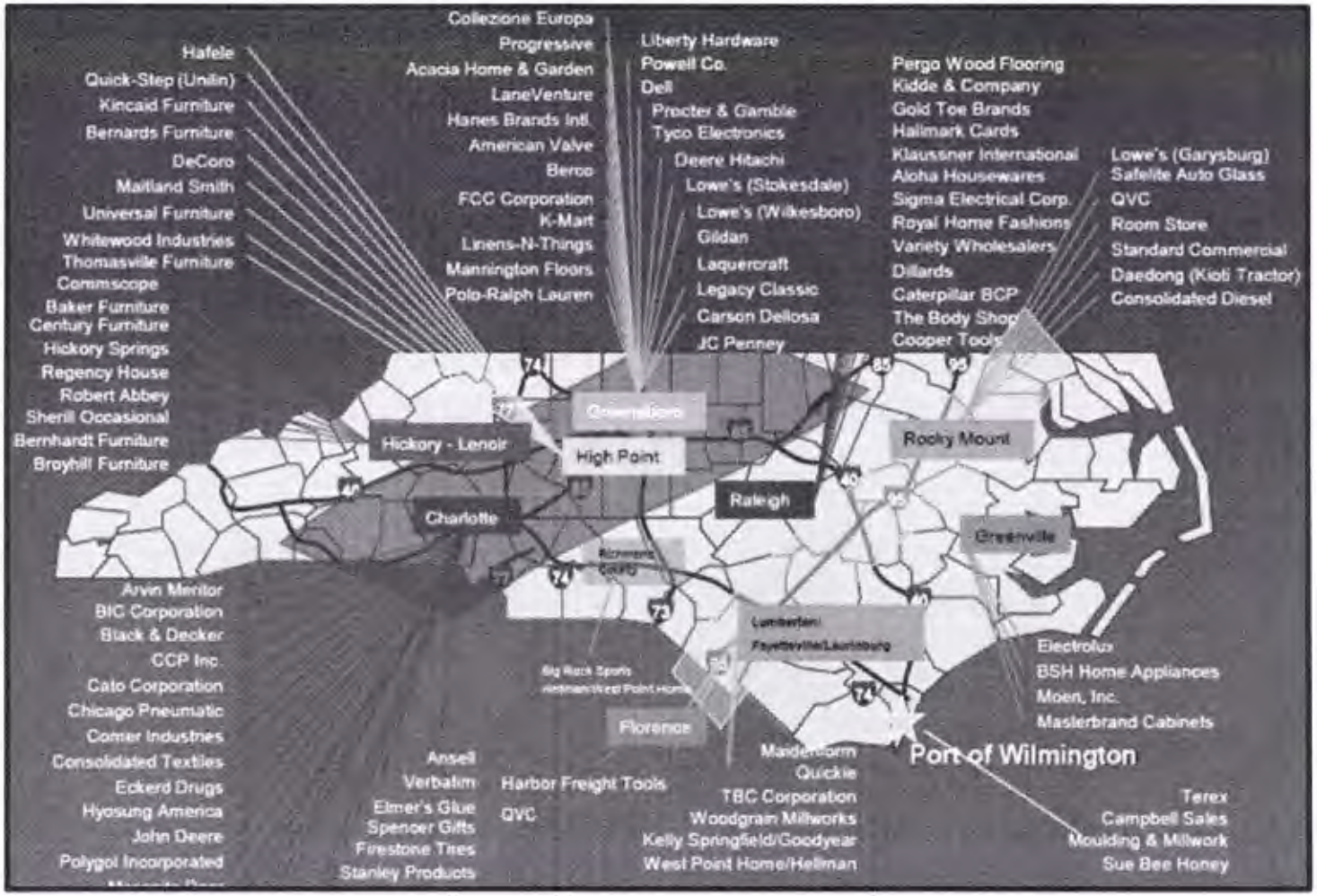
- Favorable thruput rates
- Available storage
- Flexible free time
- Inland favorable to major markets: Greensboro, Charlotte & Raleigh, N.C.
- Efficient gate & vessel productivity leads to cost savings

Proximity Equals Lower Cost





NC Ports: Closer Than You Think

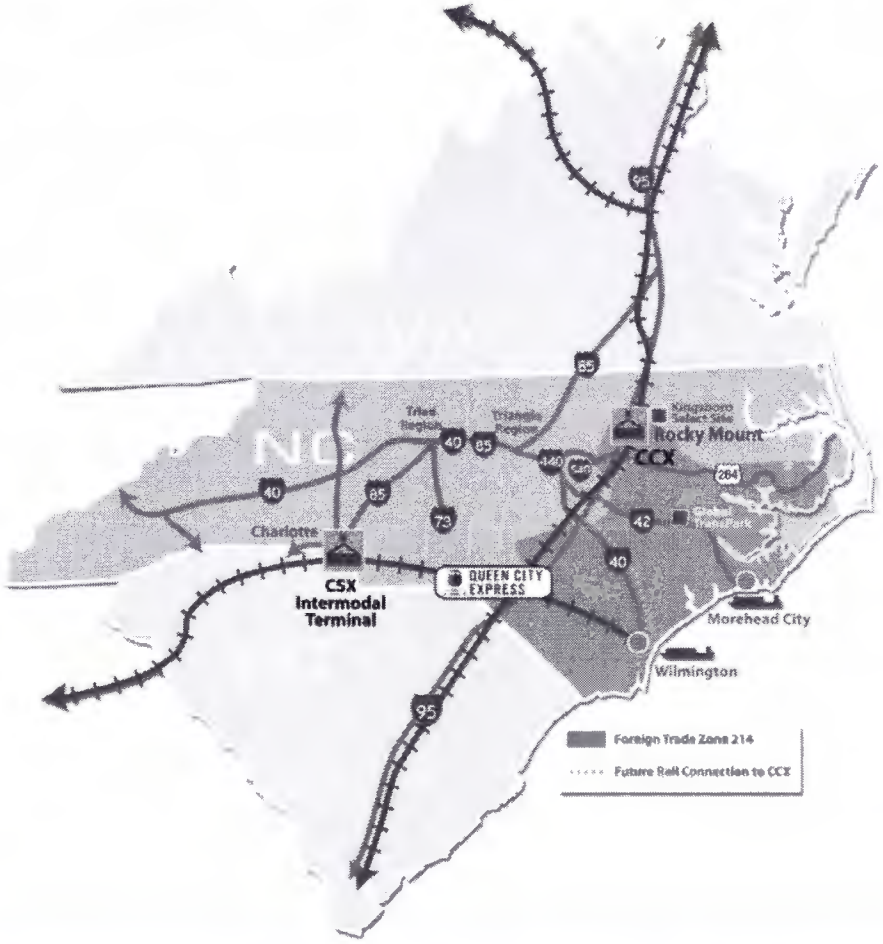


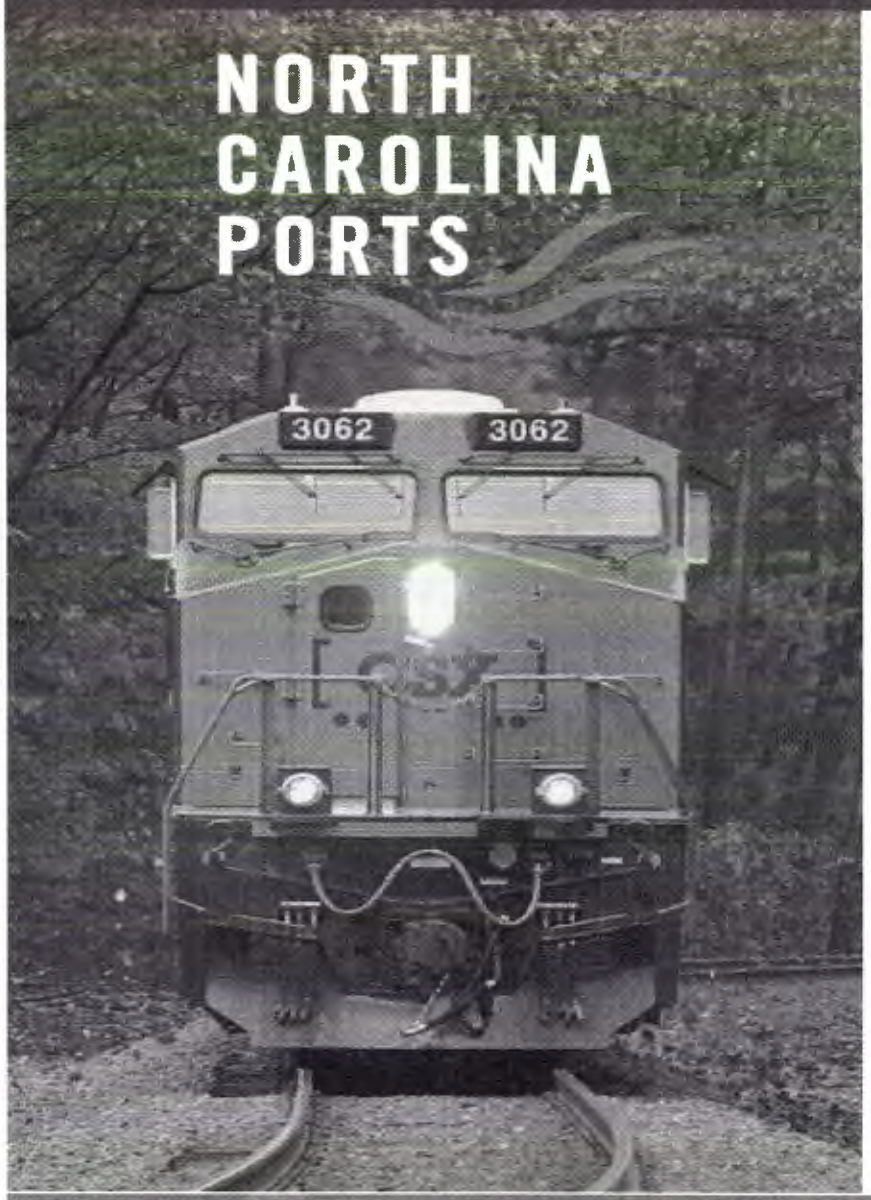
Intermodal Rail Capability

CSX's Carolina Connector (CCX)

CCX will be a transformational, state-of-the-art intermodal rail terminal in Eastern North Carolina which will serve as a major transportation hub in the Southeast







QUEEN CITY EXPRESS

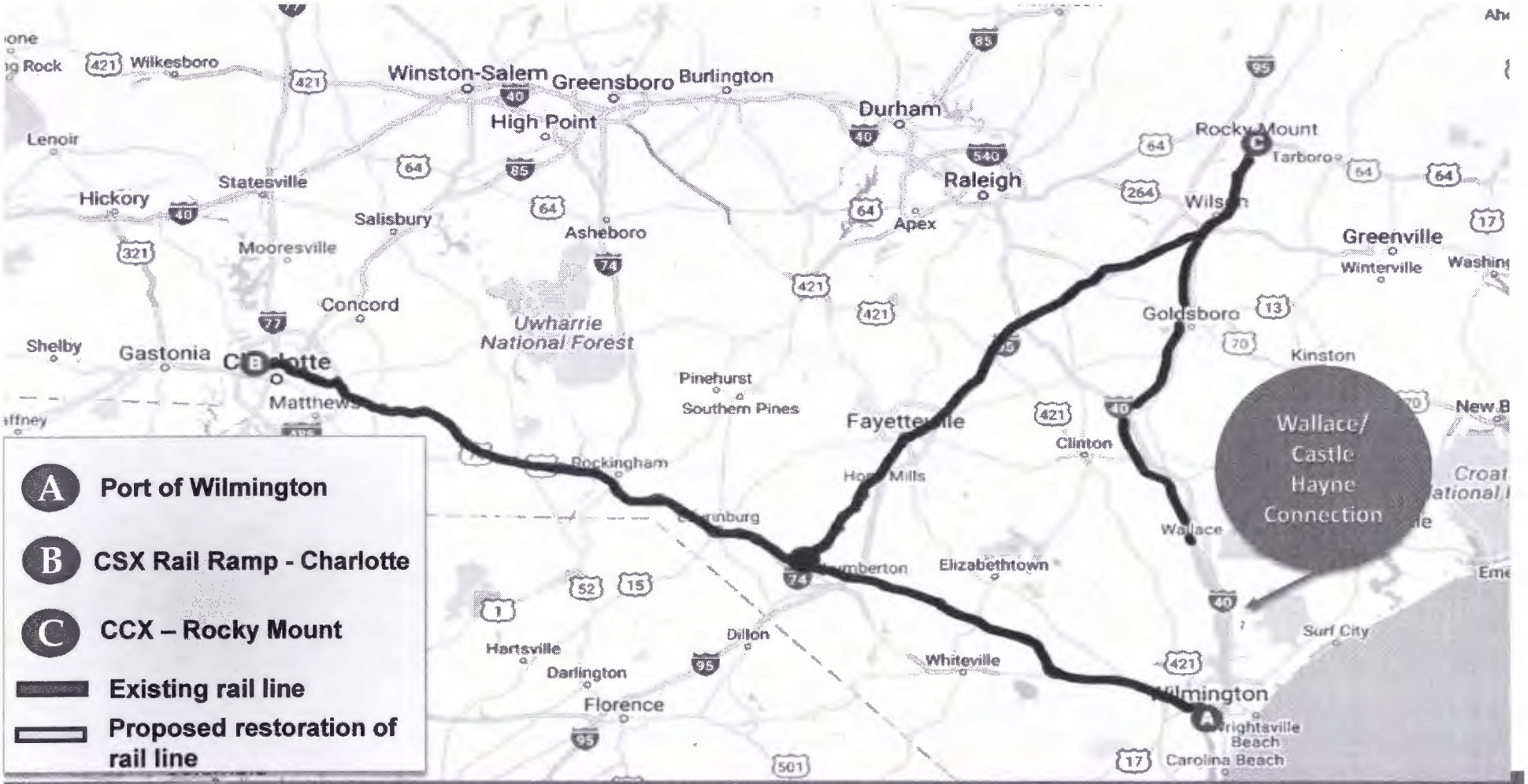
- In order to expand the addressable market and provide better service to existing and future container customers, North Carolina Ports has secured reliable and cost competitive intermodal service at the Port of Wilmington.
- The establishment of intermodal rail service with best-in-class transit times and service in the existing CSX Class I network between the Port of Wilmington and CSX's intermodal terminal in Charlotte, NC.
- A shuttle service with double stacked containers directly between Wilmington and Charlotte to create a reduced cost for cargo destined to the Greater Charlotte region.
- Best-in-class transit times; Wilmington to/from Charlotte overnight.
- Approximately 20 percent of U.S. South Atlantic port traffic is intermodal movements.

RECENT N.C. PORTS CUSTOMER SURVEY:
90% NEED
INTERMODAL SERVICE

N.C. PORTS ADVANTAGES – INTERMODAL

- Direct rail to Charlotte
- Direct, future access to CCX hub
- Premier service over other southeast ports

Transiting the CSX Rail Lines

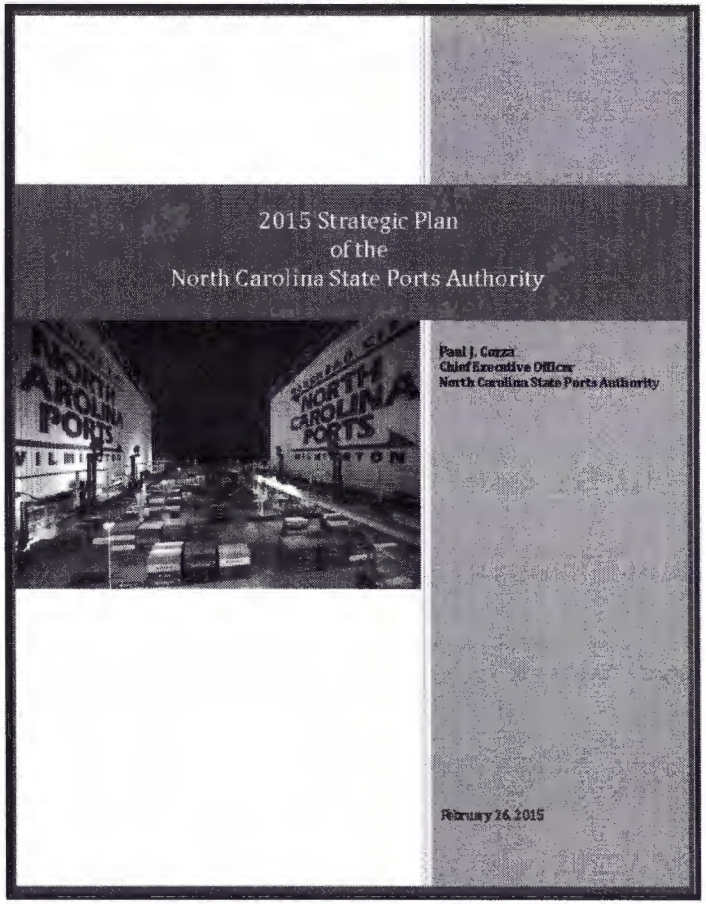


Investing for North Carolina's Future

Infrastructure Investment

The Five Year Strategic Plan

- Double container business to >600K TEUs
- Expand business of general terminals to 4M tons
- Execute an investment plan for terminal, road and rail infrastructure to support growth
- Channel enhancement in Wilmington and Morehead City
- Achieve long term financial stability to independently fund capital growth prospects



The Port of Wilmington is Expanding

- Long-term commitment to our customers
- $120 million+ capital improvement plan
- Accommodate multiple post-Panamax container ships
- Increase the speed and efficiency of loading/unloading vessels
- Significant advantages for international logistics
- ***Significant advantages for our importers/exporters in NC***

Port of Wilmington = Big Ship Ready

Turning Basin Expansion Project Complete



Evergreen Ever Laden
Sept. 10, 2016
8,500 TEUs
1,099 ft. long
150 ft. wide



MSC Maureen
Oct. 13, 2016
6,750 TEUs
985 ft. long
131 ft. wide

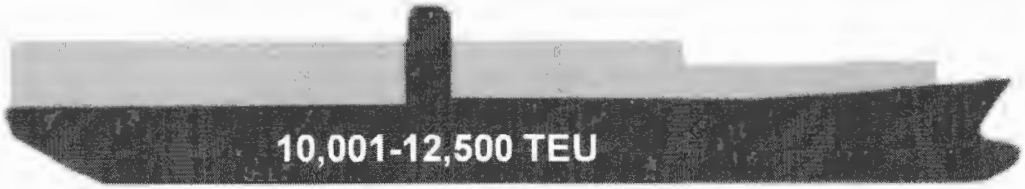


Yang Ming Unity
Aug. 7, 2016
8,200 TEUs
1,101 ft. long
140 ft. wide

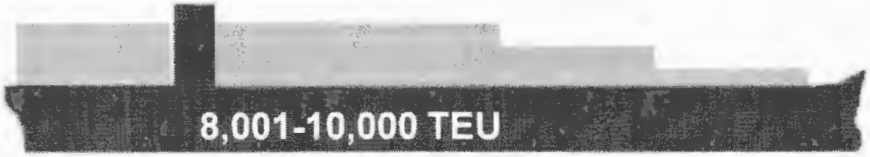


Hanjin Baltimore
July 5, 2016
7,500 TEUs
984 ft. long
140 ft. wide

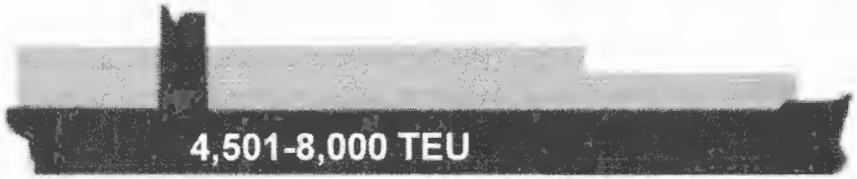
Container Shipping Specifications



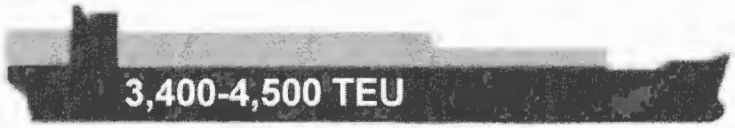
Length: 1,200+ ft (366+ m)
Beam: 161-170 ft (49-52 m)
Designed Draft: 45-50 ft (13-15 m)



Length: 984-1,100 ft (300-335 m)
Beam: 158-161 ft (48-49 m)
Designed Draft: 41-48 ft (12-14m)



Length: 965-984 ft (294-300 m)
Beam: 141 ft (43 m)
Designed Draft: 41-45 ft (12 -14 m)



Length: 951-965 ft (290-294 m)
Beam: 105 ft (32 m)
Designed Draft: 41 ft (12.5 m)

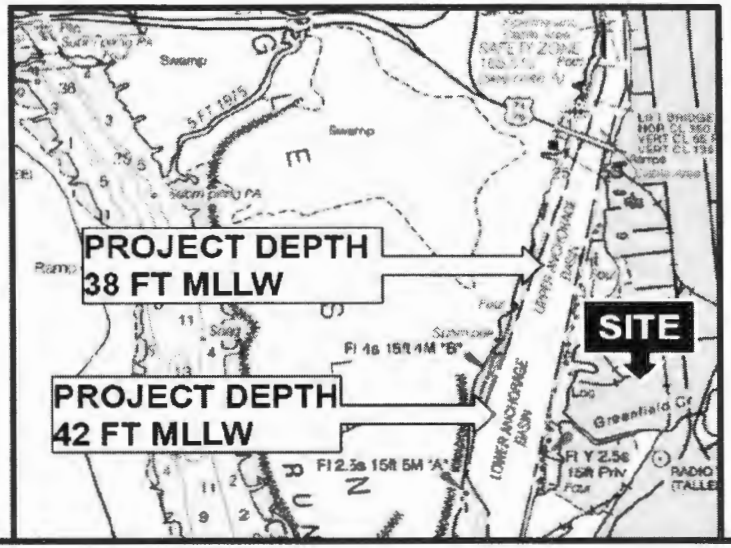
* Most vessels that arrive at the Port of Wilmington do not arrive at designed draft

Port of Wilmington Infrastructure Investments

- Turning basin expansion project **Completed**
- Berth 8 replacement project **Underway**
- Purchase new post-Panamax container cranes **Ordered**
- Capability to operate two post-Panamax vessels simultaneously **(mid 2018)**



North Property
Multi-Purpose Terminal



LOCATION:	PORT OF WILMINGTON, NORTH CAROLINA, NEW HANOVER COUNTY
USE:	MARINE TERMINAL OR PORT INDUSTRIAL
ZONED:	HEAVY INDUSTRIAL (CITY ZONING)
ACCESS:	ROAD ACCESS TO I-40 & US-74 WITHIN 5 MILES / WATER ACCESS VIA CAPE FEAR RIVER FEDERAL CHANNEL.
RAIL:	AT SITE (WILMINGTON TERMINAL RAILROAD, CONNECTS TO CSX)
UTILITIES:	WATER, SEWER, ELECTRIC AND NATURAL GAS AT THE SITE

Projected
Investment
$50-55 million
(Phase 1)



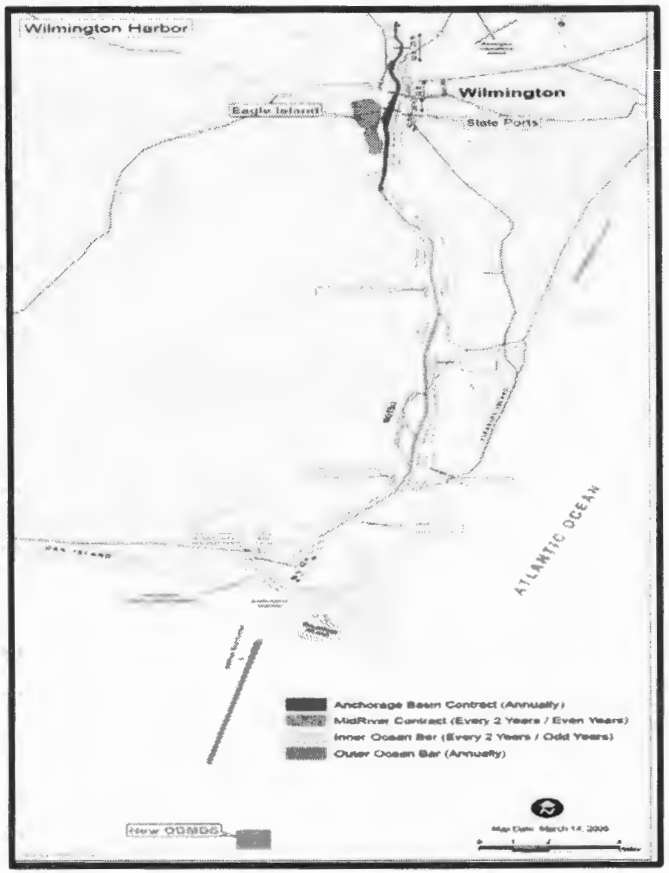
Expansion Capital Investment Overview

Projects Committed/Underway		Amount	Status
• Turning Basin Project		$28.3 million	Completed
• Berth 7 Crane Rail Extension		$1.3 million	Completed
• Post Panamax Berth Modernization Phase 1		$32.7 million	Commenced
• Two "New" Panamax Cranes		$27.4 million	Ordered
	SUBTOTAL	**$89.7 million**	

Projects in Planning Stages			
• Expand Container Yard Phase 1		$8-10 million	Planning
• Post Panamax Berth Modernization Phase 2		$27-30 million	Planning
• Morehead City Crane Investment		$8-11 million	Planning
• Intermodal Service Terminal Improvements		$15-18 million	Planning
• New Terminal Handling Equipment		$3-5 million	Planning
• Expand Gate Capacity		$2-3 million	Planning
• Expand Container Yard Phase 2		$22-25 million	Planning
• System Upgrades		$2.5-3 million	Planning
• Two Additional New Panamax Cranes		$24-25 million	Planning
	TOTAL	**$201-220 million**	

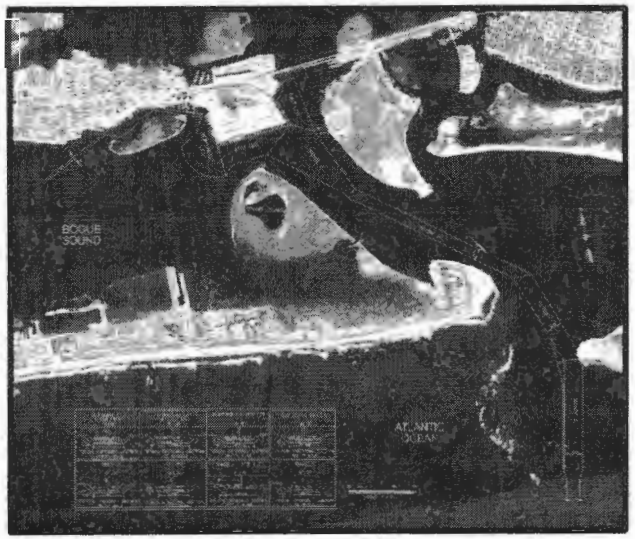
• North Property – Multi-Purpose Terminal Phase 1	$50-55 million	Pre-Planning

Morehead City & Wilmington Channels Supplementing Federal Funding



US Army Corps of Engineers Analysis

- Annual Requirements to maintain authorized depths ~ $40M
- Ten year historical federal funding $28M
- **Projected Annual Shortfall - $12M**



Cape Fear River Channel Long Term Enhancement Study



- NC Ports is funding an official ***Feasibility Study*** with U.S. Army Corps of Engineers to complete navigational improvements to the channel, including deepening the Cape Fear River basin
- Long-term viability requires channel improvements
- Neighboring ports well underway

Summary

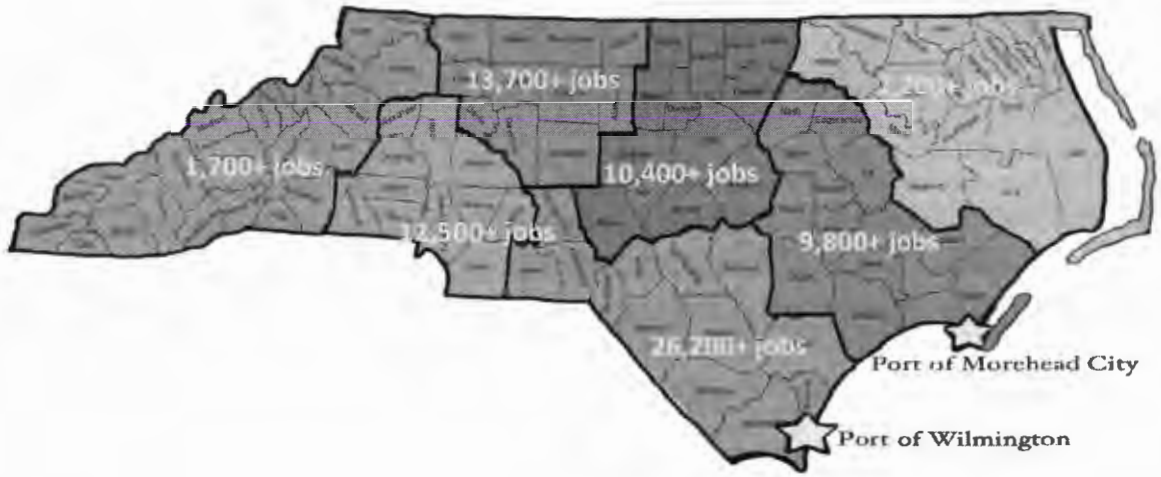
In Summary

- **Five year goals**
  - Double container business to >600K TEUs
  - Expand business of general terminals to 4M tons
  - Infrastructure improvements in Wilmington
    - ***Well Underway and Delivering Results***
    - ***More Needed!!!***

- **Timing is perfect**
  - Panama Canal expansion
  - North America port congestion
  - Migration to U.S. East Coast distribution
  - Forecast demographic shift to Southeast

- ***It's time to <u>reclaim</u> North Carolina's market and <u>drive</u> economic development projects to our State!***

Ports Support N.C.



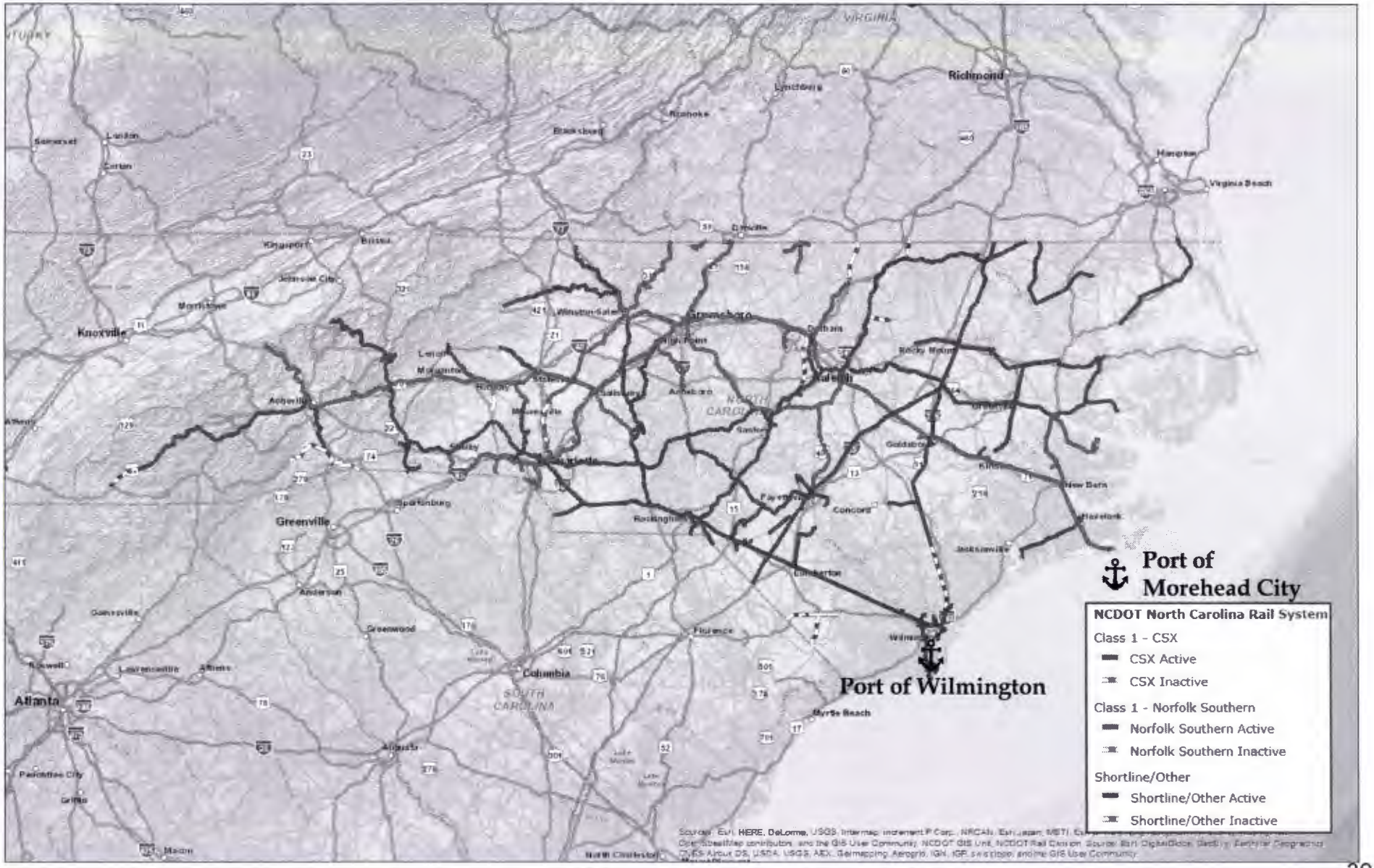
North Carolina jobs provided directly or indirectly by the ports statewide
76,700 +

Annual tax revenues gained through the ports for the statewide economy
$707 million +

Annual economic contribution to the state's economy associated with goods moving through N.C. Ports
$14 billion +

Economic Contribution of the North Carolina Ports
Institute for Transportation Research and Education, N.C. State University

Part of an Integrated Transportation Network



NORTH CAROLINA PORTS

Paul J. Cozza
Executive Director
North Carolina State Ports Authority
paul.cozza@ncports.com
910-343-6485

VISITOR REGISTRATION SHEET

JT Committee on Appropriations, Transportation — 3/21/2017

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Jason Campbell	NC State SCRC
Nick Alberno	NC SU SCRC
David Catron	NC SU SCRC
Chr. Broughton	MWC
Kym Hunter	SELC
Kathy Kingsbury	BP
Jackie Gonzalez	Sen Ford Staff
Durwood	NS
Joe McClees	McClees Consult
[illegible]	DOT
[illegible]	

VISITOR REGISTRATION SHEET

JT Committee on Appropriations, Transportation — 3/21/2017

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Gregory Cademann	Rep. Hall office
Ed Johnson	NCDOT.
Dan Palmeter	OSBM
[signature]	Pope
Graham Givens	NC State
DANA Magliola	NC State
ADAM HARDIE	NC STATE
Kevin Weisner	NC State
Shaun Nelson	NC State
Sam Greenstein	NC State
NANDAN MANKAD	NC state

VISITOR REGISTRATION SHEET

JT Committee on Appropriations, Transportation — 3/21/2017

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Joy Hatley	NCDOT
PAUL COZZA	NC PORTS
Cliff Pyron	NC Ports
[signature]	RANC - LPAs + NCMA
Laura Kilian	Vista Strategies
Catherine Kilian	NCSU
Cameron Sudderth	NC State
Chris O'Berto	NCSU
[signature]	SA
H TASAICO	NCDOT
Matthew Babcock	PPAB

VISITOR REGISTRATION SHEET

JT Committee on Appropriations, Transportation — 3/21/2017

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
ALDEA DOUGLAS	NCDOT
David Collins	SEANC

Joint Appropriations Committee on Transportation
March 22, 2017
8:30 a.m.
Room 1027/1128 LB
Minutes

The Joint Appropriations Committee on Transportation met March 22, 2017at 8:30 a.m. in Room 1027/1128 LB with five Senators and eight Representatives present.

Senator Tom McInnis presided.

Senator McInnis introduced himself, the Sergeant at Arms, and Pages.

Susan Tyler, Fiscal Analyst, Fiscal Research Division North Carolina General Assembly presented the Rail Base Budget Review.

Paul Worley, Rail Division Director Department of Transportation presented Rail Overview and answered questions from members of the committee on the presentation.

Scott Saylor, President North Carolina Railroad Company gave a presentation on North Carolina Railroad Company and answered questions from members of the committee.

Senator McInnis had Joy Hicks of NCDOT introduce Chief Deputy Howard to the committee who has recently joined NCDOT.

Senator McInnis adjourned the meeting at 9:45am.

Senator Tom McInnis
Presiding

Libby Spain (Sen. Tom McInnis)
Committee Clerk

Joint Appropriations Committee on Transportation

March 22, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis
Senator Wesley Meredith, Chairing

Representative Frank Iler
Representative Michele Presnell
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. Rail Base Budget Review

    - Susan Tyler, Fiscal Analyst, Fiscal Research Division
      North Carolina General Assembly

3. Rail Overview

    - Paul Worley, Rail Division Director
      Department of Transportation

4. North Carolina Railroad Company

    - Scott Saylor, President
      North Carolina Railroad Company

Next meeting: Public Transportation Base Budget Review/Public Transportation Overview/Global TransPark/Bicycle and Pedestrian Overview- Thursday, March 23rd, 8:30 a.m.

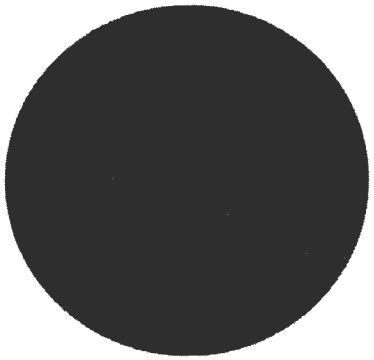
Department of Transportation

Rail Division

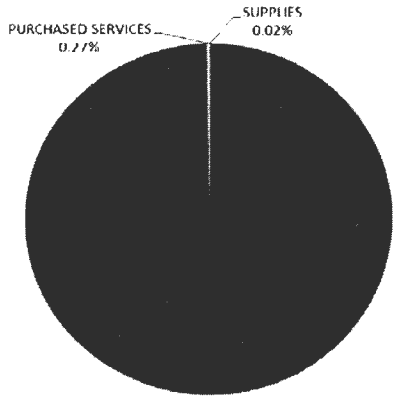
Fund Code: 0037

Purpose: The purpose of this fund is to develop, administer and operate programs that improve industry and public safety, partner with industry and economic development entities to create jobs, attract investment and increase rail freight movements; partner with shortline and Class I railroads to retain jobs in small urban and rural areas, and increase use of intercity passenger rail service opportunities. Shown here is the administrative budget for this program.

Source of Funds



Expenditure of Funds



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$ 595,397	$ 614,825	$ 619,575	$ -	$ 619,575	$ -	$ 619,575
PURCHASED SERVICES	1,063	1,657	1,657	-	1,657	-	1,657
SUPPLIES	-	125	125	-	125	-	125
PROPERTY, PLANT & EQUIPMENT	14	-	-	-	-	-	-
OTHER EXPENSES AND ADJUSTMENTS	-	-	-	-	-	-	-
INTRA-GOVERNMENTAL TRANSFERS	-	-	-	-	-	-	-
Total Requirements	**$ 596,474**	**$ 616,607**	**$ 621,357**	**$ -**	**$ 621,357**	**$ -**	**$ 621,357**
INVESTMENT INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SALES,SERVICE & RENTALS	181	-	-	-	-	-	-
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 181**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Appropriation	**$ 596,293**	**$ 616,607**	**$ 621,357**	**$ -**	**$ 621,357**	**$ -**	**$ 621,357**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	7	7	7	0	7	0	7
Total FTE		**7**	**7**	**7**	**0**	**7**	**0**	**7**

Increase/Decrease Detail- NR Items Removed

None

2016-17 Session Significant Budget Actions- Money Items

None

2016-17 Session Significant Budget Actions- Special Provision

None

2017-20 Session Significant Issues

None

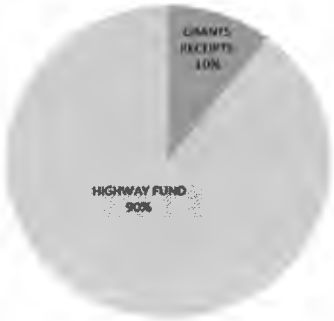
Department of Transportation

Railroad Program

Fund Code: 7829

Purpose: The purpose of this program is to provide operational support for programs administered by the Rail Division. Programs include operation of the Carolinian and the Piedmont train service, the Freight Rail and Rail Crossing Safety Improvement Program, rail crossing safety and track capacity and velocity improvements, and environmental and planning associated with the development of high-performing passenger rail service throughout North Carolina, Virginia, and the Southeast.

Source of Funds
FY2017-18



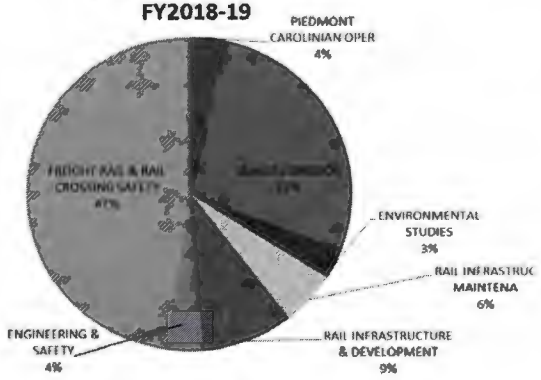
Expenditure of Funds
FY2017-18



Source of Funds
FY2018-19



Expenditure of Funds
FY2018-19



BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PIEDMONT CAROLINIAN OPER	$ 1,439,368	$ 1,336,464	$ 1,336,464	$ -	$ 1,336,464	$ -	$ 1,336,464
INDUSTRIAL ACCESS	380,224	-	-	-	-	-	-
SEALED CORRIDOR	-	10,000,000	10,000,000	-	10,000,000	-	10,000,000
ENVIRONMENTAL STUDIES	1,614,629	1,156,667	1,156,667	-	1,156,667	-	1,156,667
IMP TRAVEL TIME/RAL/CHAR	172,304	-	-	-	-	-	-
RAIL INFRASTRUC MAINTENA	1,130,217	2,050,000	2,050,000	-	2,050,000	-	2,050,000
RAIL INFRASTRUCTURE & DEVELOPMENT	3,840,332	3,428,007	3,428,007	-	3,428,007	-	3,428,007
STREAMLINING	1,236	-	-	-	-	-	-
ENGINEERING & SAFETY	1,640,603	1,326,667	1,326,667	-	1,326,667	-	1,326,667
FEDERAL GRANT	149,080,158	50,225,920	50,225,920	(45,978,104)	4,247,816	(50,225,920)	-
FREIGHT RAIL & RAIL CROSSING SAFETY	6,449,166	17,500,000	17,500,000	-	17,500,000	-	17,500,000
CONTRACTOR SERVICES	11,413,202	-	-	-	-	-	-
Total Requirements	**$ 177,161,439**	**$ 87,023,725**	**$ 87,023,725**	**$ (45,978,104)**	**$ 41,045,621**	**$ (50,225,920)**	**$ 36,797,805**
PARTICIPATION REVENUE	$ 2,049,074	$ -	$ -	$ -	$ -	$ -	$ -
GRANTS RECEIPTS	156,009,006	50,225,920	50,225,920	(45,978,104)	4,247,816	(50,225,920)	-
FEES, LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 158,058,080**	**$ 50,225,920**	**$ 50,225,920**	**$ (45,978,104)**	**$ 4,247,816**	**$ (50,225,920)**	**$ -**
Net Appropriation	**$ 19,103,359**	**$ 36,797,805**	**$ 36,797,805**	**$ -**	**$ 36,797,805**	**$ -**	**$ 36,797,805**

NO FTE

Increase/Decrease Detail- NR Items Removed

Requirements	
Federal Grant FY2017-18	(45,978,104)
Federal Grant FY2018-19	(50,225,920)
Receipts	
Federal Grant FY2017-18	45,978,104
Federal Grant FY2018-19	50,225,920
Total	**0**

2016-17 Session Significant Budget Actions- Money Items

- Increased funding for the Freight Rail & Rail Crossing Safety Improvement Fund by $13,750,000 R in FY2016-17.

2016-17 Session Significant Budget Actions- Special Provision

- S.L. 2016-94 Section 35.18 authorized DOT, Rail Division to dispose or revitalize the rail-banked corridor between Andrew and Murphy in accordance with local and State agency transportation or recreational determinations, as well as joint local governmental financial participation.
- S.L. 2016-94 Section 35.21 (a) modified G.S. 124-5.1 to authorize grant funding projects on short-line railroad corridors without active freight rail service and to clarify that State-funded improvements to rail lines and corridors may span bordering state boundaries in order to connect to the national system. Section (b) modified G.S. 136-44.39 to clarify that projects on short-line railroads that enhance common carrier service are eligible for funding.

2017-19 Session Significant Issues

- Rail improvements at the Port of Wilmington
- 5th frequency for passenger rail on Piedmont Corridor
- Decline in ridership on Piedmont and Carolinian
- Funding for freight-specific projects

NCDOT Rail Division

COMPREHENSIVE STATE RAIL PLAN

Executive Summary

Implementing the 25-Year Vision

GOV. McCRORY'S year 25 Vision for North Carolina MAPPING OUR FU URE





Photo: Matt Donnelly



Photo: Adam Schultz



Pat McCrory, Governor of North Carolina
Nick Tennyson, Secretary of Transportation
Keith Weatherly, Interim Deputy Secretary for Transit
Paul C. Worley, Rail Director

August 2015

NCDOT Rail Division
COMPREHENSIVE STATE RAIL PLAN

Executive Summary

Introduction

The North Carolina Department of Transportation (NCDOT) Rail Division developed this Comprehensive State Rail Plan (State Rail Plan) to help identify needs and guide investments in the state's freight and passenger rail network for the next 25 years.

The purpose of the State Rail Plan is to:

- Establish the public vision for the state rail system and support the state's goals and policies to improve freight and passenger rail transportation.
- Analyze and prioritize rail corridors, programs, and proposed projects.
- Propose future improvements and investments, and assess funding options.
- Provide a current inventory of the rail system and identify trends, markets, and needs.
- Describe how programs managed by the NCDOT Rail Division work together with other government agencies, businesses and industries to deliver a comprehensive set of rail services that are integrated into the state's overall transportation system.

Today there are over 3,200 miles of railroad in North Carolina, serving 86 of the state's 100 counties.

North Carolina's Rail System is shown in Figure 1

Figure 1: North Carolina's Rail System



The State Rail Plan is a component of the state's long-standing rail planning practice and Governor McCrory's 25-Year Vision for North Carolina, which includes the following rail-related goals:

- Improve rail connections between military bases and ports
- Intermodal facilities to support freight shipping, and scheduled intermodal service to Port of Wilmington
- Improved rail access to Global TransPark and Port of Morehead City
- Economically competitive rail service to inland ports
- Improve rail and seaport connections to I-95 to serve the Eastern US
- Expand mass transit options, including rail
- Expand access to passenger rail options in all regions of the state

GOV. McCRORY'S 25 year Vision for North Carolina MAPPING OUR FUTURE

Development of the State Rail Plan

A broad cross-section of railroads, rail-user and agency stakeholders and the general public were engaged throughout the plan development process. This included guidance and input from NCDOT staff, as well as meetings with a Technical Advisory Committee (TAC). TAC members included CSX Transportation (CSXT), Norfolk Southern Railway (NS), North Carolina Railroad Company (NCRR), the Railway Association of North Carolina, NC Department of Agriculture and Consumer Services, NC Department of Commerce, and the NC Center for Global Logistics. The outreach process was designed to incorporate input along with data considerations in assessing existing conditions, evaluating passenger and freight rail corridors and services, and developing plan recommendations. Figure 2 depicts the process used to develop the State Rail Plan. Table 1 shows how initiatives identified in the State Rail Plan will help implement the Governor's 25-Year Vision.

Figure 2: Rail Planning Process

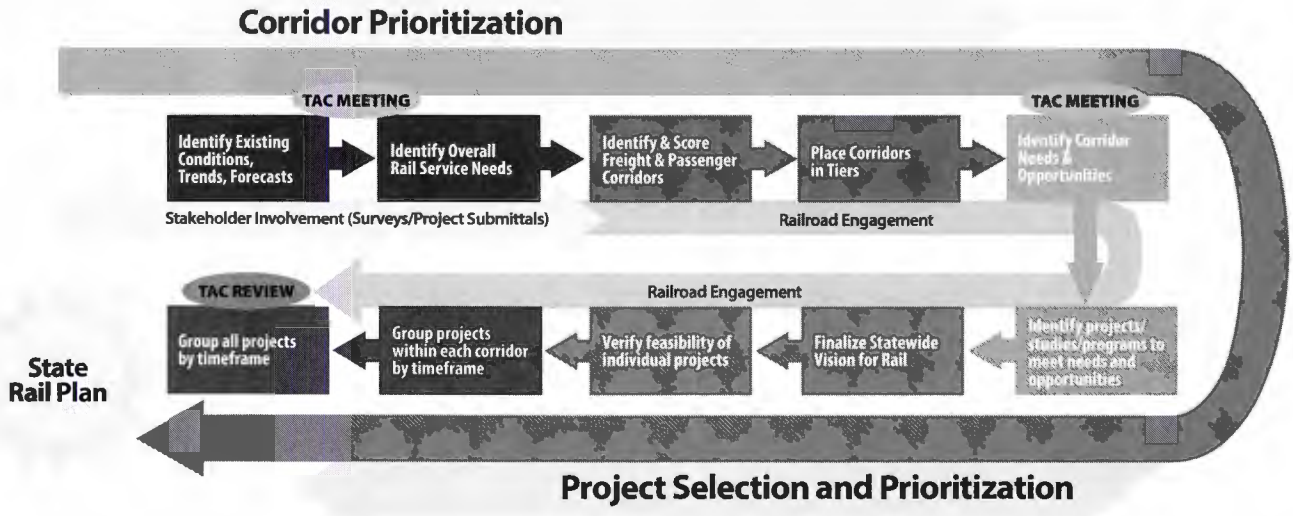


Table 1: Governor's 25-Year Vision and the State Rail Plan

Region	Regional Solution	Next Steps
Coastal	Develop Intermodal Train Service to the Port of Wilmington	• Identify capacity and safety needs along CSXT and Wilmington Terminal Railway corridors in Wilmington • In partnership with CSXT, study capacity improvements to the CSXT system in Eastern NC that would increase freight capacity • Construct bridges at the north gate and container terminal to separate railroad and truck traffic at the Port of Wilmington
	Continue to seek opportunities to develop intermodal facilities along the I-95 Corridor to support freight shipping	• Evaluate the development of an intermodal facility to serve the Triangle Region and Eastern NC • Consider the potential roles for North Carolina State Ports and regional ports for this intermodal service
	Leverage public-private partnerships to complete the development of Radio Island and support enhanced rail access to the Port of Morehead City	• Evaluate economic feasibility of relocating the NCRR along a new alignment between Morehead City and Havelock, allowing trains to access Radio Island from the east • Work with the North Carolina State Ports Authority and Carolina Coastal Railway to develop a loop track at the port • Support development of other frontage roads or superstreet intersections to help reduce highway-rail conflicts in Morehead City
Eastern	Support economically competitive rail access to the Global Transpark (GTP) and Port of Morehead City	• Construct a rail line from GTP in Kinston to the CSXT line parallel to NC 11 in Lenoir County
	Improve connections to the I-95 corridor from rail and seaports to serve markets throughout the Eastern US	• Provide access to the Mid-Atlantic Industrial Rail Park, a 1,025-acre CSXT-Select Site in Leland, Brunswick County • Evaluate feasibility of a new rail crossing of the Cape Fear River to eliminate the need for trains to traverse through Wilmington to access the Port of Wilmington
Central	Improve highway connections and seek economically competitive rail service to inland ports in and around Charlotte	• Construct siding extension at Stouts in Union County • Support the Phase III Expansion of CSXT's Charlotte Intermodal Terminal • Evaluate improvements along the CSXT rail line between Charlotte and Pembroke • Relocate the Aberdeen Carolina & Western Railroad in Mecklenburg County
	Improve highway connections and expand airfreight and rail capabilities to support the Triad Logistics Hub	• Construct rail spur at Piedmont Triad International Airport • Convert NS "Roundhouse" property adjacent to Greensboro Intermodal facility into parking and container storage
	Ensure infrastructure plans recognize the development of megasites in the region and support their ability to attract new businesses in targeted industry clusters.	• Provide access to the 1,000-acre I-85 Corporate Center in Davidson County • Conduct a study to identify infrastructure needs required to support industries targeted for the 1,800-acre Chatham-Randolph Megasite • Support access to the Project Legacy Megasite in Union County
	Support the expansion of mass transit options in high-growth areas to address the needs of changing demographic, congestion and land development concerns	• Plan to accommodate potential commuter and light rail in the Triangle, Triad and Metrolina regions. NCDOT will work with the regions as they develop their plans.
Western	Provide industrial access to freight rail lines to accommodate expanding agribusiness and economic development while fully utilizing our multimodal transportation system	• Evaluate operational improvements to the CSXT freight and intermodal network from TN to Charlotte • Reactivate Andrews to Murphy line to accommodate potential freight movement
Comprehensive	Expand access to passenger rail options in all regions of the state to accommodate a changing demographic, address congestion issues and meet regional transportation needs	• Continued development of the Southeast Rail Corridor • Work with project sponsors and stakeholders to evaluate intrastate passenger rail for commuter and light rail in existing and emerging urban/suburban corridors • Statewide Thruway Bus service expansion • Analysis of capacity and potential of existing stations to accommodate needs, and potential positive economic impacts to surrounding land uses

Economic Impacts of Rail in North Carolina

Freight and passenger rail networks contribute approximately $1.88 billion in direct economic impacts per year for North Carolina. For freight, this reflects savings in shipping costs (rail vs. truck), pavement costs (i.e. wear and tear on roads), and congestion costs (travel time impacts for other vehicles based on the number of trucks on the road). For passenger rail, this includes direct operator jobs, purchases of goods and services, and tourist spending, as well as pavement and congestion savings from trips that would otherwise be made by automobile.

In addition to the direct economic impacts, broader social impacts generate approximately $311 million in emissions and safety impacts annually as a result of the truck and auto vehicle miles traveled (VMT) avoided due to the use of freight and passenger rail in the state. These broader social impacts are shown using recommended economic values, but do not translate into spendable dollars in the North Carolina economy. Table 2 summarizes the annual direct economic impacts associated with freight and passenger rail in North Carolina. Table 3 presents direct jobs associated with rail in North Carolina.

Freight and Passenger Rail directly contribute $1.88 billion to North Carolina's economy, annually.

Table 2: Economic Impacts of Rail Services in North Carolina

	Freight *(2014 dollars)*	**Passenger** *(2014 dollars)**
Direct Economic Impacts		
User Cost Savings (Shipper)	$1,496M	
Amtrak Wages and Purchases		$89M
Incremental Tourist Spending		$2M
Great Smoky Mountains Railroad (GSMR) Direct Wages and Purchases		$6M
GSMR Tourist Direct Spending		$16M
Pavement Savings**	$96M	$4M
Congestion Savings**	$162M	$4M
Total	**$1,754M**	**$121M**
Broader Social Impacts**		
Auto and Truck Emissions	$118M	$2M
Auto and Truck Safety	$173M	$18M
Total	**$291M**	**$20M**

Source: AECOM analysis of Class I 2011 Waybill, Amtrak 2012 and 2014, Southeast High Speed Rail, and GSMR 2007 data.
Tourist spending, pavement savings, congestion savings, auto emissians, and safety far passenger rail are based on trips to North Carolina that wauld not have been made without rail.
*** Excludes GSMR impacts.*

Table 3: Direct Jobs from Rail in North Carolina

	Freight *(2012)*	**Amtrak** *(FY2014)*	**GSMR** *(2007)*	**NCRR** *(2015)*
Estimated Direct NC Employment				
	2,600	162	65	13

Saurces:
Freight: NC Maritime Strategy Technical Memorandum – North Carolina Railroads Existing and Planned Infrastructure, AECOM May 2012 (for Class Is and short lines).
Amtrak: Amtrak Fact Sheet, Fiscal Year 2014, http://www.amtrak.com/pdf/factsheets/NORTHCAROLINA14.pdf
GSMR: Inhyuck "Steve" Ha, Hillary M. Sherman, and Jessica Hallars, "Smoky Mountain Host Highway 19 Corridor Study Phase 1," March 2009.
NCRR: NCRR, 2015.



The Piedmont passenger and NS freight trains side by side in Salisbury. Photo: Marcus Neubacher

Freight Rail System

The state is served by two Class I railroads – Norfolk Southern Railway and CSX Transportation – and 20 short line railroads that connect businesses and industries to the Class I network.*

**Class I railroads are railway companies having annual carrier operating revenues of at least $467 million, short lines have revenues less than $37 million. Source: Surface Tronsportation Board*

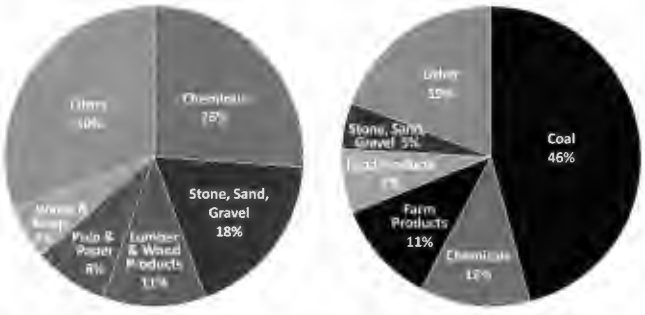


NS freight switches cars at an industry. Photo: Adam Schultz

In addition to the two Class I and 20 short line railroads, the North Carolina Railroad (NCRR) Company owns and manages a 317-mile corridor extending from the Port of Morehead City to Charlotte, which is leased and operated by NS. The freight rail network in North Carolina provides service to ports, power plants, mines, military installations, and industries. Freight railroads support jobs for about 2,600 railroad employees in the state.

The types and percentages of commodities carried by rail originating and terminating in North Carolina are shown in Figure 3. Class I rail corridors, volumes and key facilities are shown in Figure 4.

Figure 3: 2012 STB Waybill Summary – Commodities Carried by Rail Originating and Terminating in NC*

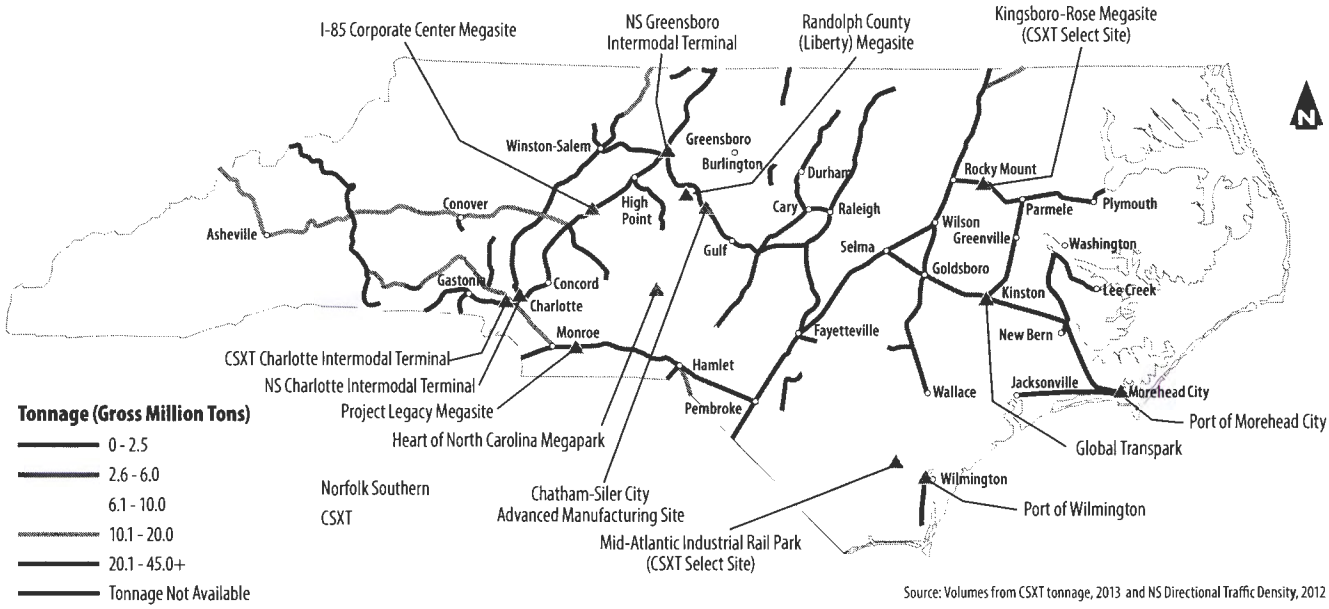


Originated in NC
10.4 million tons/204,200 carloads

Terminated in NC
47.9 million tons/591,200 carloads

**Through volumes averaged 38M tons (615,000 carloads) over the last 10 years. Source: Association of American Railroads (2012)*

Figure 4: Class I Rail Corridors, Volumes and Key Facilities



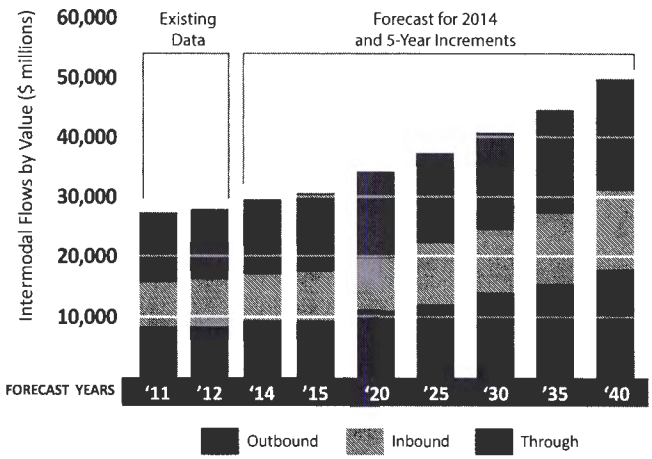
Source: Volumes from CSXT tonnage, 2013 and NS Directional Traffic Density, 2012

Freight Rail Trends

Demand for movement of freight is on the rise. Rail is a critical component in meeting the needs of industries and consumers. Over the next 25 years, the following commodity and rail trends are anticipated.

- Freight can be moved more efficiently by rail and intermodal rail than by truck only. One ton of freight can be moved by rail approximately 413 miles using one gallon of fuel.
- Rail and intermodal rail can be used to help reduce the exclusive use of congested highways to move freight to, from, and within North Carolina.
- Freight demand in North Carolina will increase as population increases. The Progress Report for the National Rail Plan indicates that, on average, Americans require the freight system to move 40 tons of freight per person, annually.
- Intermodal shipments to and from North Carolina are anticipated to grow by 2.2% and 2.5% per year by value (1.9% and 2.1% by weight).
- Growth in intermodal shipments is anticipated on the existing NS and CSXT networks. This trend is consistent with NS's Crescent Corridor Initiative and CSXT's National Gateway Program. Both programs will increase volume on the railroads' primary north-south corridors through North Carolina.
- Reduction in coal shipments passing through and terminating in North Carolina provides network capacity to accommodate growth in other commodities.
- Domestic production of energy is anticipated to drive growth in manufacturing in North Carolina.
- Growth is expected in high value commodities such as chemicals and plastics, as well as in developing energy-source commodities such as natural gas and wood pellets.
- Increases in North Carolina production of plastics, dyes, scrap metal and aggregate will result in growth of shipments to neighboring states.
- Illinois, Louisiana and Canada are growing in importance for plastics and chemicals shipped to and from North Carolina.
- Shipments of freight originating in North Carolina to the Midwest and through Virginia ports are growing.

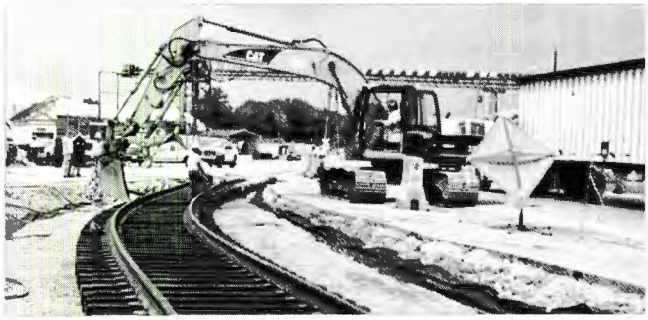
North Carolina Intermodal Rail Flows by Value



Freight Rail Needs and Opportunities

After evaluating economic, freight and population data and trends, reviewing related studies, and conducting stakeholder outreach efforts, the following freight rail service needs and opportunities were identified.

As recommended in the Eastern Infrastructure Improvement Study (prepared in accordance with Senate Bill 402 Section 34.23 (2013 General Assembly)), the State of North Carolina should establish the **Secretary of Transportation's Freight Intermodal Advisory Council** to help leverage strategic infrastructure investment to foster economic growth and create jobs. The Freight Intermodal Advisory Council should include, but not be limited to the Board of Transportation and the boards of the NC Department of Agriculture and Consumer Services, Department of Commerce, the Global TransPark and NC State Ports Authority. Private entities with state interest will be invited to join the Council, such as the North Carolina Railroad Company, representatives of the trucking industry, and shippers.



Track Improvements at Port of Wilmington

The Secretary's Intermodal Advisory Council can lead efforts to:

- Cultivate ongoing partnerships between metropolitan planning organizations/rural planning organizations and railroad companies serving each region to build understanding and improve economic development through coordinated transportation and land-use planning.
- Develop a program to restore and add customers to existing lines where volumes have declined, yet some customers remain.
- Increase transload opportunities on congested corridors to divert more truck traffic to railroads by developing a state-level grant program for transload facility development, operation, and maintenance. The program will help optimize siting based on evolving market needs and transport network congestion.

Additional freight rail needs and opportunities are described below.

- Prepare for the emergence of the energy industry in North Carolina that will add freight traffic.
- Continue leading and investing in our nationally-recognized best practice safety program that improves at-grade highway-rail crossings and builds new grade-separated crossings. The program has helped reduce the number of train-car crashes from 244 in 1988 to 51 in 2014.
- Implement the short-term solutions, and plan for the long-term recommendations, presented in the Eastern Infrastructure Study for GTP, the Port of Morehead City and the Port of Wilmington. These solutions include, but are not limited to the following:

Port of Wilmington and Wallace to Castle Hayne

- Continue to preserve the right of way for and seek Department of Defense funding to restore the Wallace to Castle Hayne corridor.

Port of Wilmington

- Continue efforts to work with CSXT to identify actions that will lead to regular rail intermodal service to the Port of Wilmington.
- Pursue implementation of recommendations from the ongoing Wilmington Traffic Separation Study of rail crossing consolidation and safety upgrades to improve safety and efficiency of rail and vehicular flow into Port of Wilmington.
- Pursue environmental, planning and conceptual design studies for the construction of a highway-railroad grade separated access at the North Gate of the Port of Wilmington. Separated access would improve safety, reduce vehicular congestion, and significantly increase rail capacity.
- As future traffic volumes grow at the Port of Wilmington, investigate the feasibility of a new rail bridge across the Cape Fear River from the port area connecting to the rail network in Brunswick County. This would remove port rail traffic from Wilmington.

Global TransPark

- Lease the GTP spur (owned by NCDOT) to a private rail operator.
- Examine GTP's authority to optimize its competitiveness for state and federal grant funds for capital improvement projects.

- Investigate retaining state ownership of the former North Carolina Railroad Company Water Access property in New Bern, currently owned by the Department of Administration, as a potential barge transload facility for oversized cargo loads.
- To prepare for the long term, conduct the environmental analysis for a CSXT spur from the GTP to railroad point "Elmer" in Kinston and obtaining the advance right-of-way.

Port of Morehead City

- In the short term, pursue a super-street style advanced and coordinated traffic plan to reduce rail and truck port traffic conflicts with vehicle and pedestrian traffic on US-70 Arendell Street.
- Implement an on-port loop track to build/break unit trains.
- Establish the GTP to Morehead City Highway and Rail Mobility Corridor and continue to evaluate a potential Northern Carteret Rail and Highway Bypass as market conditions evolve.

- Maintain short line support programs such as the Rail Industrial Access Program and Short Line Infrastructure Assistance Program via Freight Rail & Rail Crossing Safety Improvement funds (FRRCSI) to aid NC industries in accessing Class I rail networks. FRRCSI is currently funded through the NCRR Company annual dividend.
- Continue efforts to partner with railroads to evaluate placing an intermodal facility in Eastern NC or Eastern Piedmont to help mitigate future highway congestion's impacts on the Triangle region's access to intermodal service(s) that are currently located in Charlotte and Greensboro. A facility may also support agriculture and related industries in Eastern North Carolina and enhance the ability of goods to reach domestic and international markets. Also, support the expansion of existing CSXT and NS intermodal facilities in Charlotte and Greensboro.
- Leverage private sector rail capacity investments and augment them to foster truck–to-rail mode shifts. For example, mobilize collateral efforts as appropriate, such as rail training programs to offset the declining numbers of truck drivers.
- Support the Secretary of Transportation's initiative to identify rail industry workforce education and training needs and meet them through with the community college system.
- Preserve corridors for future uses.

Freight Rail Projects and Benefits

The State Rail Plan includes projects to improve freight rail systems and goods movement across the state. Freight rail projects along with funding needs by time period and funding sources are presented in Tables 4 and 5 for Class I railroads and short lines, respectively. Near-term projects and major freight studies to be undertaken are noted in Figure 5. Mid and long-range projects are described in detail in the plan and are summarized. The near-term projects on the Class I network are eligible for funding by NCDOT's Strategic Transportation Investment Program. Identified short line projects in Table 6 are eligible for funding by FRRCSI.

The projects prioritized as near term were analyzed in detail to compare the benefits of each project to its capital and operating costs. A benefit-cost analysis (BCA) ratio is provided in the last column of Table 4 and Table 5. A BCA is a ratio that compares the sum of a project's or program's benefits to its cost. Typically, a BCA ratio of 1.0 says that the benefits and costs are equal over the analysis period, and a BCA ratio over 1.0 demonstrates that there are more quantifiable benefits than costs for the project or program. Alternately, a BCA ratio of less than 1.0 may indicate that there are not enough benefits to outweigh the costs, or that all of the benefits are not quantifiable at this time. As train volumes grow and markets change, BCAs should be reassessed to capture all available benefits.



Driving the final spike for the new Greenville Transload track

Table 4: Class I Freight Rail Projects Currently Funded*

Class I Projects and Needs – Funded by Strategic Transportation Investments/Strategic Mobility Formula	Near Term (2015-2019) Funded Projects	BCA Ratio for Near Term Projects	
		Discounted at 7%	Discounted at 3%
New Norfolk Southern Thoroughbred Bulk Terminal (TBT) Facility in Charlotte	$976,000	1.70	1.97
Container parking/storage adjacent to Norfolk Southern's Greensboro Intermodal Facility *(converts former Roundhouse property)*	$1,695,000	10.22	13.11
CSXT - 10,000 foot siding extension at Stouts in Union County. Creates passing siding on segment of single track that benefits freight and intermodal traffic	$10,600,000	9.87	14.77
Upgrade rail along US 52 in Albemarle *(Stanly County)* to allow for freight	$2,126,000	1.10	1.39
Subtotal	**$15,397,000**		
Funded by State	$8,549,000		
Funded by CSXT	$5,300,000		
Funded by NS	$1,549,000		

*Cost estimates for these projects based on NCDOT estimates submitted for STI. Costs are in 2014 dollars.

Table 5: Additional Class I Freight Rail Projects *

Project Category	Mid Term 2020-2024	Long Term 2025-2040
CSXT Track Improvements/New Access (1 near-term and 2 long-term projects)	$3,600,000	$187,400,000
CSXT Intermodal Terminal and/or Rail Yard Improvements (2 projects)	$62,000,000	
CSXT Safety/Crossing Safety Improvements/Grade Separations (5 projects)	$39,781,988	
NS Track Improvements/New Access (4 projects)	$13,000,000	$200,000,000
NS Rail Yard Improvements (3 projects)	$9,000,000	
NS Safety/Crossing Safety Improvements/Grade Separations (11 mid-term and 3 long-term projects)	$219,115,000	$57,363,000
Grade separate NS Mainline and CSXT SF Line	$257,000,000	
Wood pellet and natural gas fracking projects	$36,000,000	
Preservation of threatened rail lines	$6,000,000	$6,000,000
Bridge and structures on NCDOT-owned corridors	$6,000,000	$6,000,000
Totals	**$651,496,988**	**$456,763,000**

* Potential Funding by state and/or federal programs. Estimates for projects based on estimates submitted as candidates for STI and submissions from Metropolitan and Rural Planning Organizations. Costs are in 2014 dollars.

Table 5 presents additional Class I needs that are not currently funded. The projects are presented in aggregate, but are categorized as either on the CSXT or NS network and by project type. Project categories include track improvements and access, intermodal terminal and/or rail yard improvements, and crossing safety and grade-separation projects.

Crossing safety and grade-separation projects that have been implemented through NCDOT's nationally-recognized safety program have had demonstrated success in North Carolina in reducing train-car crashes from 244 in 1988 to 51 in 2014.

The benefits of the other two categories of projects are demonstrated by the benefit-cost ratios of the funded projects of similar types (see Table 4). Investment in improvements to the freight and intermodal network results in operational efficiencies and savings to industries and shippers. In addition, beyond the direct jobs associated with the rail industry, improvements to access and enhancements to the network support indirect jobs, increase volumes on the rail network, and can help support job creation, though there are other factors in the economy that also play a role. As an example, from 1994 to 2013, the Rail Industrial Access Program provided grants to 71 industries; these grants have helped support industries that employ 6,105 people and leveraged matching private investments. The Rail Industrial Access Program is now funded through the Freight Rail & Rail Crossing Safety Improvement fund. FRRCSI also funds the Short Line Infrastructure Assistance Program and safety projects that help reduce train-car collisions. Due to the multiple benefits of the program, continued investment in FRRCSI is recommended. Other policy and finance recommendations are included on page 17 of this summary.

Train-Car Collisions

Rail crossing incidents are declining in North Carolina as NCDOT improves crossing safety

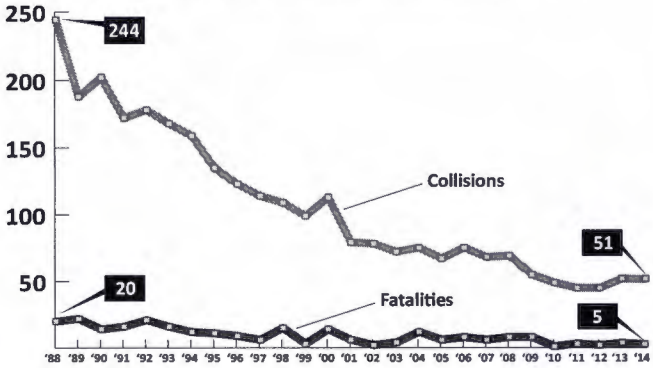


Table 6: Short Line Freight Rail Projects

Short Line Projects and Needs – Eligible for Funding by Freight Rail & Rail Crossing Safety Improvement Fund (FRRCSI)	Funding Needs by Time Period *(2014 dollars)*			BCA Ratio for Near-Term Projects	
	Near Term 2015-2019	Mid Term 2020-2024s	Long Term 11-20 Years	Discounted at 7%	Discounted at 3%
Bridges*	$3,524,000	$3,200,000	$21,692,000		
Rail*	$4,838,000	$11,413,000	$27,600,000		
Ties and Surfacing*	$13,834,000	$14,072,000	$29,544,000		
Additional Capacity *	$15,500,000	$4,650,000	$1,300,000		
Rail Yards*	$1,100,000	$1,600,000	-		
Transloads*	$2,360,000	$500,000	-		
Other*	$2,370,000	$1,135,000	$2,070,000		
Relocate ACWR *(Mecklenburg County)*		$16,500,000			
Front Street Lead Track Signals and Gates *(New Hanover County)*	$900,000			0.76	N/A
Andrews to Murphy Reactivation *(Cherokee County)*		$16,400,000			
Loop track at the Port of Morehead City *(Carteret County)*		$5,000,000			
Grade Separation at Port of Wilmington North Gate *(New Hanover County)***	$25,000,000			3.37	N/A
Grade Separation at Port of Wilmington Container Gate *(New Hanover County)*	$25,000,000			0.15	N/A
Total – Short Line Project Needs	**$94,426,000**	**$74,470,000**	**$82,206,000**		

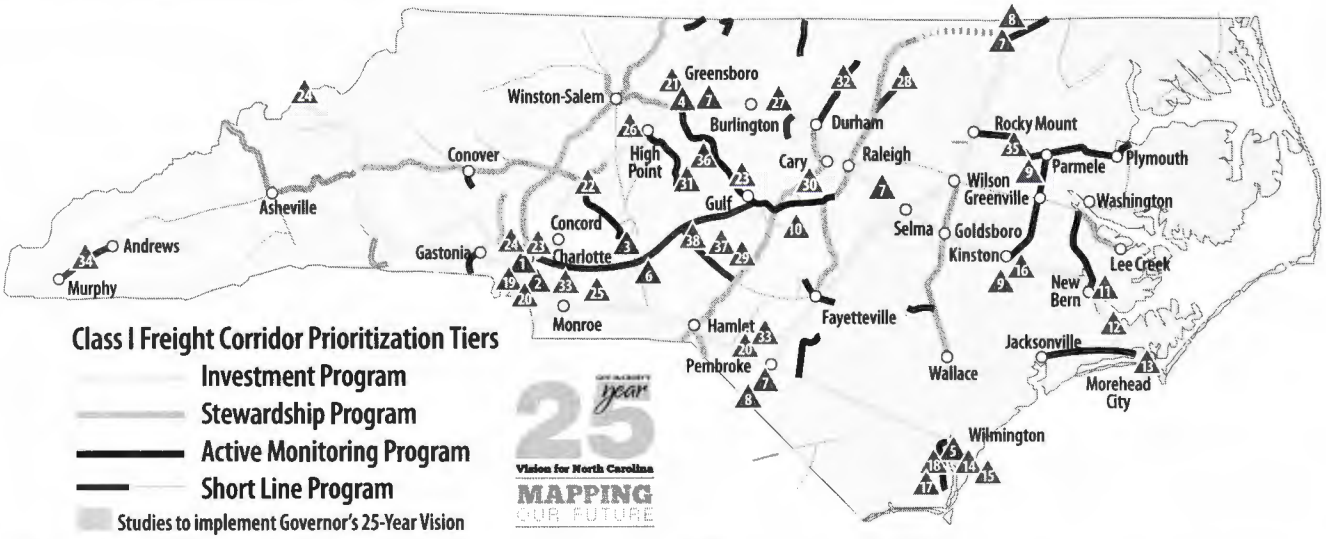
* *Based on 11 short line survey responses*

** *If identified by a Traffic Separation Study, could potentially be funded by highway/rail grade separation funds; North Gate has excellent Benefit Cost ratio based an existing operations. As train volumes increase as port volumes grow, the BCA's for the Front Street and Container Gate projects will improve. These improvements help implement the Governor's 25-Year Vision to enhance access ta the ports.*

Proposed Freight Rail Studies

Several freight rail studies have been identified in the State Rail Plan. Freight rail studies that help implement the Governor's 25-Year Vision are identified in Table 1, and shown in Figure 5 below. More information on these studies and additional studies identified are described in Chapter 5 of the State Rail Plan.

Figure 5: Freight Corridor Priorities to Implement the Governor's 25-Year Vision



▲ Freight Program – Near-Term Improvements

1. NS Thoroughbred Bulk Transfer (TBT) Facility in Charlotte
2. CSXT–10,000 ft. Siding Extension at Stouts in Union County
3. Upgrade NS along US 52 in Albemarle in Stanly County
4. Container Parking/Storage Adjacent to NS Greensboro Intermodal Facility (Converts former roundhouse)
5. Grade separation at Port of Wilmington Gates; Front Street Crossing Improvements
6. Expand transload facility in Anson County

▲ Studies to Implement the Governor's 25-Year Vision and Other Identified Needs

7. Eastern Intermodal – Identify location (along CSXT or NS Corridors) for a potential new intermodal facility that supports agriculture, food manufacturing and industry in Eastern NC, and supports Triangle Region's access to intermodal service as highway congestion impacts terminals in Charlotte and Greensboro
8. CSXT Capacity Studies in Eastern NC – Freight Movement Passenger Interoperability
9. Emerging Market Needs – e.g. wood pellets
10. Emerging Market Needs – e.g. hydraulic fracturing
11. As part of the GTP to Morehead City Mobility Corridor, assess a rail bypass of New Bern, parallel to proposed US 70 New Bern Bypass in conjunction with NCRR
12. As part of the GTP to Morehead City Mobility Corridor, in conjunction with NCRR, relocate NCRR from Port of Morehead City to Havelock (dependent on substantial increases in port traffic)
13. Implement short-term projects identified in SB 402 studies to reduce highway railroad conflicts in Morehead City and add loop track on port terminal
14. At-grade crossing improvements – WTRY and CSXT accessing the Port of Wilmington
15. Identify capacity needs through Wilmington to enhance connectivity to the Port
16. New rail line from GTP in Kinston to the CSXT line parallel to NC 11 in Lenoir County
17. Provide access to the Mid-Atlantic Industrial Rail Park, a 1,025 acre CSXT-Select Site in Leland, Brunswick County
18. Evaluate feasibility of a new Cape Fear River crossing.
19. Phase III expansion of CSXT's Charlotte Intermodal Terminal
20. Study operational improvements along CSXT between Charlotte and Pembroke
21. New rail line to serve the Triad Logistics Hub at Piedmont Triad International Airport
22. Provide access to the 1,000 acre I-85 Corporate Center Megasite in Davidson County
23. Identify infrastructure needs required to support industries targeted for the 1,800 acre Chatham-Siler City Advanced Manufacturing Site
24. Identify operational improvements to the CSXT freight and intermodal network from Tennessee to Charlotte; Grade separate CSXT SF Line and NS Mainline in Charlotte
25. Identify infrastructure needs required to support the Project Legacy Megasite in Union County
26. Improvements to Linwood Yard, Pomona Yard, Jamestown siding, Kimberly Clark lead track, and multiple grade separations between Charlotte and Greensboro
27. Multiple grade separation projects between Greensboro and Raleigh
28. Two grade separation projects between Raleigh and Norlina
29 CSXT Automotive Distribution Terminal in Lee County
30. Multiple grade separation projects in Apex and Cary
31. Improve NS siding in Sophia
32. Upgrade NS Corridor from Durham to Oxford
33. Relocate Aberdeen Carolina & Western Railroad in Mecklenburg County
34. Reactivate the Andrews to Murphy line for freight movement and excursions
35. Kingsboro/Rose Megasite, a CSXT-Select Site east of Rocky Mount
36. Identify infrastructure needs to support Randolph County (Liberty) Megasite
37. Identify infrastructure needs to support Heart of NC MegaPark
38. Support Rail Industrial Access and Short Lines through FRRCSI

Passenger Rail System

North Carolina is served by six intercity passenger routes (14 daily passenger trains) with stops in 16 communities. Amtrak also connects to other communities with its Thruway Bus Service connections. Over 70% of North Carolina's population is within a 30-mile radius of a passenger station, with an additional 11% of the state's residents within a 30-mile radius of stops served by Amtrak's Thruway Bus Service.

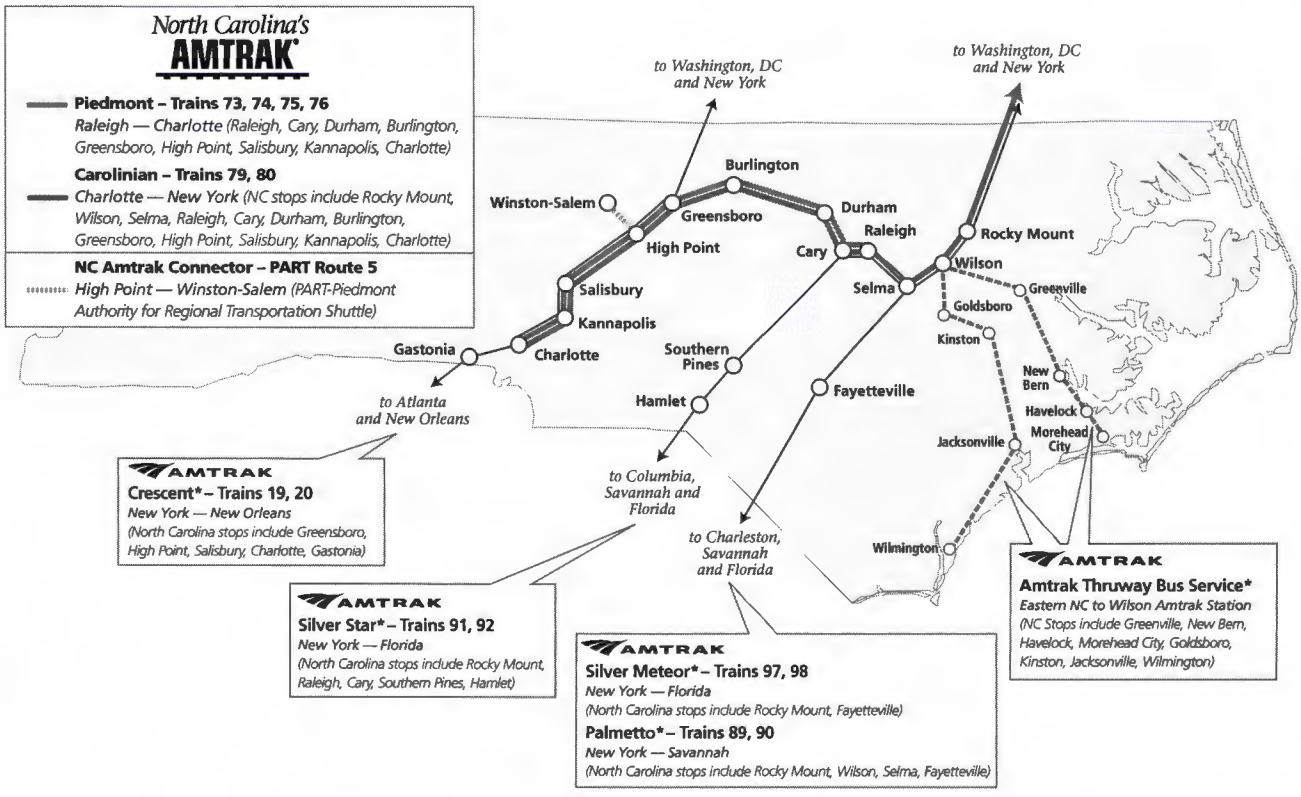
Passenger train service is depicted in Figure 6. These passenger services can be grouped into two categories:

- State-supported *Piedmont* and *Carolinian* services connecting the state's most heavily populated corridor between Raleigh and Charlotte
- Other interstate passenger rail services, consisting of the Amtrak operated *Crescent, Silver Star, Silver Meteor* and *Palmetto*



Amtrak agent assists passenger in Raleigh

Figure 6: National System Train Services



Passenger Rail Trends

North Carolina has seen healthy growth in the demand for passenger rail as shown in Figure 7. Charlotte has consistently been the busiest station over most of the last 10 years, with the other large metropolitan areas of Raleigh, Greensboro, Cary and Durham rounding out the top five stations. Notable trends include:

- Ridership is up 38% on the *Carolinian* and 280% on the *Piedmont* since 2004, including additional *Piedmont* frequencies.
- The largest ridership increases have been at new or renovated stations.
- The highest revenue producing rail travel markets in North Carolina are to and from the Northeast Corridor.
- Charlotte-Raleigh is the most popular intrastate rail travel market and Raleigh-Washington, DC is the most popular interstate city pair for North Carolina.
- Charlotte is the top destination for interstate and intrastate rail and air travel in North Carolina.

In the last 12 years:

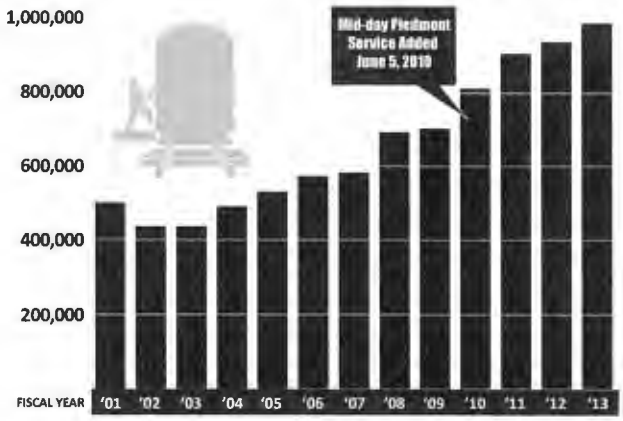
- North Carolina rail ridership has increased 93%, outpacing growth in population and vehicle miles traveled (VMT).
- Statewide population has increased 20%, with the majority of growth in metropolitan areas.
- North Carolina licensed drivers under the age of 25 have increased by 4.6%, reflecting a national trend that millennials are more likely to use transit, ride share, or walk/bike.*
- Per capita VMT has decreased 4.3%.

** "How Millennials Move: The Car-less Trends." National Association of Realtors, August 2, 2012. http://www.realtor.org/articles/how-millennials-move-the-car-less-trends. "Millennial Generation Desires Multi-Modal Transportation System." American Public Transportation Association, October 1, 2013. http://www.apta.com/mediacenter/pressreleases/2013/Pages/131001_Millennials.aspx*



Passengers board the Piedmont in Durham

Figure 7: NC Passenger Rail Ridership, 2001-2013



Note: Ridership consists of all trips to and from North Carolina stations on 14 passenger trains serving the state.

Passenger Rail Needs and Opportunities

After evaluating the existing services data and emerging trends, and conducting stakeholder outreach efforts, the following rail service needs and opportunities were identified for passenger rail markets.



Quality family time on the Piedmont

- Partner with local governments, Amtrak and others to extend bus services and explore new commuter and regional rail service to existing and emerging urban/suburban corridors. Metropolitan areas currently not served by passenger rail such as Winston-Salem, Asheville and Wilmington are projected to have a significant share of North Carolina's population growth. Extending rail services will help ensure the economic vitality of these regions.
- Add the 4th and 5th frequencies (3rd and 4th *Piedmont* trains) and stations at points including Hillsborough, Lexington and Harrisburg to serve the growing population in the I-40/I-85 corridors.



Previously passenger trains had to slow down to 45mph in Duke Curve. This curve realignment project allows passenger trains to travel up to 65 mph.

The growth in North Carolina's urban corridors contributes to the traffic congestion along key highways, and trains are often full during peak travel periods. While growth in per capita VMT may be flat, these critical highway corridors will see the lion's share of future growth in employment, residents and traffic congestion.

- Improve infrastructure in the Raleigh to Greensboro corridor to increase average speed and add capacity. On-Time Performance (OTP) has dropped for all passenger trains serving the state. This drop in OTP is due to a variety of factors, including capacity issues along key corridors and longer dwell times at stations.
- Continue to work, through regional partnerships, towards implementing the federally-designated Southeast Corridor, including continuing the Virginia-North Carolina Rail Compact and investigating joint operations or expansion of existing state-supported services. A fully operational Southeast Corridor (Charlotte-Raleigh-Richmond-Washington, DC) is projected to have annual revenues that will exceed operating costs—which would provide a basis for a concession or franchise to operate and maintain the line.
- Expand the Virginia-North Carolina Rail Compact to include other states in the federally-designated Southeast Corridor (South Carolina, Georgia, Florida). There is a growing travel market between Charlotte and Atlanta, GA. More frequent and faster passenger rail service to Atlanta is also part of the federally-designated Southeast Corridor long-term plan.
- Develop new multimodal stations in Charlotte and Raleigh, which are the state's most popular stations and often face overcrowding. Charlotte and Raleigh have the highest ridership numbers in the state but are the only two stations served by the *Carolinian* that have not seen a substantial renovation or construction of a new station. The Raleigh Union Station is currently under design and will start construction in 2015, and has an opportunity to be a true transportation and economic catalyst for the state's capital. NCDOT has formed a partnership with the Charlotte Area Transit System to develop Charlotte Gateway Station to meet projected demand. Completion of these "book-end" stations will generate a significant increase in the state's overall rail passenger ridership.
- Implement a variety of improved connections at stations including transit, pedestrian and bicycle connections, and taxi. Parking shortages at stations illustrate the need for better overall connections.



Boarding a Triangle Transit bus at the Cary Depot.

- Evaluate service operations and collaborate with stakeholders to improve customer service, reduce costs, find other efficiencies, and increase ridership and revenue, including new marketing opportunities.
- Enable station development public-private partnerships to reduce capital and operating costs to the state, and evaluate new financial sources through potential local municipal, Metropolitan/ Rural Planning Organizations, and private partnerships to fund existing and future expansion of passenger services. Partnerships with local and regional transportation agencies can help ensure that multimodal stations continue to provide the regional connectivity that is needed for economic growth.
- Evaluate recent federal and state funding programs for passenger rail to see which have been most effective. There is no long-term dedicated rail funding at the federal or state level for passenger rail improvements and operations.

- With Charlotte's emergence as a major air hub, investigate extending intercity passenger rail service or commuter rail service to Charlotte Douglas International Airport.



The Cary Depot served 89,000 passengers in FY 2013, making it the 4th most active station in North Carolina. This newly-expanded station ranked second in Amtrak's national Customer Satisfaction Index.

Passenger Rail Projects and Benefits

- Passenger rail projects in the State Rail Plan include near-term improvements to add service frequencies, on-board amenities, stations and connecting services on key passenger rail service corridors and full implementation of the Southeast Corridor, as well as new service to western and southeastern North Carolina over the mid- to long-term (2020-2035). These projects along with anticipated costs, funding source(s), timeframes are shown in Table 7.
- The near term improvements will enhance the speed, convenience and quality of passenger rail accruing a number of transportation capacity, congestion relief, environmental, and economic benefits. Substantial additional benefits will accrue from implementing the Southeast Corridor which will result in major travel time savings, fostering economic development opportunities near stations, diverting highway travel, and contributing to environmental benefits. Implementing passenger service connections to western and southeastern North Carolina will create an interconnected statewide passenger rail network that provides enhanced mobility, economic development, and tourism opportunities.



A new canopy was added to the Kannapolis Station with ARRA Funds



North Carolina's Amtrak is a popular choice for college students.

Proposed Passenger Rail Studies

The following passenger rail studies are recommended to explore planned and potential short and long term projects.

New Markets

- Utilize Thruway bus services to grow markets/ridership and build partnerships
- Incrementally develop Western NC and Southeastern NC service in partnership with local governments

Long-Range Studies

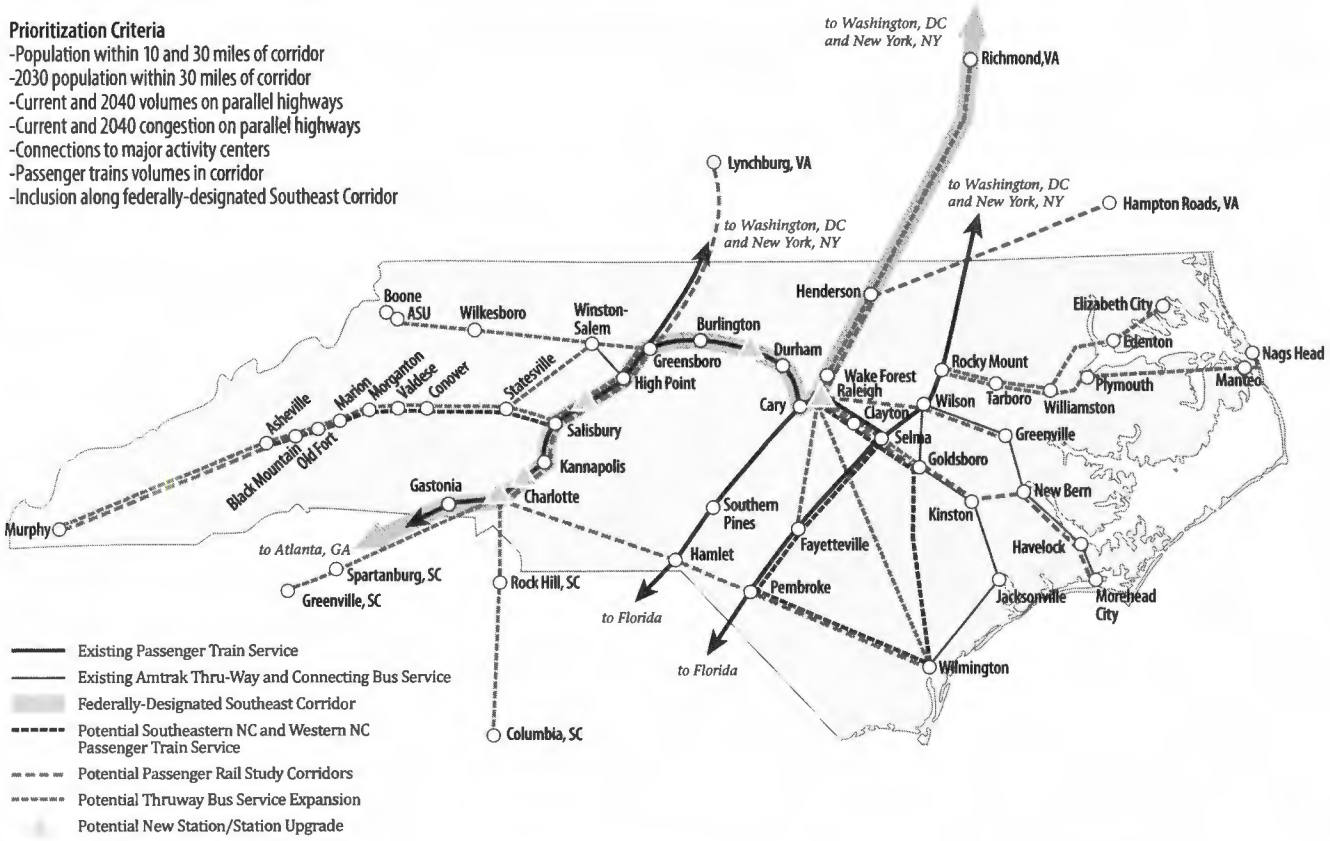
- Evaluate interstate rail travel markets including Greensboro to Washington, DC via Lynchburg, VA, and Raleigh to Hampton Roads, VA
- Assess regional rail travel markets including Charlotte to Wilmington, Raleigh to Morehead City and Raleigh to Greenville
- Analyze the capacity and economic potential of existing stations to accommodate projected uses for the next 25 years

Table 7: Passenger Rail Projects

Program	Cost *(2014 dollars)*	Funding Source(s)	Timeframe	BCA Ratio	
				Discounted at 7%	Discounted at 3%
Southeast Corridor – Service Improvements					
Wi-Fi on *Piedmont* – Add Wi-Fi to 20 cars	$630K	State Rail Program	2015-2016	2.44	3.15
Positive Train Control (PTC) – installed on 8 locomotives, 5 cab control units (CCUs), and 4 spares, plus infrastructure to support PTC	$2.125M	State Rail Program	2016		
Ongoing maintenance for PTC		State Rail Program	2016-future		
Hillsborough Station, track – Construct station and platform	$8.4M	STI/State Rail Program, Local	2018	.52	0.69
Fourth and Fifth frequencies – New equipment *(locomotive, communications control unit, lounge cars, and coach cars)* to add a 5th frequency and expand Capital Yard Mechanical Facility, including extending north and south lead tracks	$35.4M	Federal, CMAQ, State Rail Program	2017-2018 (4th frequency) 2019 (5th frequency)	4th 5.44 5th 6.63	4th 5.16 5th 9.25
Ongoing maintenance *(4th > 2017; 5th > 2019)*		State Rail Program	2017-future		
New equipment to replace existing *Carolinian* trainsets that are nearing the end of their service life	$76.6M	Federal (Amtrak), State (through payments for state supported services)	2020-2035		
New Stations at Lexington and Harrisburg and associated track improvements	$237.4M	Federal, STI/ Local Funds	2020-2035		
Charlotte Gateway Station – new/relocated station and associated track improvements	$210M	FTA grant, STI/Local funds	2020-2035		
Ongoing maintenance and operations		State Rail Program	2020-future		
Southeast Corridor – Full Implementation					
Full Southeast Corridor Implementation *(Raleigh-Richmond)*	$3.8B	Federal, State	2035		
Ongoing maintenance and operations		State Rail Program	2035-future		
Western North Carolina Services					
Western NC Thruway Bus Service – Partner with Amtrak to implement Thruway bus service between the Piedmont area of NC and Asheville	N/A	Amtrak	2016		
Western NC Passenger Service* – Add new connecting rail service between Salisbury and Asheville	$405.3M	Federal, State	2020-2035		
Andrews to Murphy	$16.4M	Federal, State	2020-2024		
Ongoing maintenance and operations		State Rail Program	2035-future		
Eastern/Southeastern North Carolina Service					
Station improvements *(Fayetteville, Wilson, Selma)* to accommodate growing ridership	$2.5M	Federal, State	2018-2025		
Southeastern NC Thruway Bus Service – Partner with Amtrak to expand Thruway Bus Service to Wilmington and other markets *(currently provide thruway bus service between Wilson-Wilmington)*	N/A	Amtrak	2018		
Southeastern NC Passenger Service* *(Raleigh to Wilmington)*	$262.5M	Federal, STI/State Rail Program, Local Funds	2020-2035		
Ongoing maintenance and operations		State Rail Program	2035-future		
Charlotte to Northeast via Lynchburg, Va					
New service to connect Charlotte to Northeast via Lynchburg, VA*	$35.6M	Federal, STI, State, Local	2020 to 2035		

* Previous studies must be updated in coordination with host railroads to identify spedific routes and improvements.

Figure 8: Passenger Corridor Priorities to implement the Governor's 25-Year Vision



Policy and Finance Recommendations

Rail helps support North Carolina's economy. Freight rail operations offer a cost competitive mode for the state's shippers and reduce emissions, congestion, and highway maintenance. Passenger rail provides an alternative to using congested highway corridors and improves safety for travelers who divert from auto travel while increasing the accessibility for the state's populations to jobs, education, and recreational opportunities. These benefits are built on cumulative past investments in rail infrastructure projects and are realized through strategic partnerships with public and private entities. Recognizing the value of rail service to North Carolina's economy, a variety of local communities and stakeholders have identified candidate investments to maintain and foster the future growth. Given this interest, an exploration of whether changes to existing rail funding programs could make them more flexible, as well as potential sources of new funding for rail investment may be warranted.

Existing Federal Programs

- Support reauthorization of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), which includes grants for safety improvements along rail corridors, passenger rail corridor development, and addressing congestion bottlenecks.
- Support long-term reauthorization of MAP-21 and appropriations for associated funding programs such as the Congestion Mitigation and Air Quality (CMAQ) program, Railway/Highway Crossing Hazard Elimination grants, and Rail Line Relocation and Improvement Capital Grants, which have provided North Carolina with funding for relocating freight lines that eliminate congestion and rail/street at-grade conflicts within downtowns and urban areas.
- Support expansion of the Transportation Investment Generating Economic Recovery (TIGER) grant program and annual appropriations.

- Support use of Railroad Rehabilitation & Improvement Financing (RRIF) loans from the FRA to finance development of railroad infrastructure. Direct loans can fund up to 100% of a railroad project with repayment periods of up to 35 years. Railroads, state and local governments are eligible.
- Support reauthorization of the Rail Safety Improvement Act, which includes grants for rail safety technology.
- Support action on the National Freight Network Trust Fund bill, proposed under the US House Bill 5101.



Great Smoky Mountain Railroad bridge

Existing State Programs

- Continue the Freight Rail and Rail Crossing Safety Improvement Fund (FRRCSI) funding of the Short Line Infrastructure Assistance Programs.
- Alter FRRCSI eligibility requirements to include short lines that do not carry freight. The Great Smoky Mountain Railroad is a tourist/excursion railroad providing economic benefits in Western North Carolina. However, since it does not have a freight customer the passenger service is not eligible for FRRCSI funds, the only source of state funding for short line railroads.
- Create an ongoing and available funding mechanism for purchasing abandoned or inactive rail corridors or right of way required to preserve the option for future freight or passenger service. Rail corridors are difficult, if not impossible to reassemble if they are not preserved. North Carolina needs a source of funding to secure inactive corridors such as the CSXT S line, which is needed for the Raleigh to Richmond portion of the Southeast Corridor project, and others that provide transportation alternatives.
- Allow greater funding flexibility for NCDOT to match federal grants.
- Explore potential to revise the state's public-private partnerships legislation to better allow for passenger rail projects. Private developers have expressed interest in partnerships for constructing new passenger train stations in Charlotte and other cities.



Crossing improvement

Illustrative Funding Programs from Other States

- Virginia has expanded its passenger rail program using a portion of the state's sales tax dedicated to passenger rail operations and maintenance ($44M annually in 2014) and a 3% vehicle rental tax to fund rail capital improvements ($27M annually).
- Wisconsin operates a revolving loan fund for private rail infrastructure improvements.
- Georgia proposed the creation of a Goods Movement Investment Fund, to have three revenue sources: diesel fuel tax paid by the railroads, railroad property lease income, and a penny gas tax.

Other Potential Funding Sources

- Parking and station use fees
- Local funding to support extensions to passenger rail services
- Local (municipal) funding to cover operating costs of new/extended passenger services
- Tax increment funding based on increased property values resulting from the additional Raleigh to Charlotte train frequencies to fund operations and maintenance of these services
- Exemption of railroads from state gross earnings tax if money saved is used for capital expenditures
- Tax incentives for railroad intermodal facilities
- Federal tax credit for short line maintenance

North Carolina's Rail Vision and Goals

The goals and objectives for the State Rail Plan support the mission and goals of NCDOT and the Rail Division. The NCDOT Rail Division's Mission is the *"...safe and efficient movement of people and goods on North Carolina's railroads through freight, passenger and safety programs, supporting job creation and economic growth."* Table 8 lists the Goal Areas, Vision Statements and Objectives. A map of North Carolina's Comprehensive State Rail Plan is provided in Figures 5 and 8.

Table 8: State Rail Plan Vision, Goals and Objectives

Goal Area/ Vision Statement	Objectives
Goal Area 1 – Safety & Security **Vision:** A rail system that safely moves people and products.	1.1 Reduce the number of rail-related crashes, including pedestrian trespassers 1.2 Maintain safety and mobility during emergencies 1.3 Prevent harm from train crashes and incidents and, when incidents occur, address them safely and efficiently 1.4 Improve the security of North Carolina's rail system 1.5 Maintain equipment properly
Goal Area 2 – Stewardship **Vision:** A rail system that is operated and improved with the greatest benefit and the least impact feasible to the natural and human environment.	2.1 Minimize the negative impacts of rail operations and new rail projects on the natural and human environment 2.2 Maximize the positive impacts of new rail projects on the natural and human environment 2.3 Increase the understanding and support of rail among policy makers and the public as a mode of transportation that supports economic growth while limiting the impact of increased transportation demand on air quality, energy use, and safety
Goal Area 3 – Preservation **Vision:** A rail system that is preserved for current and future use.	3.1 Maintain and improve the viability of short line railroads and associated industries 3.2 Preserve opportunities for future passenger or freight rail service to leverage existing corridor assets and capacity 3.3 Preserve railroad corridors for future transportation use
Goal Area 4 – System/Interoperability **Vision:** A rail system with connecting corridors and facilities that promotes the efficient movement of people and goods and supports economic growth and development.	4. 1 Move people and goods more efficiently 4.2 Maintain and improve connectivity of the rail system, supporting economic growth 4.3 Ensure intercity, commuter, and transit services work as a cohesive system and are planned in a manner that accommodates existing and future freight movement
Goal Area 5 – Freight **Vision:** A rail system that provides safe, reliable, efficient, and well-used rail freight service.	5.1 Increase the efficient use of freight rail service 5.2 Increase the freight customer base 5.3 Promote economic development
Goal Area 6 – Passenger **Vision:** Provide a system of intercity passenger services connecting North Carolina's major metropolitan areas and other communities to destinations within the state and along the East Coast.	6.1 Increase ridership and enhance the economic performance of the state's passenger rail network 6.2 Provide passenger service or connections to intercity passenger service, from large growth areas to major East Coast destinations and feeder stops
Goal Area 7 – Commuter **Vision:** A rail system that connects suburbs and bedroom communities of major employment centers with commuter rail service.	7.1 Support local plans and policies to implement commuter rail service
Goal Area 8 – Planning **Vision:** State rail planning addresses the collective needs of the State, its citizens, industries, traveling public, and transportation providers.	8.1 Support local plans and policies to maintain and improve commuter rail service to support business and employment growth

NORTH CAROLINA
Department of Transportation

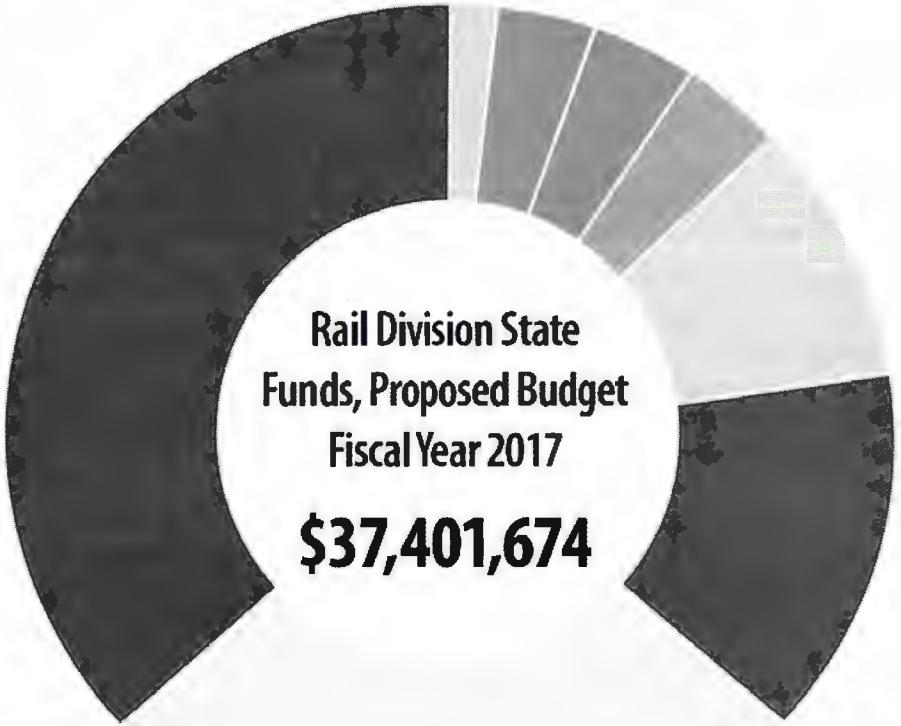


Rail Division

Paul Worley
Rail Division Director

March 22, 2017

Rail Division – 2017 State Funding $37,401,674



$603,869	Administrative Budget
$1,356,667	Planning & Development
$1,426,667	Engineering & Safety
$1,436,464	Operations & Facilities
$3,650,000	Maintenance of Rail Infrastructure
$5,178,007	Rail Capital & Safety
$10,000,000	Contracted Services
$13,750,000	Freight Rail & Rail Crossing Safety Fund

Six Additional Federal Funding Sources

Section 130
Annual allocation, public rail/highway at-grade crossing projects

CMAQ (Congestion Mitigation & Air Quality Improvement)
Improvement projects based on selection

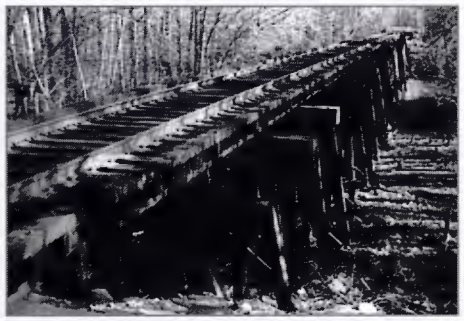
HSIP (Highway Safety Improvement Program)
Crossing Safety Projects based on selection



Relocated Spring Street crossing improves safety in Old Fort

SP&R (State Planning and Research Funds)
Studies, modeling and crossing safety database

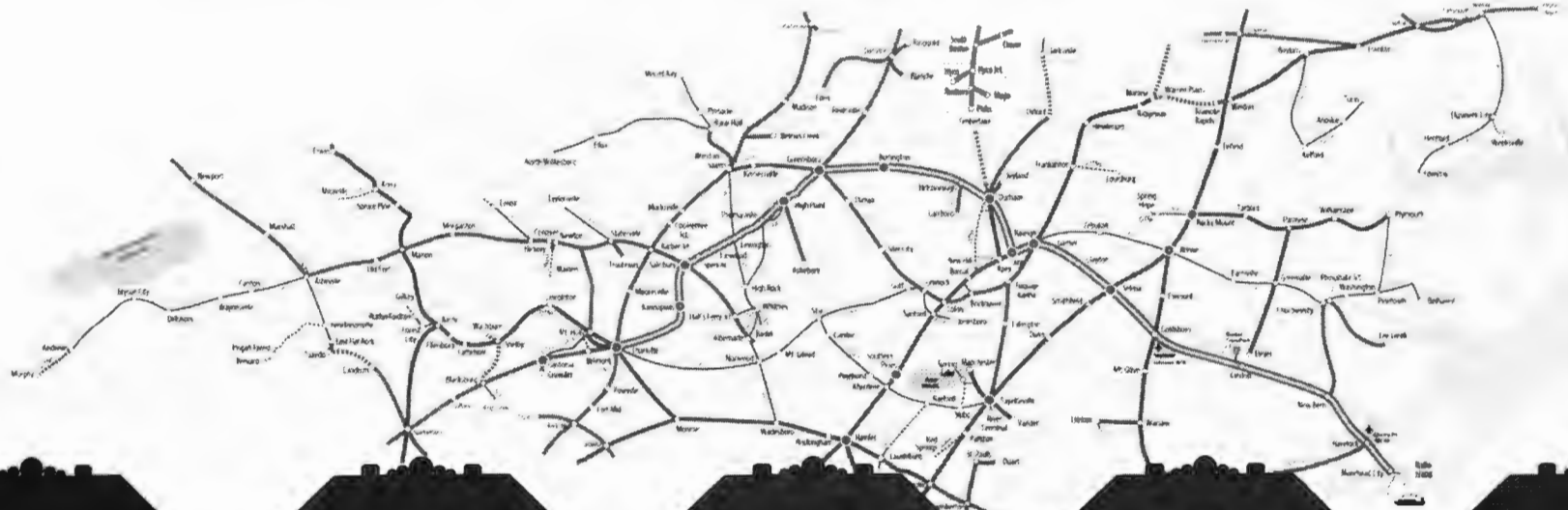
TIGER (Transportation Investment Generating Economic Recovery)



Meherrin River Bridge on NCVA will be modernized with TIGER grant

FASTLANE (Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies)
Rail infrastructure improvements, competitive grants

Railroads Operate in 86 NC Counties



2 Class I Railroads 2323 miles

20 Short Line Railroads 956 miles

14 State-owned Corridors 109 miles

6 Daily NCDOT Trains

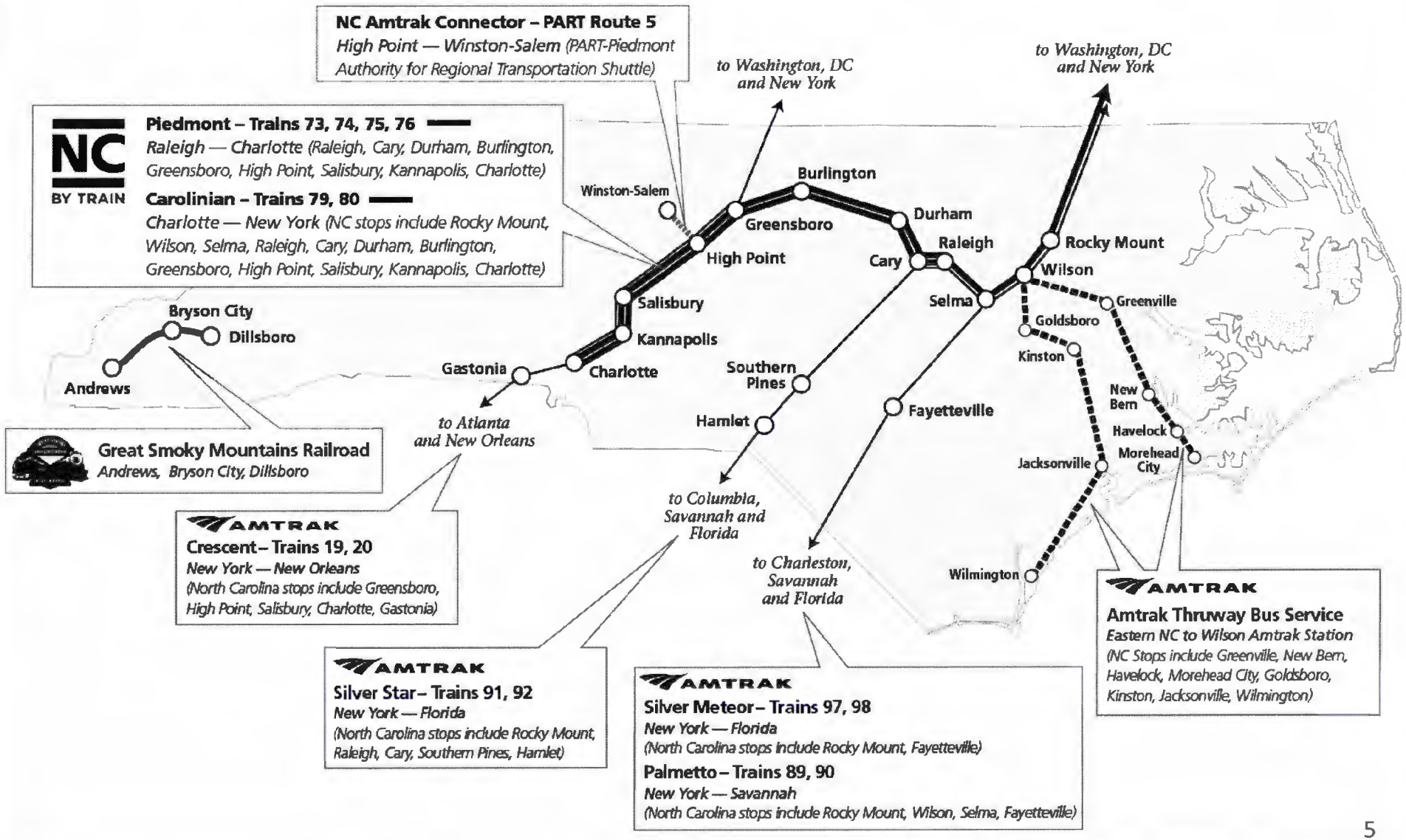
8 Daily Amtrak Thru-Trains

Direct Economic Impacts for Freight and Passenger Rail in North Carolina – $1,875M

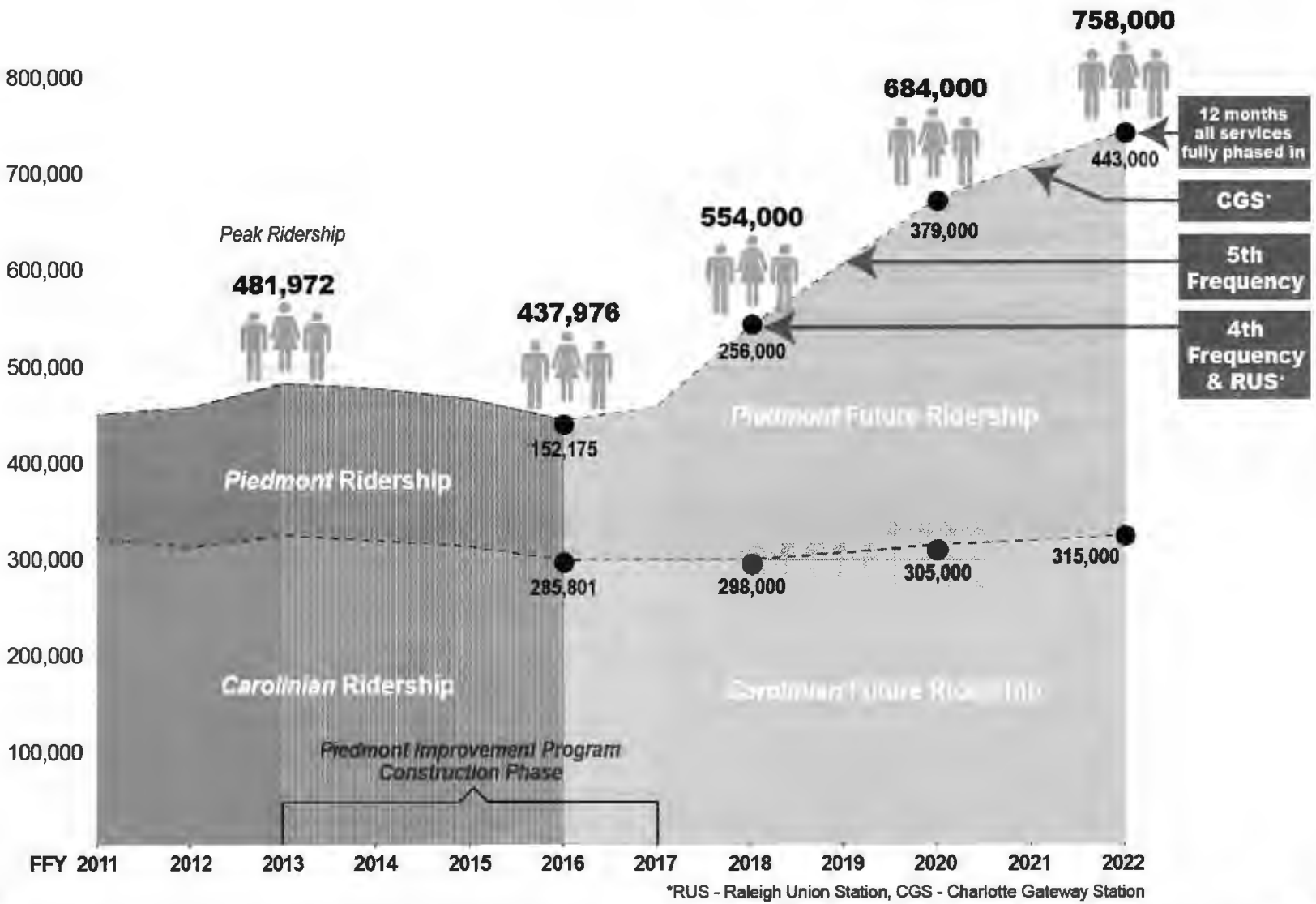
Freight – $1,754M, Passenger – $121M

Source: North Carolina Comprehensive State Rail Plan, 2015

Passenger Train Service in NC

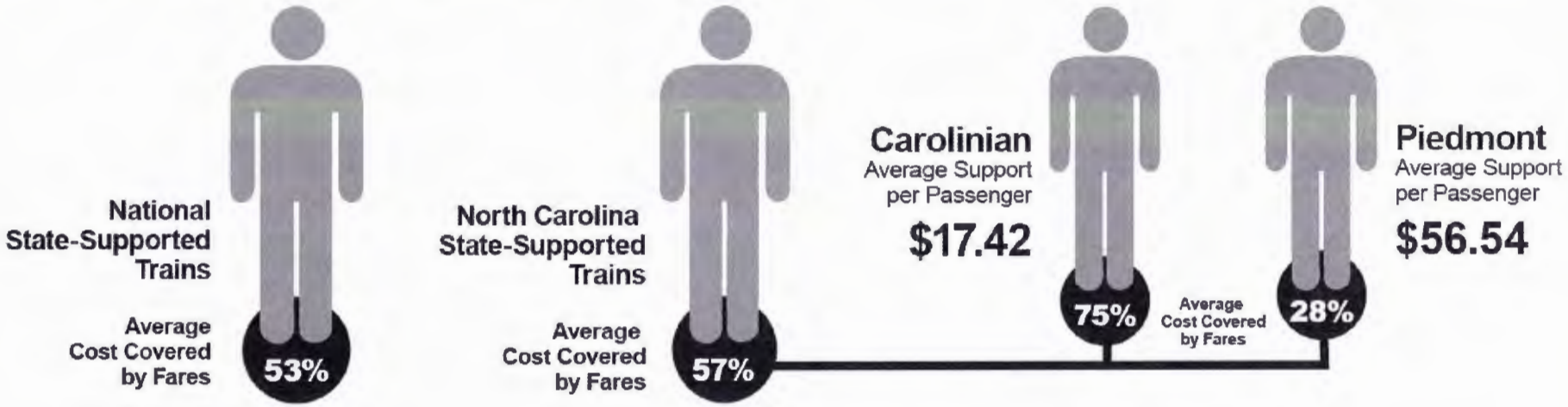


Piedmont and Carolinian Annual Ridership
FFY 2011-2022



*RUS - Raleigh Union Station, CGS - Charlotte Gateway Station

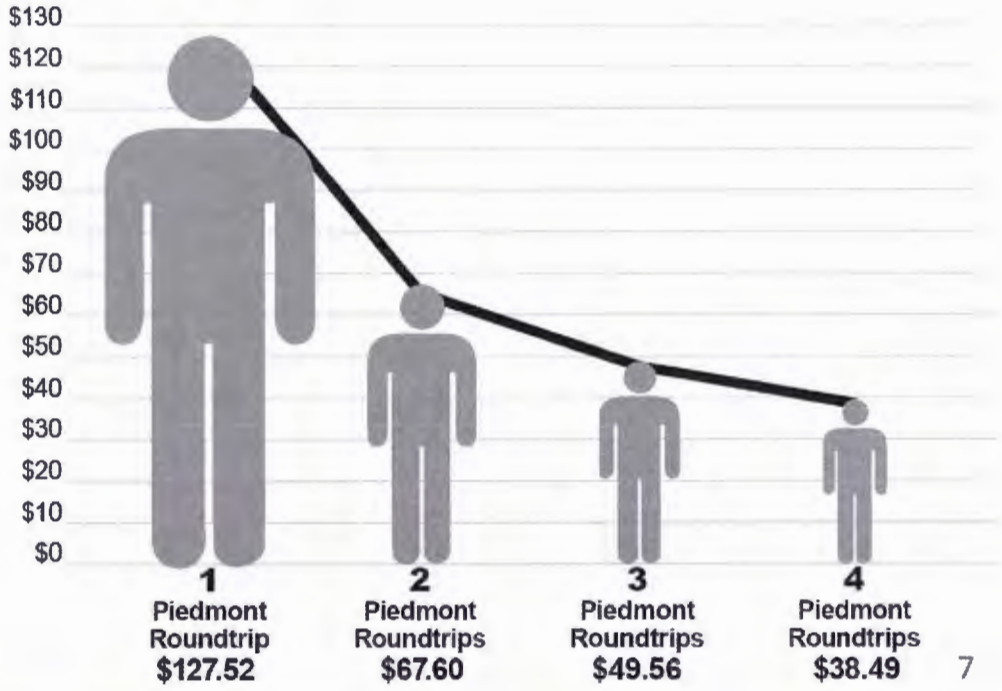
FFY 2016 Farebox Recovery



Looking Ahead to FFY 2020:

Impact of Frequencies on Per Passenger Cost Support

- Charlotte Gateway Station not yet open
- Includes passengers regained after PIP-related delays and annulments no longer an issue



Passenger Train Operation Costs – Current Service*

	SFY 2016 Expenditures	SFY 2017 Projected Expenditures	SFY 2018 Projected Expenditures**
Carolinian Costs	$5,073,153	$4,423,959	$4,132,468
Piedmont Costs	$10,681,850	$11,075,801	$11,358,303
Shared Costs	$1,511,831	$1,460,827	$1,479,351
Subtotal: Actual State Operations Expenditure	**$17,266,834**	**$16,960,587**	**$16,970,122**
Operations Contingency	$0	$432,431	$532,990
Total	**$17,266,834**	**$17,393,018**	**$17,503,112**

Cost Drivers

- New §209 forecast baseline (vs. 2014)
- Revenue declines (PIP & fuel prices)
- Insurance coverage mandate ($295M vs. $200M)

***Table includes estimates of cost savings on next page:**

- CLT Yard Crew
- Station Optimization
- Carolinian contract estimate corrections

*** SFY 2018 Numbers do not include RUS lease payment**

Amtrak Contract Challenges – Cost Saving Measures

Cost Reduction	Description	FFY	Expected Savings	Status
Amtrak Yard Crew CLT Optimized	Eliminated one Amtrak crew by using Cab Units	2016	($135,000)	Completed
Staffing Optimization	Elimination of nine Amtrak positions at NC stations	2017	($561,000)	Completed
Carolinian Contract Estimate	Amtrak adjustments in estimating §209 costs for *Carolinian*	2017	($672,000)	Completed
Subtotal			**($1,419,000)**	
Carolinian as NST	Extend 79/80 to New Haven, CT; add to National System. eliminate §209 allocated costs; additional revenue	2018	($4,166,051)	Under evaluation
System Safety	System Safety Plan and responsibility required by FRA	2018	Unknown	Under evaluation

- Amtrak contract – Based on projected costs, not actual
- Biennial Budget – Historically have negotiated down to current costs

Amenities to Boost Ridership and Revenue

Service	Starts	Offering
Premium Wi-Fi	10/16	Higher bandwidth options for extra fee
Last Mile Connections	3/18/17	• Pass to transfer to public transportation, no cost to passenger, leverages existing resources
	TBD	• Zip Car rental trials at Cary and Durham Stations
	Ongoing	• Uber & Lyft service at stations being negotiated
	Ongoing	• Bicycle & pedestrian enhancements at all stations
Onboard Services – in negotiations with vendor	TBD	• Enhanced Food & Drink – NC Beers, Wine, Specialty Coffees, Snacks • Bike Share Program • Special Events – Concerts, Museums, Sporting Events
Partnerships – NC Military & Veterans Affairs	Ongoing	• Four VA Hospitals – Salisbury, Durham, Charlotte, Winston-Salem • 10% discount for active military
Travel Packages available	Ongoing	NC destinations along route
New Stations: Harrisburg, Lexington, Hillsborough	TBD	Additional riders and connections

Marketing Focus

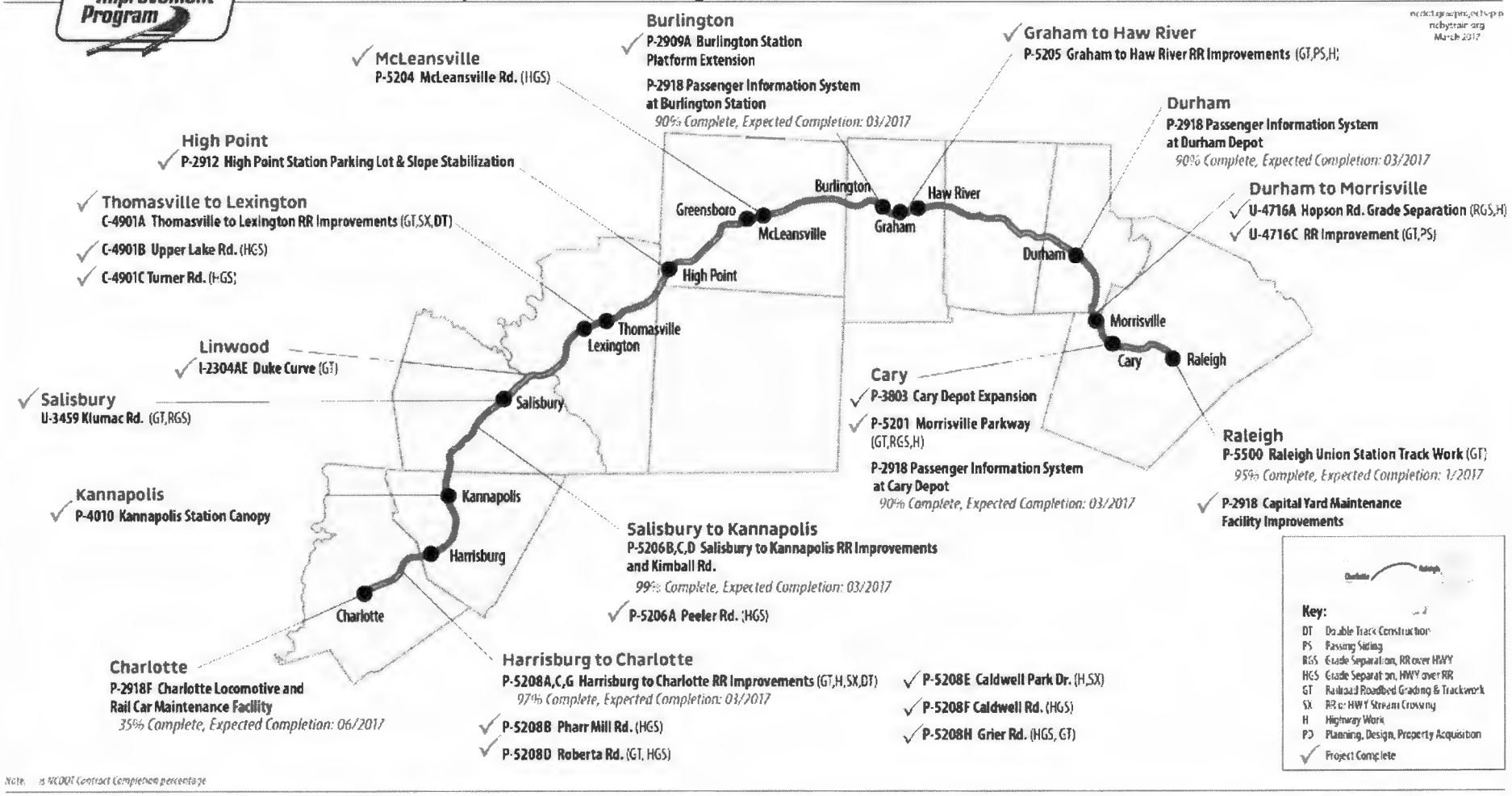
- Pre 4th Frequency – Millennials and Seniors
- Post 4th Frequency – Business Travelers and Families

Piedmont Improvement Program wraps up this year



- One of the largest single improvements to NC rail infrastructure in modern times
- Results – safe, high capacity corridor connecting the key population centers in NC for freight and passenger service
- $520 million ARRA grant from FRA
- Funds must be expended by September 30, 2017
- NCDOT Ongoing Responsibilities:
  - Operate second and third *Piedmont*
  - Maintain equipment, facilities and track

Piedmont Improvement Program



Note: % NCDOT Contract Completion percentage



NC By Train – Piedmont Equipment ✓5 Locomotives ✓2 Cab Control Units ✓12 Railcars

PIP Projects Status

$468.9M of $520M Spent

Completed Projects

✓ **Track & Structures**
- 16 miles of second main track
- 5 miles of passing sidings
- 12 new roadway grade separations
- 39 at-grade crossings closed
- 5 new double crossover control points
- Curve improvements

✓ **Piedmont Equipment**
- 5 locomotives, 2 cab control units
- 12 rail cars

✓ **Stations**
- Improvements at Cary, Burlington, High Point, Kannapolis

✓ **Facilities**
- Capital Yard Maintenance Facility Expansion

All Work is Under COFinal
Projects Nearing Completion*

- Last 11 miles of second main track
- Passenger Information Display Systems (PIDS) at Cary, Durham, Burlington stations (Amtrak will activate at later date)
- Phase I of Charlotte Locomotive and Railcar Maintenance Facility
- Track work for Raleigh Union Station

* All work is under contract. When these projects are finished, all ARRA-funded Piedmont Improvement Program projects will be complete.

PIP Service Outcomes

Improvement	Responsible Party	Agreed Upon Obligations	Benefit
Piedmont 3rd and 4th Frequency; Capacity for 5th	NCDOT	Fund *Piedmont* 3rd & 4th Frequencies Operations	Additional *Piedmont* riders/statewide mobility
Locomotives & Cars	NCDOT	Maintain in state of good repair for 20 years	New equipment for additional train service
Stations, Platforms & Facilities	Varies	Maintain facilities in state of good repair for 20 years	Stations support existing riders and attract new riders
Track & Signals	NS (Owned by NCRR)	Maintain to FRA Class IV (79 MPH)	Capacity and safety improvements
Capacity & Reliability	NS	Better than 80% on-time performance, allow up to five state-supported trains Raleigh to Charlotte	More reliable and car competitive service












1984
C
1984




AMTRAK

PIP-Related Projects



A-Line Crossovers, Rocky Mount – Weldon, *completed*

- $26.5M Congestion Mitigation grant (ARRA)
- Improves traffic flow on CSX A-line – faster trains to move around slower trains

Sugar Creek Road Grade Separation, Charlotte, *under construction*

- Constructing highway bridge over NCRR main line tracks and CATS Blue Line Extension
- One of the busiest crossings on the NCRR Corridor



Raleigh Union Station Update

- NCDOT and City of Raleigh aligned needs, plans and funding
- Will accommodate current and future demand for intercity passenger rail, commuter rail, buses, taxis, bicycles
- Construction began January 2016, scheduled to open February 2018



Charlotte Gateway Station Update

- Partnership – NCDOT, the City of Charlotte and USDOT
- Station track and structures funding:
  - $25M Federal TIGER grant to City of Charlotte (2015)
  - $27M State STI funding, more local funding being sought
- City pursuing phased approach to advance the project and relocate Amtrak service to downtown ASAP
- City will launch a P3 procurement, seeking private development partners to design and construct permanent passenger/multi-modal station



Charlotte Gateway Station Visualization
One Possible Option

Delivering PIP & Related Projects

PIP Funding must be expended by 9/30/2017

2010
- Grant received
- Preliminary Engineering & NEPA
- Business Engagement

2011
- Final Design Begins – Track & Structure Projects

Burlington Station
Cary Depot
Capital Yard Maintenance Facility
High Point Station

2012
- Right of Way Acquisition Begins
- Railroad Agreements

Kannapolis Station

2013
- Track & Structure Construction Begins

Enfield Crossover
Armstrong Crossover
S. Weldon Crossover

2014
Duke Curve Realigment
Nelson to Clegg PS/Hopson Road GS

2015
Tryon Siding

2016
Thomasville to Lexington DT
Morrisville Parkway GS
McLeansville Road GS
Haw River PS
Klumac Road GS

Charlotte Maintenance Facility

2017
Boylan Track
Salisbury – Kannapolis DT
Harrisburg – Charlotte DT

Raleigh Union Station
4th Daily Round Trip

2018

2019
Sugar Creek Road GS

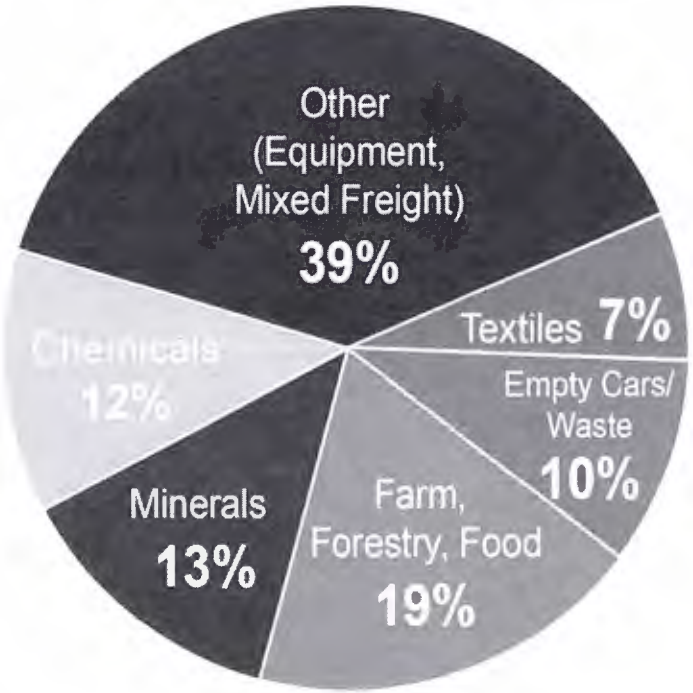


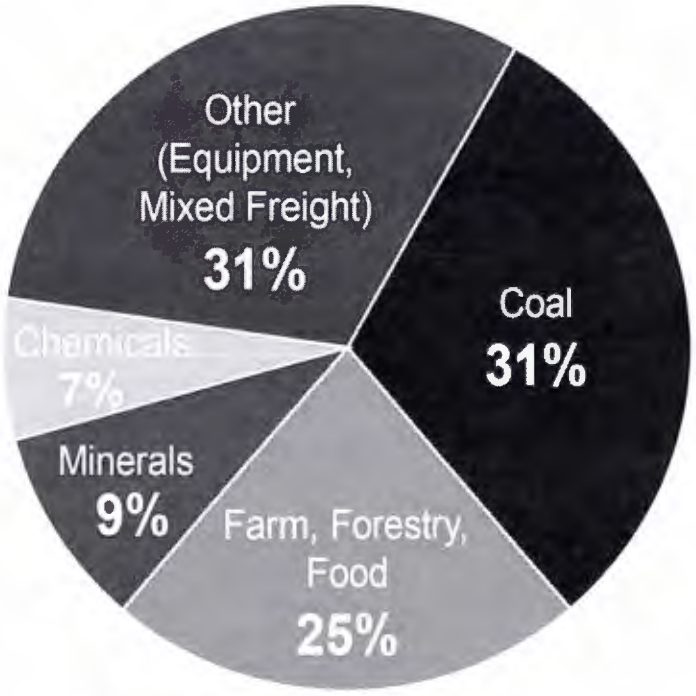




Freight Rail Traffic – 2014

3% increase from 2013-2014 in total carloads originating in NC
4% increase from 2013 in total carloads terminating in NC

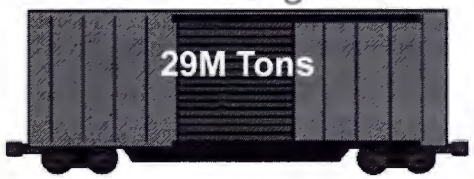




Originated in NC



Traffic through NC



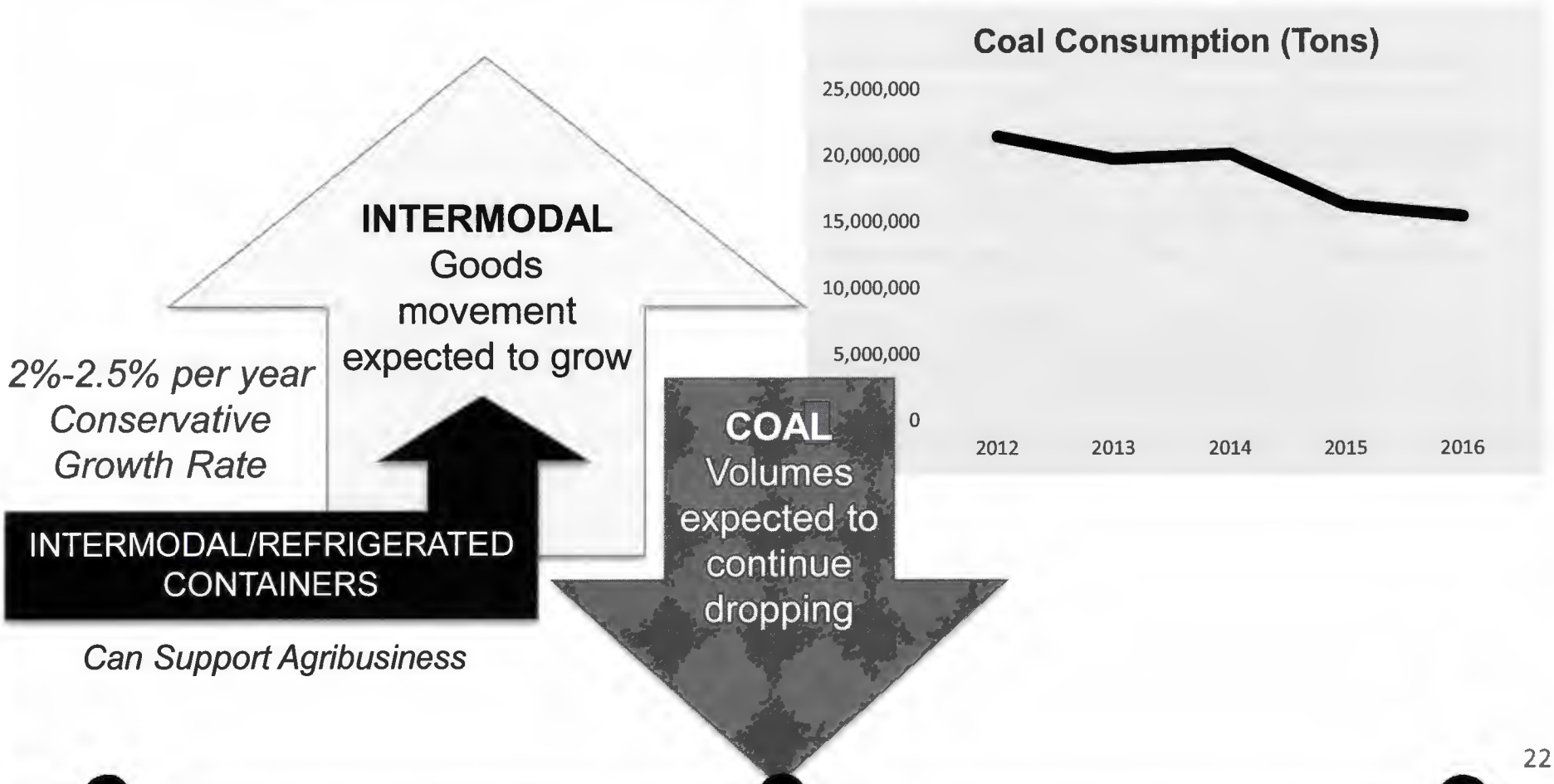
Terminated in NC



Source: 2014 Carload Waybill Sample

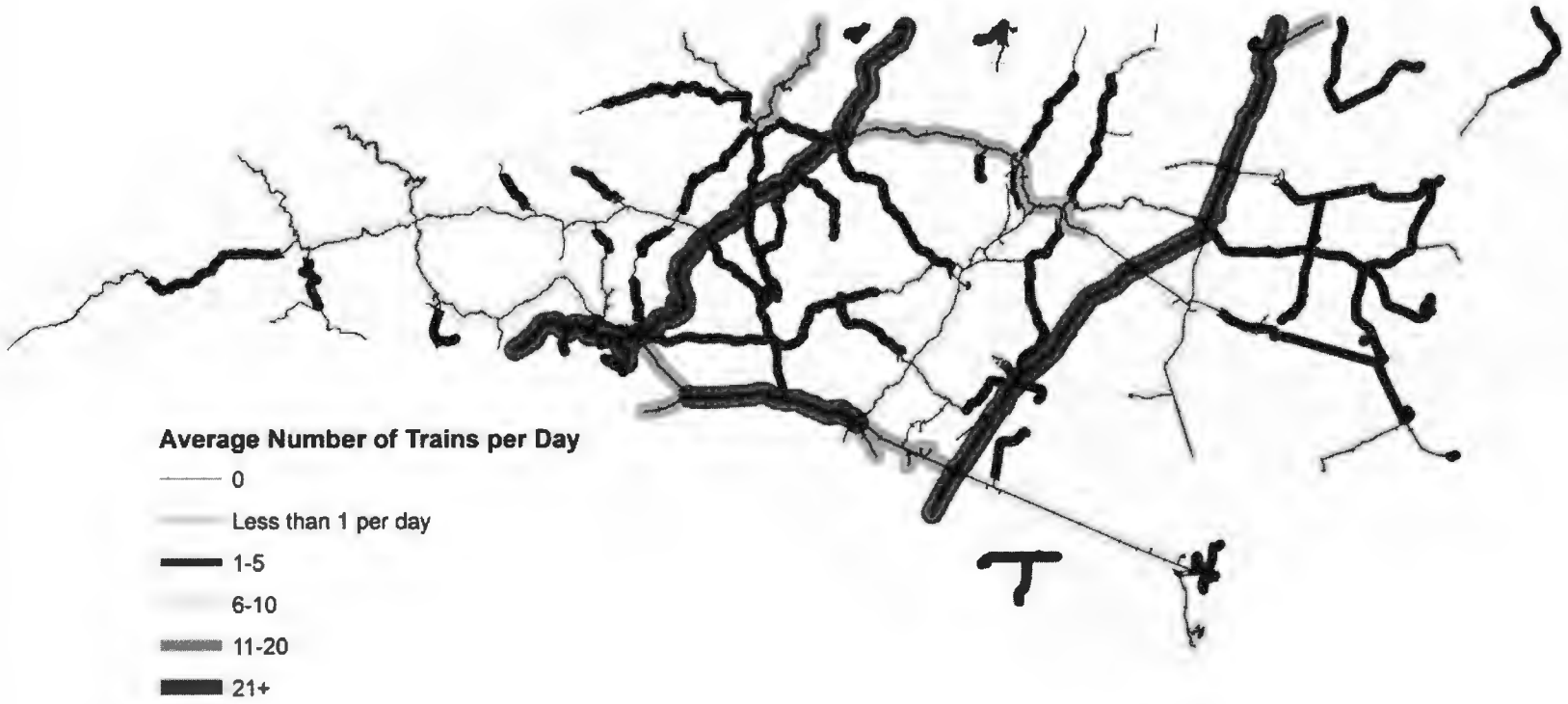
Rail Traffic Trends

- Class I railroads continue to see declining traffic volumes, even in current economic expansion, which is an anomaly
- Considering these conditions, the industry is still maintaining revenues



2016 Train Volumes in North Carolina

- Dominant freight volumes move north and south on Class I Railroads
- Class I branch lines and short lines provide NC east-west access to the Class I systems



Freight Rail & Rail Crossing Safety Improvement Fund (FRRCSI)

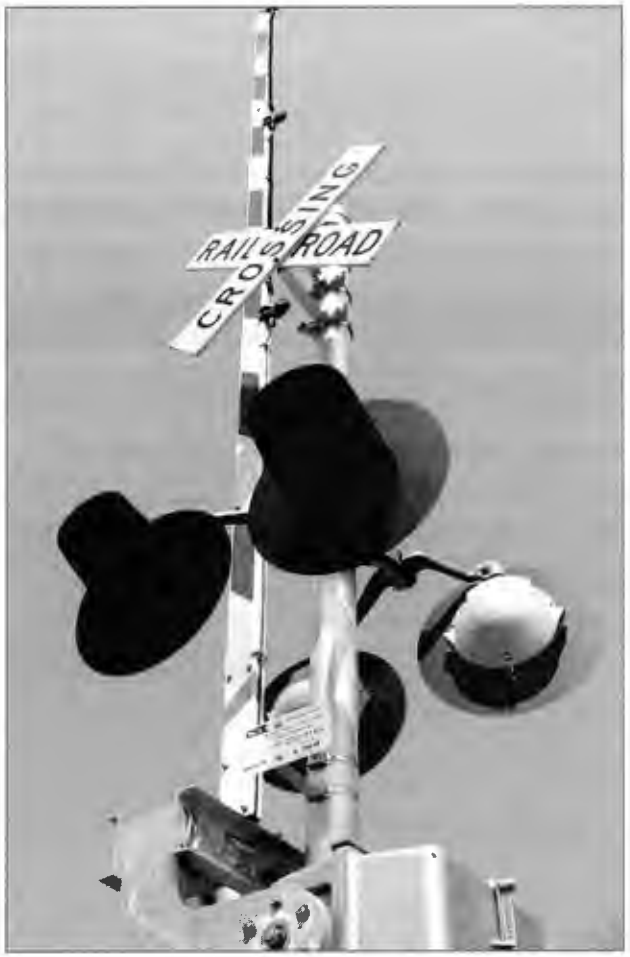
$40.45M Allocated since 2014

NCGS § 124-5.1

- $3.75 M funded annually by North Carolina Railroad (NCRR) cash dividends
- $15.45M – SFY 2014 (NCRR-additional allocation)
- $10M – SFY 2017 (General Assembly)

Program Goals:

- Improve safety
- Modernize infrastructure
- Increase freight capacity
- Support economic development
- Divert freight to rail



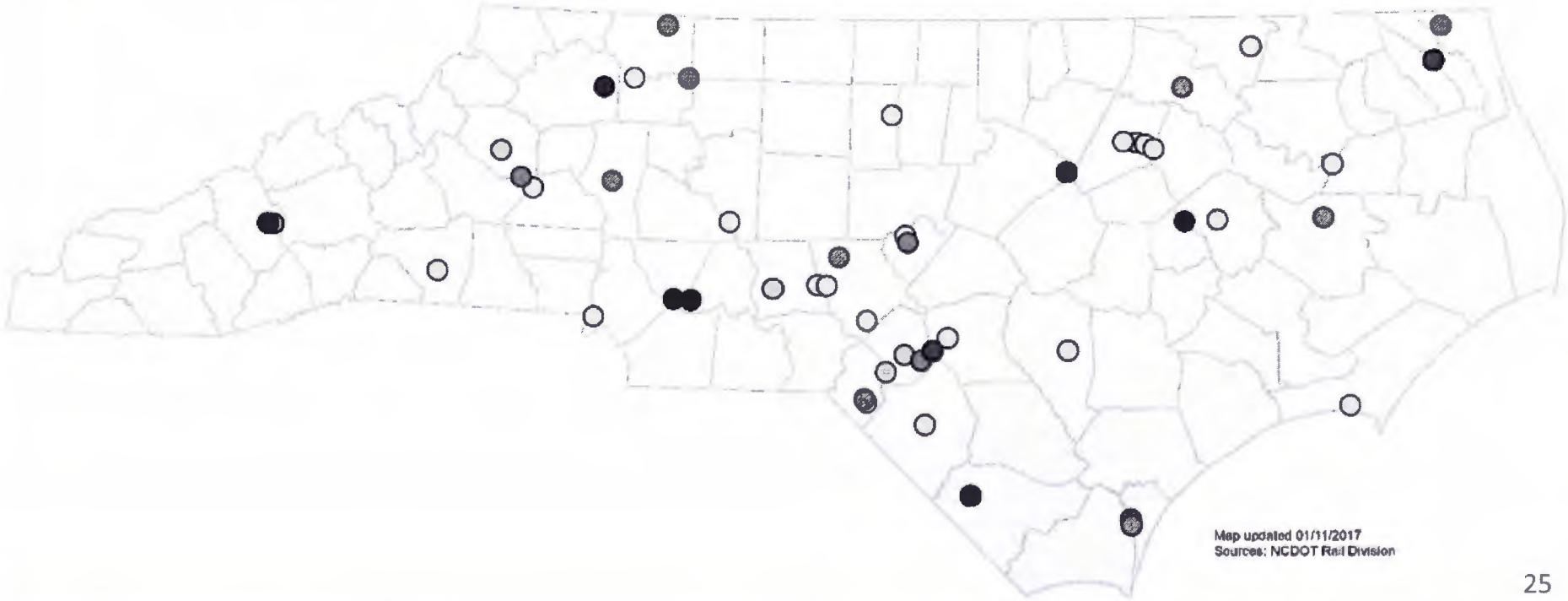
Modernizing Track Supports Economic Development

Rail Industrial Access Program (RIAP)

- 6 projects, 1,800 jobs created since 2014
- $1.13M leveraged by $11.1M in private rail spur investments

Short Line Infrastructure Assistance Program (SIAP)

- 32 projects, 42 counties since 2014
- $11.81M in matching funds for safety and reliability



Making Railroad Crossings Safer

Crossing Consolidation & Assistance

- 27 projects – $11.124M

Crossing Surfaces

- 62 projects – $2.524M



FY 2017 FRRCSI Funding Update

40 projects approved by NCDOT Board of Transportation

- Freight Projects – rehabilitate bridges for 286K carloads
- Economic Development Projects – add carloads to NC's rail network (diverting from highways) and develop industrial infrastructure
- Safety Projects – consolidate and improve crossings, eliminate rail-highway hazards



Supporting Rail Capacity at Ports

- Additional track capacity for new service between Port of Wilmington and Charlotte CSX Intermodal Facility in Charlotte – construction begins spring 2017
- Enviva wood pellet exporting facility in Wilmington – completed, 140% growth in wood pellets industry between 2010-2015; serving European power generation



Port of Morehead City – New high-capacity transloading equipment at Morehead City will improve efficiency of loading agricultural products



Port of Wilmington – Improvements to the track layout within port improve efficiency

Projects Supporting Connectivity

- **Queen City Express** – Port of Wilmington to CSX Charlotte Intermodal Terminal
  - C-5600B Siding Extension in Laurinburg, Scotland County
    Funded by FHWA CMAQ Funds
  - Near Term NCDOT and NC Ports investigating immediate infrastructure needs to build initial trains
  - Mid Term NCDOT preparing a study to look at rail needs for Port of Wilmington – Due mid 2017

- **Pembroke Connector Track** – Robeson County, construction underway
  - 2.4-mile railroad connection between CSX's main north-south line and line serving Wilmington industries and the port
  - Provides direct moves for trains between north and east

- **Additional projects may come out of the CCX Regional Freight Master Plan –** to be completed April 2017; final report July 2017

Carolina Connector Intermodal Terminal (CCX)

- **$270M** state-of-art terminal and freight rail infrastructure – will pull together various NC transportation systems and serve as a global logistics resource
- Improves access to domestic and international markets
- Scheduled to open September 2019

149
Terminal Jobs

8,000 to **20,000**
Induced Jobs in Region

Up to **1,500** Jobs
Directly Related to Terminal



Visualization of future CCX facility in Rocky Mount, NC

Carolina Connector Intermodal Terminal (CCX)

Project demonstrates NC's commitment to move freight and goods

- CSXT will invest $150M
- State will invest $100M through STI P4.0 award
- State Intermodal Tax Credit - $7.8M over 10 years
- Pavement maintenance, shipping, congestion, emissions, accident savings – takes 19M truck miles off roads over next 30 years:
  - **$310M in North Carolina**
  - **Almost $1.8B Nationally**



Team Effort:

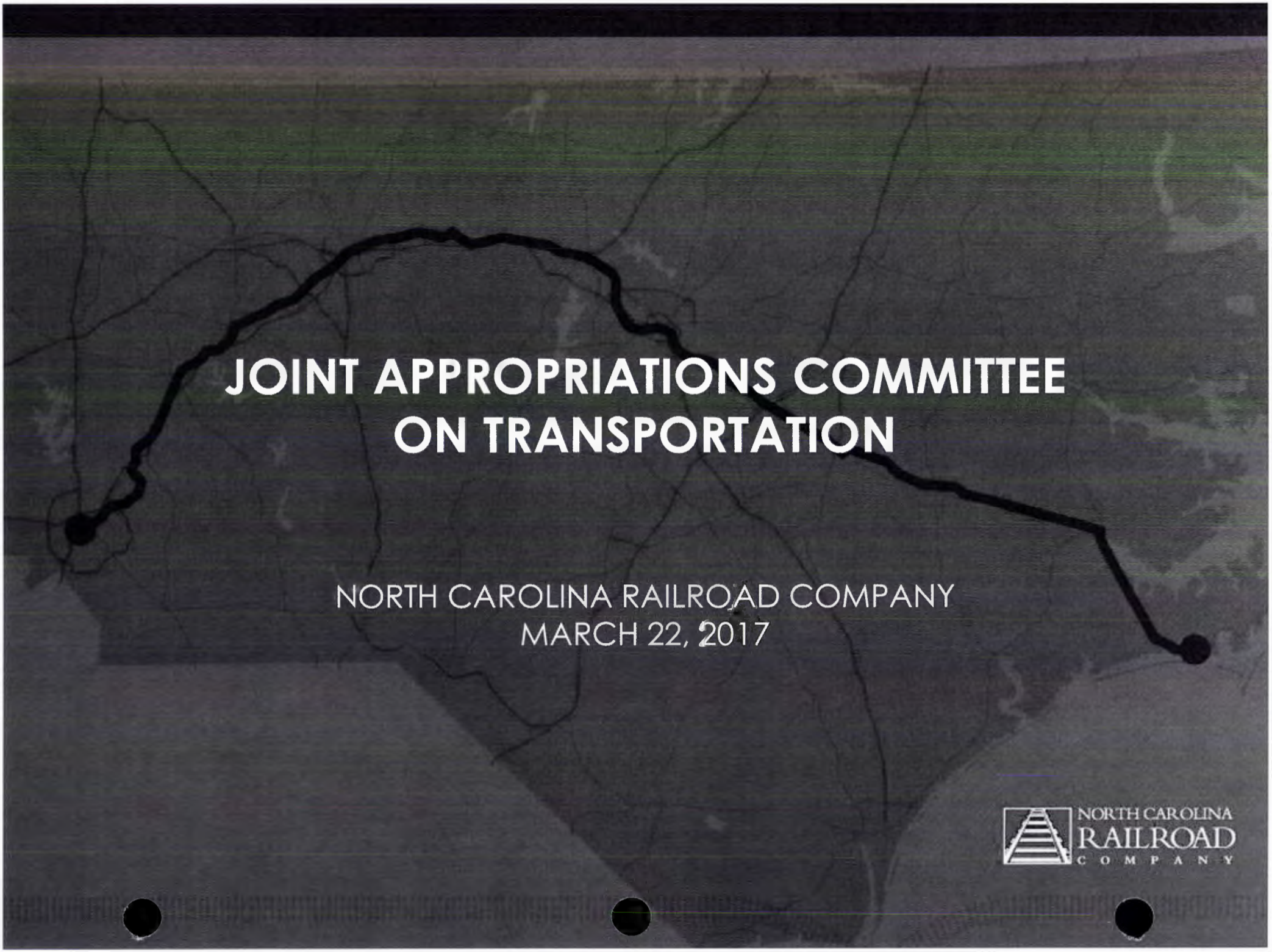
CSX

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

CAROLINAS GATEWAY PARTNERSHIP




THE ROAD TO LONG-TERM
JOB CREATION
IS MORE THAN JUST A ROAD.
NORTH CAROLINA
RAILROAD
COMPANY



JOINT APPROPRIATIONS COMMITTEE ON TRANSPORTATION

NORTH CAROLINA RAILROAD COMPANY
MARCH 22, 2017

NORTH CAROLINA RAILROAD COMPANY

WHO WE ARE

Our Mission

Putting the North Carolina Railroad Company to work for the good of the people of North Carolina.

Our Vision

To improve our state by:

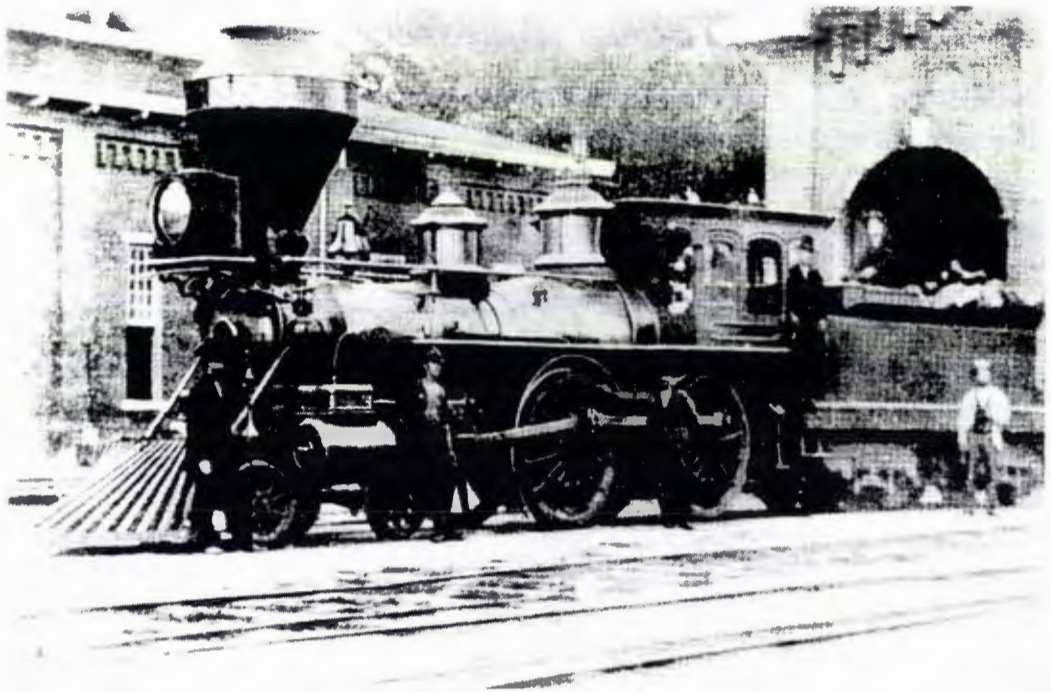
Expanding freight rail opportunities to grow business.

Enabling rail to move people.

Investing in North Carolina.

NORTH CAROLINA RAILROAD COMPANY

WHO WE ARE



NCRR Engine No. 115 at Company Shops Engine House, Burlington

CHARTER

OF THE

NORTH CAROLINA RAIL ROAD COMPANY.

INDEX TO SECTIONS.

SECTION

1 Incorporates Company with capital of $3,000,000.
2 Route of Road, from Wilmington Road to Charlotte.
3 Appoints Commissioners for creating Stock and opening Books of Subscription.
4 Books, when and how long to be kept open; amount of shares, five dollars of which to be paid down; to be paid over to General Commissioners.
5 Duty of General Commissioners in keeping open Books, and when $1,000,000 shall be subscribed.
6 7 Corporate rights and powers.—Notice of process.
8 Provision for first and subsequent General Meetings, election of Directors, &c.
9 10, 11, 12, 13 Number of, and manner of voting for Directors, election of President, and quorum at General Meetings; Votes and Proxies.
14 Return to be made by General Commissioners, and penalty.
15 Vacancies in Board, to be filled by Directors.
16 Authentication of Contracts.
17 Construction and use of Road; when any section is completed.
18 Right and charges for transportation of goods or passengers.
19 Company may farm out right, and made common carrier.
20 Manner of Calling for and enforcing payments of Stock.
21 Debt of deceased Stockholders, equal dignity with judgments.
22 Certificates of Stock shall be issued, and how transferred.
23 Capital may be increased, and how.
24 Directors to make Annual Report, and may call Meetings.

WHO WE ARE

An essential part of a comprehensive transportation system for 168 years

- **Unique Private/Public Structure**
  - Private corporation with stock owned by the state
- **Operates with Private, Non-Taxpayer Revenue**
  - Receives no state appropriations
- **Trackage-Rights Agreement Results in Revenue-Generation for Economic Development Investments**
  - Approximately $14 million annually in infrastructure and economic development capital to NCRR
- **Part of Tax Base**
  - Generates nearly $2 million in local property tax revenue annually
- **Pays dividends to North Carolina, through the Freight Rail and Rail Crossing Safety Improvement Fund at NCDOT**
  - Approximately $3.5 million in dividends annually
  - $30.5 million total in dividends (2013-2017)

Freight Routes

- North Carolina Railroad Company
  *operated by Norfolk Southern
- Norfolk Southern
- CSX Transportation
- Various Shortlines

Intermodal Terminals

- Norfolk Southern
  Link to Norfolk Southern >
- CSX Transportation
  Link to CSX >

Logistical Centers

- Military Bases
- Seaports
- Airports



ECONOMIC IMPACT

- More than **100** customers utilize freight rail on the NCRR line
- **19%** of NC freight carloads begin or end on the NCRR line
- **11.4** million tons of freight originates or terminates on the NCRR line
- **50%** of freight carloads on NCRR line are intermodal/containers





PICTURED: Top, Two freight trains pass on NCRR double track in Davidson County; Bottom, Charlotte Intermodal Terminal (photo, WFAE-FM)

ECONOMIC DEVELOPMENT

FREIGHT RAIL OPPORTUNITIES IN NORTH CAROLINA



Norfolk Southern Linwood Yard, Davidson County

- Access to North American Market through Class I freight railroads
- Port and Intermodal access
- Regional railroad connections to Class I railroads

NORTH CAROLINA RAILROAD COMPANY

ECONOMIC DEVELOPMENT

1,000+ ACRE INDUSTRIAL SITES



ECONOMIC DEVELOPMENT

CAMBRO MANUFACTURING AT NCIC, MEBANE







Cambro, a food service equipment manufacturer, opened a plant in Alamance County, bringing 100 jobs.

ECONOMIC DEVELOPMENT

NCRR INVESTS



We will evaluate requests for NCRR investments in:

- **Engineering & design costs**
- **Lead, siding and other tracks**
- **Site Grading & Drainage**
- **Rail Roadbed Construction**
- **Rail loading facilities**
  (transload, team track, etc.)

CLEARWATER PAPER®

PREMIUM Mountaire Fresh Young Chicken

CAMBRO

ASBURY GRAPHITE MILLS, INC.
A DIVISION OF ASBURY CARBONS

CAPITAL INVESTMENT



Sugar Creek Road Bridge, Charlotte



Crabtree Creek Bridge, Morrisville



High Point Slope Project

STI PROJECTS FOR RAIL

Topics

- Clarify rail project identification process
- Ideas for communities, MPOs, RPOs

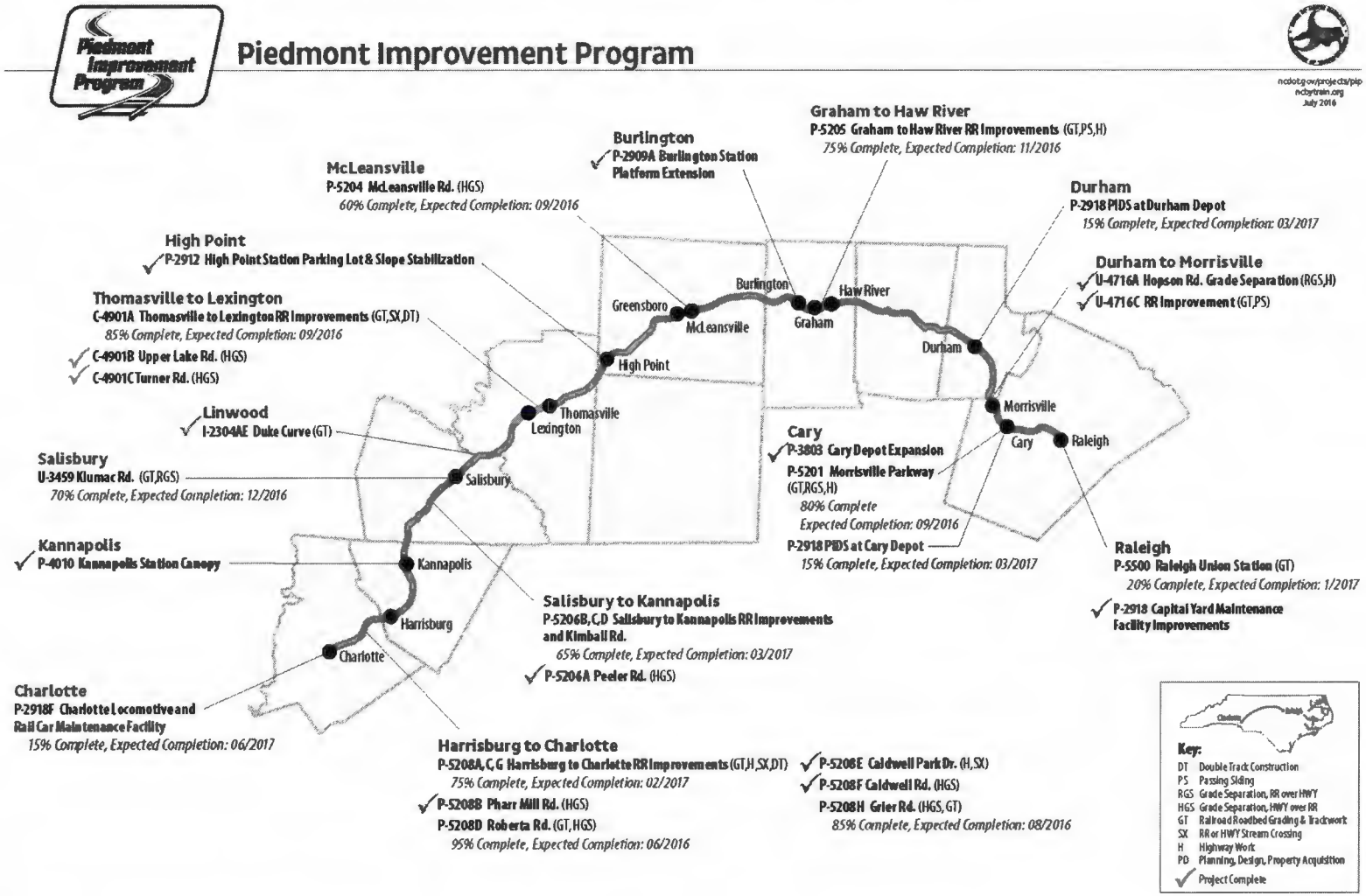
Considerations

- Rail assets require long-term maintenance
- Expectation management and public benefit
- Project delivery time
- Types of projects appropriate for STI

CAPITAL INVESTMENT

NCDOT PIEDMONT IMPROVEMENT PROGRAM

- $520M in 2010 ARRA Funds
- $31M investment by NCRR
- Projects conclude in 2017



PROPERTY UPDATE

STRATEGIC PROPERTY CONVERSION FROM LEGACY TO ECONOMIC DEVELOPMENT PROPERTY



Charlotte, 1919



Durham, 1910



Greensboro-Randolph Megasite

FINANCIAL UPDATE

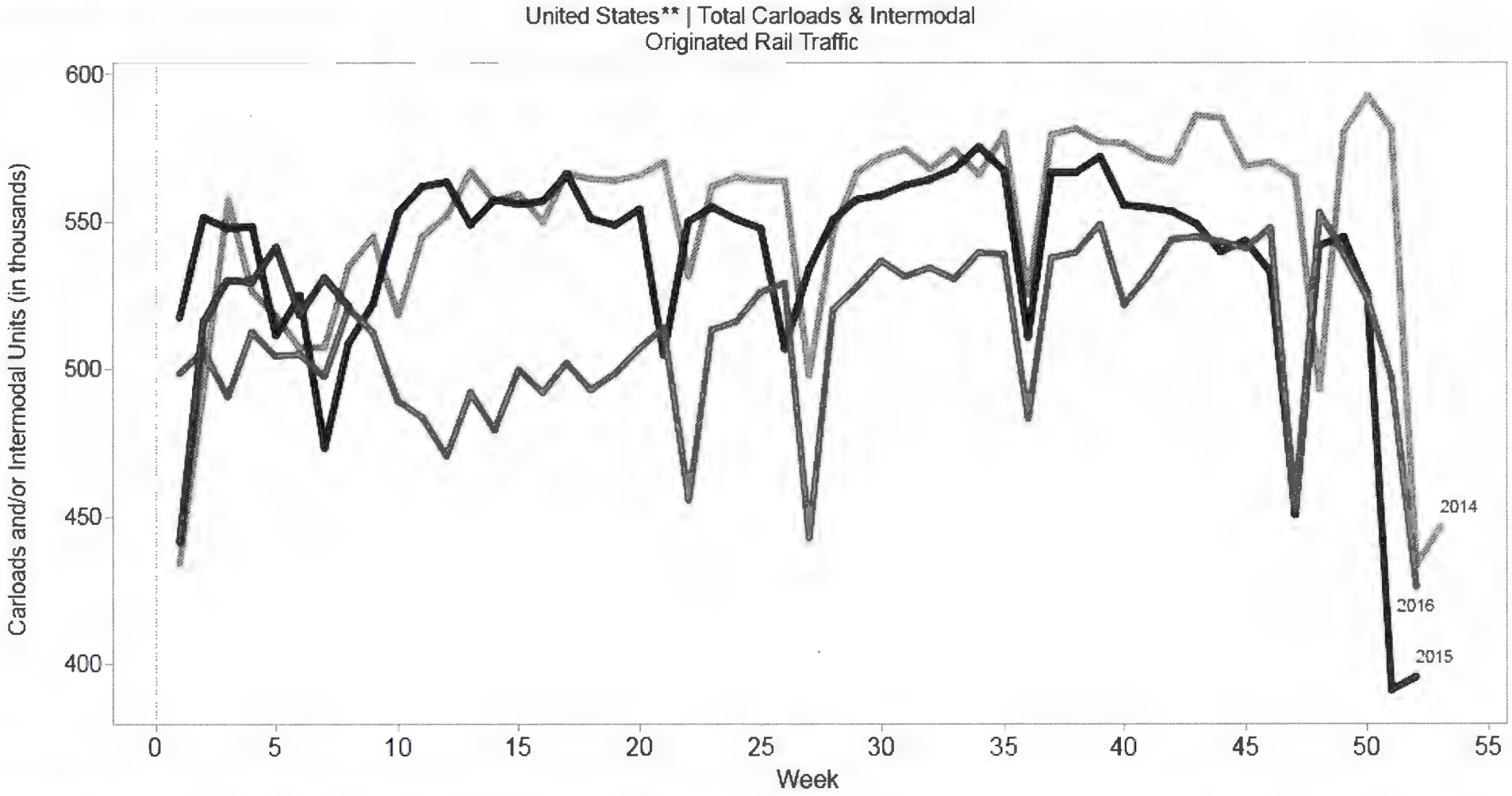
SELECTED FINANCIAL DATA

	December 31, 2016*	December 31, 2015
Land	$13,637,489	$4,402,237
Total Assets (book value)	$179,487,266	$166,455,789
	Year Ended December 31, 2016*	Year Ended December 31, 2015
Net Operating Income	$10,428,365	$10,874,515
Total Expenses (excluding depreciation)	$7,404,772	$6,729,230
Gain (Loss) on Disposition of Assets	$14,029,940	$181,856
Net Income Before Depreciation	$28,086,166	$7,779,526
Annual Dividends Paid	$3,779,305	$3,717,995

*2016 data is unaudited. 2015 audited annual financial reports are at www.ncrr.com

INDUSTRY UPDATE

2014-17 UNITED STATES WEEKLY RAIL TRAFFIC DATA



*Canada - Figures for Canada include the U.S. operations of Canadian railroads.
**United States - Figures for the U.S. excludes the U.S. operations for Canadian

ASSOCIATION OF AMERICAN RAILROADS

INDUSTRY UPDATE

THE WALL STREET JOURNAL.

BUSINESS

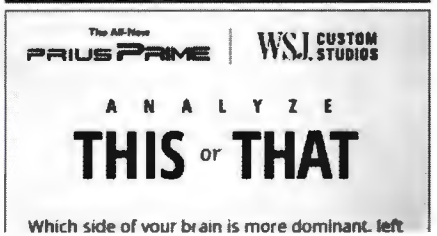
CSX Agrees to Hire Hunter Harrison as CEO

A rookie activist investor wins boardroom battle installing an industry veteran as part of sweeping changes at the railroad



CSX Corp. has agreed to hire railroad industry veteran Hunter Harrison as chief executive *PHOTO: LARRY MACDOUGAL/ASSOCIATED PRESS*





STRATEGIC PLAN

VISION STATEMENT	*STRATEGIC GOAL*
Expanding freight rail opportunities to grow business	**Create a distinct competitive advantage for NC in job creation and rail projects**
Enabling rail to move people	**Assist in the efficient movement of people in high-growth areas to encourage economic growth**
Investing in North Carolina	**Improve rail infrastructure; Protect & preserve corridor; Preserve & grow rail franchise**

STRATEGIC PLAN

COMMITMENTS THROUGH 2020

- Replace jointed rail New Bern to Morehead City ($30M)
- Widen clearances east of Kinston ($10.5M)
- *NCRR Invests* projects ($10M+ over 2 years)
- Statewide rail-served sites study
- Focus on rural areas and freight project sites
- Relocate industry tracks in Cabarrus & Mecklenburg counties to protect freight operations ($5.5M)
- Assist with rail needs for transformational projects ($10-15M per project)
- Charlotte connector station ($6M)


NORTH CAROLINA
RAILROAD
COMPANY
www.ncrr.com
@NCRailroad
2809 Highwoods Blvd
Raleigh, NC 27604
919-954-7601

Measuring The Economic Impact of the North Carolina Railroad in North Carolina

Katherine Heller and Zachary Oliver
RTI International
September 25, 2014

The North Carolina Railroad (NCRR) manages a 317 mile rail corridor spanning the state of North Carolina from Morehead City to Charlotte, over which about 60 Norfolk Southern freight trains and 10 Amtrak passenger trains travel each day. Since its creation, NCRR has been a driver for economic growth in the state. Over the past year, this focus has been articulated in a new vision statement.

NCRR Vision:
Improve North Carolina by:
Enabling freight to grow business,
Expanding rail to move people,
Investing in North Carolina

Historically, NCRR led to the development of industries and towns along its corridor. North Carolina's traditional industries relied heavily on rail for materials and to transport their products to market. Before NCRR, businesses along its corridor served local markets. NCRR connected them to the rest of the country and the world, causing exponential growth in production and trade between 1850 and 1900.

To increase understanding about how rail contributes to the North Carolina economy today, RTI updated their 2007 study, and examined NCRR's economic impact on the state during 2013.

Measuring NCRR's economic impact in 2013

- To estimate the economic impact of this freight transport and spending, RTI compared actual North Carolina economic activity to a hypothetical North Carolina economy if NCRR did not exist, and all the freight were transported by highway.
- Particularly for heavy, bulky products, rail transport costs less than truck transport. The cost savings due to NCRR result in an estimated $499 million in additional output by industries that rely on rail, which in turn provides a state-wide increase in economic activity estimated at $794 million in sales, including supply chain and household income effects. This is approximately twice NCRR's estimated 2007 impact of $338 million.

Freight cost savings due to NCRR added an estimated $794 million to the NC economy in 2013.

- 159,000 carloads and 188,000 containers carried by Norfolk Southern across NCRR, either terminating or originating in NC, an estimated 11.4 million tons of freight.
- NCRR invested an estimated $9.6 million in capital improvements along its corridor, including closing grade crossings and other safety improvements and double-tracking and other efficiency enhancements.

NCRR invested $9.6 in capital improvements in 2013 to enhance efficiency and promote growth.

- Our study has not yet evaluated the impact of new firms locating in North Carolina due to NCRR investment in developing rail-served properties.

- Reduced highway traffic decreases congestion, traffic accidents, and air pollution valued at an estimated $141 million.
- We have not yet quantified the economic impact of the rail industry state-wide, but it is a multiple of NCRR's impact. NCRR is a relatively small but important share of the total rail network. NCRR's corridor is less than 10% of total freight rail mileage, but the freight carried over NCRR that originates or terminates in North Carolina approaches 20% of total statewide carloads and tons. Eighteen rail-dependent industries employed more than 57,000 North Carolinians in 2013.
- Our study has not as yet quantified the value of passenger service over NCRR within North Carolina.

RTI INTERNATIONAL

Measuring North Carolina Railroad Company's Impact on North Carolina

A report prepared for the
North Carolina Railroad Company
September 25, 2014

Prepared by:
Katherine Heller
Zack Oliver

RTI International is a trade name of Research Triangle Institute.

About RTI International

RTI is a nonprofit institute with headquarters in Research Triangle Park, North Carolina, that provides research, development, and technical services to government and commercial clients worldwide. Our mission is to improve the human condition by turning knowledge into practice.

About the North Carolina Railroad Company

The North Carolina Railroad is one of North Carolina's most unique assets — a 317-mile ribbon of steel, spanning our State from Morehead City to Charlotte. Through its capital improvement program, the North Carolina Railroad Company has invested in bridges track improvements, sidings, double tracking, safety measures and other infrastructure to attract business and industry and create jobs.

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- **Background and Context**
- Summary of Findings
- Methods and Approach
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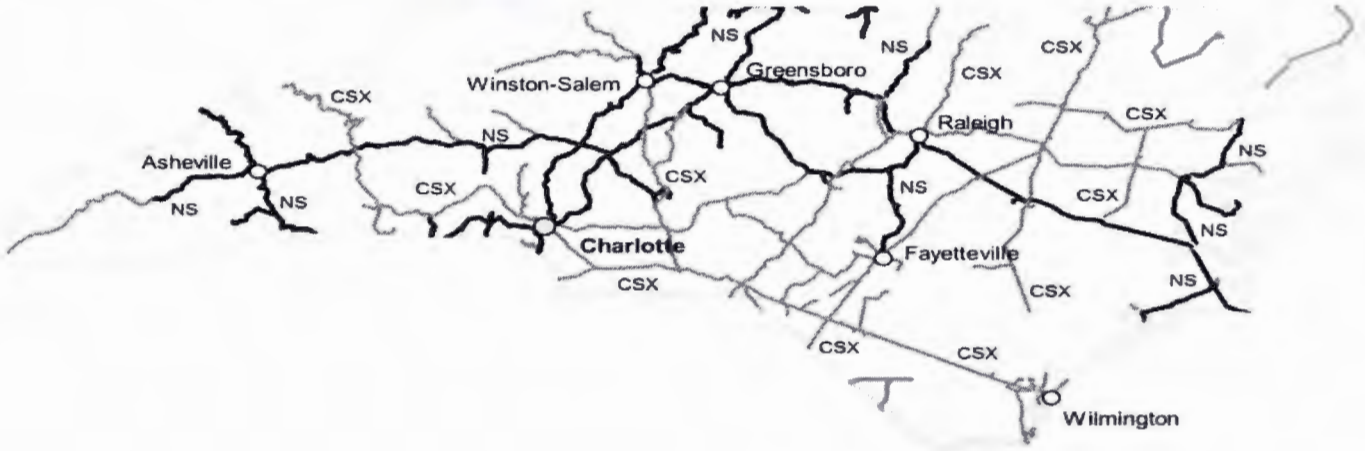
Background and Context

- To better understand and measure their contribution to North Carolina, NCRR asked RTI to estimate the economic impact of NCRR on the State of North Carolina
- Updating 2007 economic impact study
- A one-year snapshot of the contribution of NCRR to the State's economy, using 2013 data provided by Norfolk Southern

- A case study illustration of the value of rail to the NC economy

NCRR: an important part of a larger freight rail network





NCRR's share of NC Rail Freight Network

- NCRR is an important part of a much larger rail network in the State

	Miles	NCRR Share
NCRR	317	
All freight lines in NC	3,342	9.5%
Norfolk Southern	1,297	24%

	Carloads	NCRR Share	Estimated Tons	NCRR Share
NCRR (2013)	159,400		11.3 million	
All freight lines in NC (2011)	835,400	19%	65.2 million	17%

The larger context

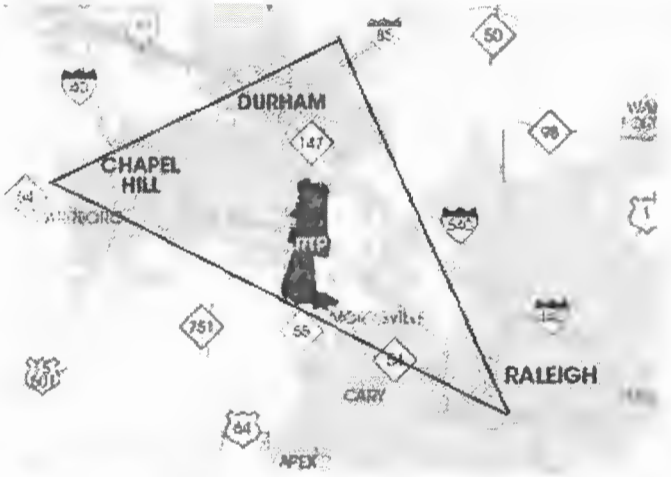
- Study estimates how much additional economic activity takes place in NC due to NCRR in 2013
- Quantifies only part of NCRR's impact – only freight, a single year
- Not considered but also a part of NCRR's impact over time
  - Industries that would not have located in NC without rail freight access
  - Value of projects that have located along NCRR's corridor
- Historically, NCRR enabled the growth of cities and industries along its corridor and throughout the State



RTI INTERNATIONAL

Without NCRR...







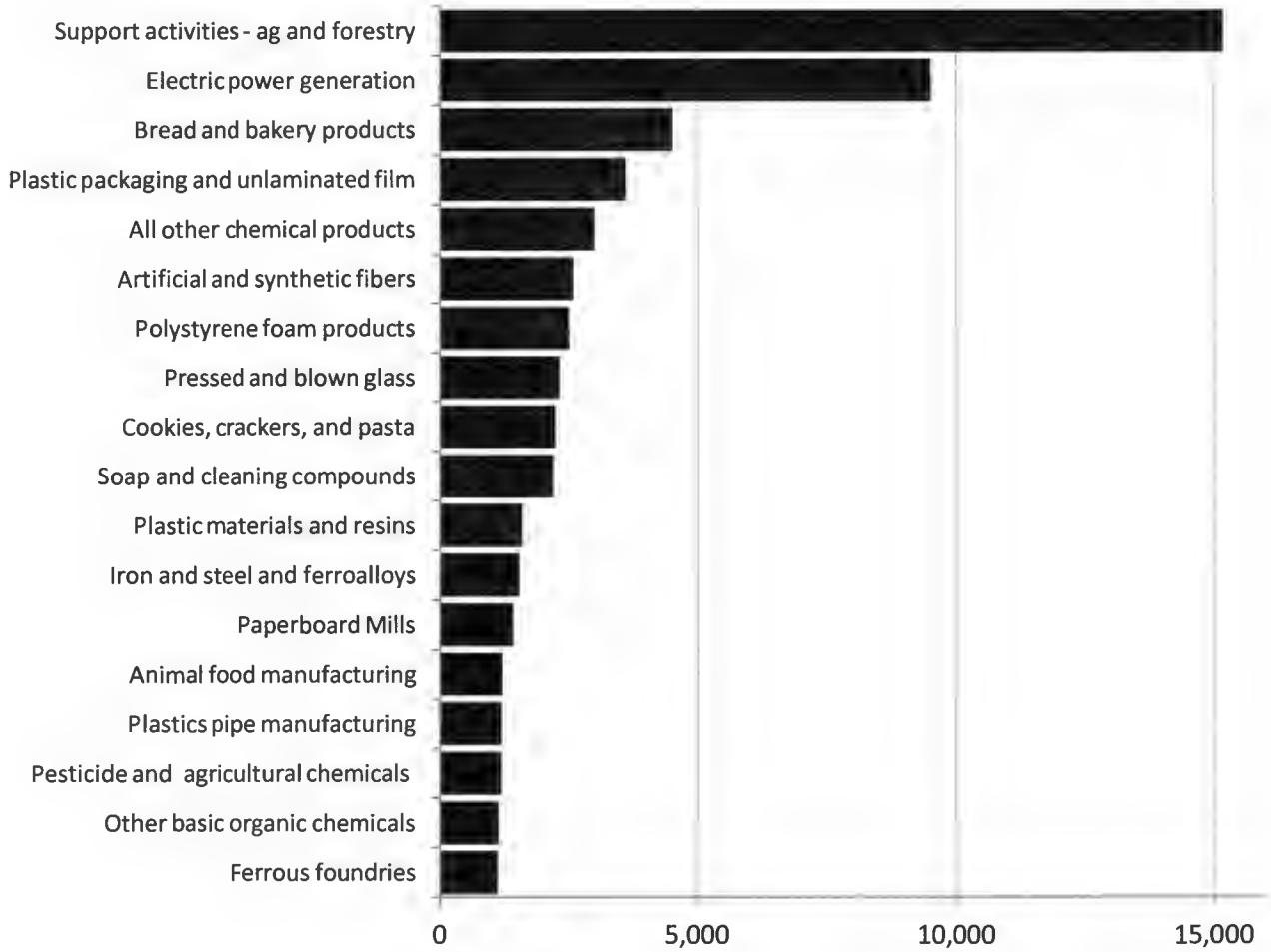


Can generalize many of our findings

- We quantified only NCRR's impacts, but our findings illustrate the value of rail in general to NC economy
- Most NC manufacturing facilities in the state use inputs shipped by rail and/or transport their products by rail.
- Rail dependent industries employ 57,000 North Carolinians and produce $14.6 billion worth of products within the state

Rail Dependent Industries (>1,000 employees)

NC Employment in Rail Dependent Industries



Source: RTI, IMPLAN 2012

*Jobs reflect total 2012 NC employment in each industry rather than jobs supported by NCRR.

Economic Impact

Background

- **Update and revise 2007 study**
  - Update key data inputs for the economic model
  - Specific consideration of intermodal transport
- **Scope**
  - 2013 freight data
  - Economic impact on North Carolina of lower transportation costs
  - External cost savings
- **Ongoing effort to understand and measure the railroad's impact**
  - NCRR's economic impact
  - The greater impact statewide

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RTI INTERNATIONAL

Summary of NCRR Impacts

- **Traffic on the NCRR corridor**
  - About 60 Norfolk Southern freight trains per day, about 10 Amtrak passenger trains
  - 159,000 carloads and 188,000 containers originated or terminated on the NCRR corridor in 2013
  - Equivalent to an estimated 11.4 million tons of freight
- **Direct impact on North Carolina economy**
  - Due to the cost-savings that the NCRR corridor provides compared to the alternative of truck transport, North Carolina companies generate an estimated $499 million in additional output
- **Total economic impact number**
  - The direct impact results in a total output impact of $794 million once supply chain effects and household income effects are accounted for using NC multipliers

Summary of Findings, Cont'd

- **Comparison to the 2007 study**
  - NCRR 2007 study: $338 million output impact
  - NCRR 2014 study: $794 million output impact
  - Estimate of 2013 total ton-miles is lower than ton-miles estimate from 2007 study
  - Difference in impact largely driven by higher estimated cost-savings of rail versus truck
- **External cost-savings**
  - Accounting for social costs such as congestion, accidents, and pollution, freight transported over the NCRR corridor has an external cost savings of $141 million
- **NCRR allows NC to capture a larger amount of US market share than it would in the absence of the corridor**
- **Rail dependent industries**
  - Rail supports jobs in a diverse range of "rail dependent" industries in North Carolina such as agriculture, forestry, quarrying, paper, chemicals, and electricity generation.

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Methods and Approach

- **Hypothetical "what if" scenario**
  - NCRR rail corridor does not exist
  - In the absence of the corridor, the next best alternative would be long-haul trucking
  - Without NCRR, businesses would face increased transportation costs
- **Key data and estimates**

  Norfolk Southern freight carload and intermodal container data for shipments originating or terminating on the NCRR corridor

  Tonnage and distance estimates to translate carloads and containers into tons and ton-miles per commodity

  Mapping commodities originating and terminating to industry sectors

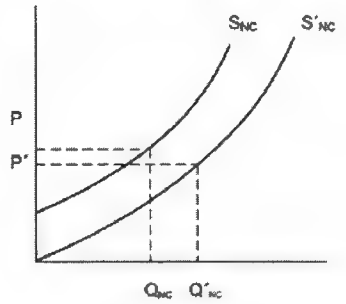
  Costs per ton-mile of freight rail and long-haul trucking

- **Estimated transportation cost savings by industry sector**

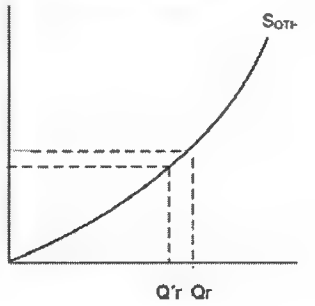
1. Excludes Norfolk Southern capital expenditure and maintenance expense on NCRR.

Methods and Approach, Cont'd

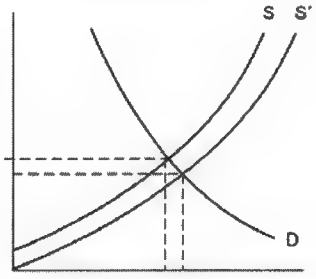
- **Economic Models**
  - Lower transportation costs leads to increased production for NC industries
  - IMPLAN multipliers to determine the total impact on the North Carolina economy
    - Account for supply chain and household income effects
    - Measure the impact on output, State GDP, and jobs
- **Key model inputs and assumptions**
  - Carload and container mapping to industries
  - "Responsiveness" of 440 industries' supply and demand to changes in cost
  - Lower trucking sector revenue partially offsets the positive effects of rail



North Carolina



Other U.S.



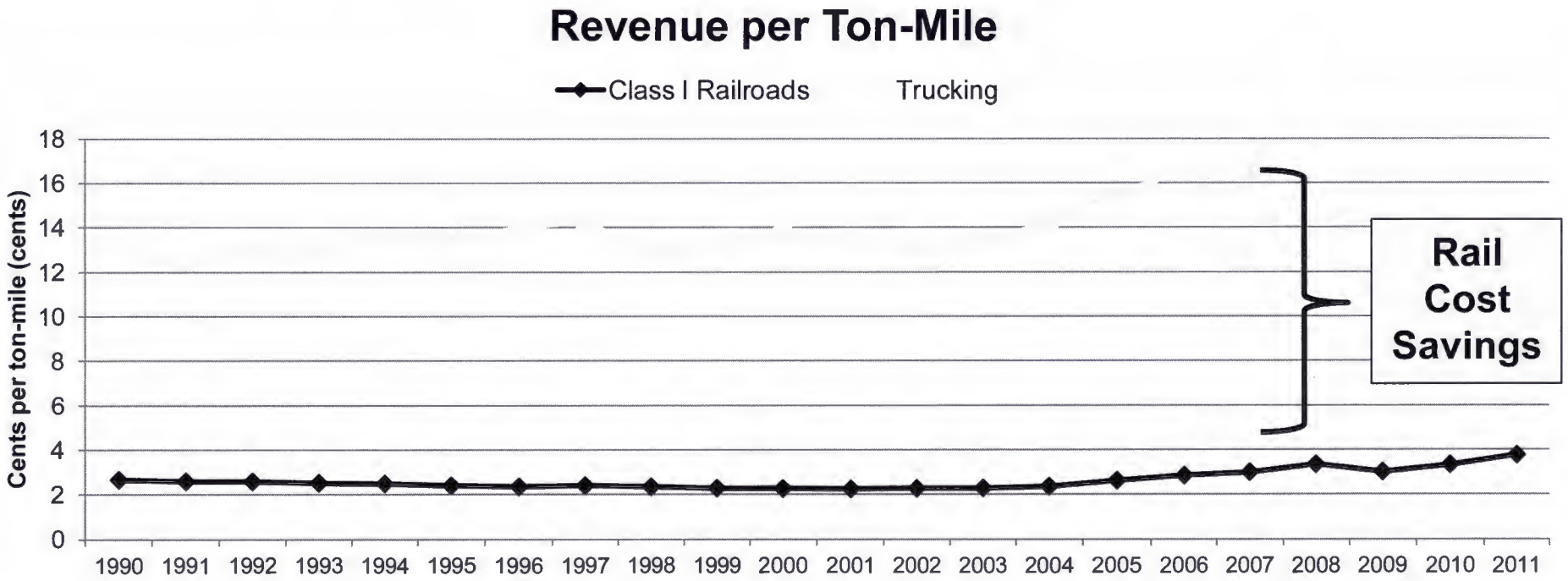
Market

Rail Cost-Savings Lead to Economic Impacts

Revenue per ton-mile (*cents*)

Cost of rail	Cost of intermodal rail	Cost of freight trucking	Cost savings of rail over truck	Cost savings of intermodal rail over pure truck
3.8[1]	7.0[2]	16.5[1]	12.8	9.6

1. BTS (2011, 2007)
2. Weighted average; Dewey (2002)

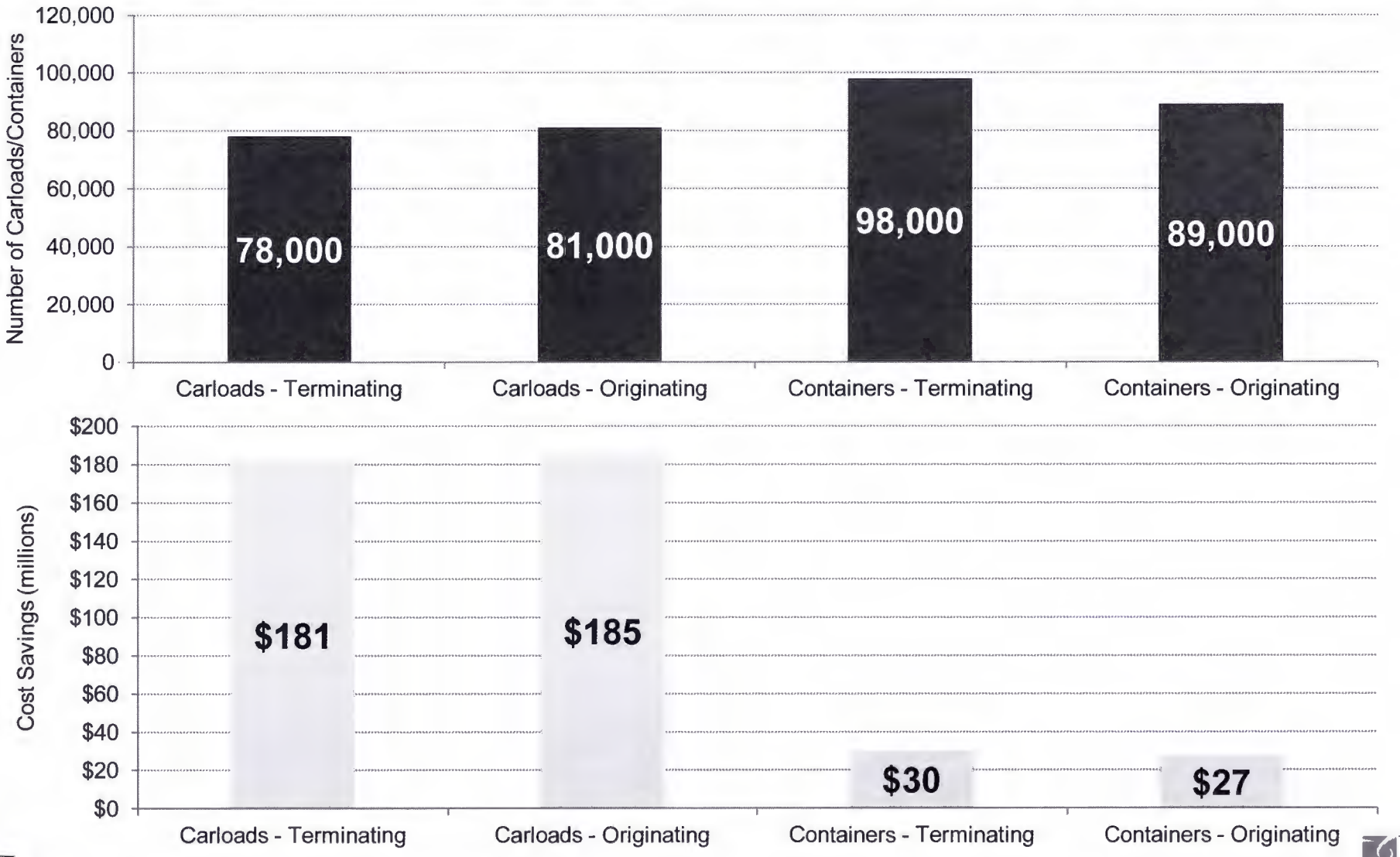


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Rail Traffic on the NCRR Corridor

Total Carloads/Containers and Total Cost Savings on the NCRR Corridor



Note: intermodal container shipments include Greensboro, Linwood, and Charlotte intermodal facilities

Top Ten Industries by Cost Savings due to NCRR

- Industry-specific cost savings depend on the Norfolk Southern freight data combined with our assumptions about trip length, tonnage, and commodity-industry linkages

Terminating

IMPLAN Description	*Cost Savings*
Pharmaceutical preparations	$9 M
Maintenance /repair of nonresidential	$ 8M
Construction of other new nonresidential	$8 M
Petrochemicals	$7 M
Construction of other new residential	$6 M
Personal and household goods repair and maintenance	$6 M
Other animal food manufacturing	$6M
Poultry and egg production	$6M
Food services and drinking places	$5M
Plastics material and resin manufacturing	$5 M

Originating

Industry Name	Cost Savings
Other basic organic chemicals	$33 M
Lime and gypsum products	$20 M
Mining and quarrying	$18 M
Soybean and oilseed processing	$12 M
Rolling mill and other metalworking machinery manufacturing	$12 M
Other basic inorganic chemicals	$11 M
Grain farming	$10 M
Plastics material sand resins	$8 M
Paperboard Mills	$7 M
Petroleum and coal products	$7 M

Supply and Demand Framework Results

- Compared to the "what if" scenario (an absence of the NCRR corridor), North Carolina companies
  - **save an estimated $424 million dollars** versus shipping by truck
  - **generate $499 million in net additional output** (i.e., sales) and
  - **NC industries gain US market share**

- Economic impact of NCRR is **partially offset by estimated revenue losses in the trucking sector**

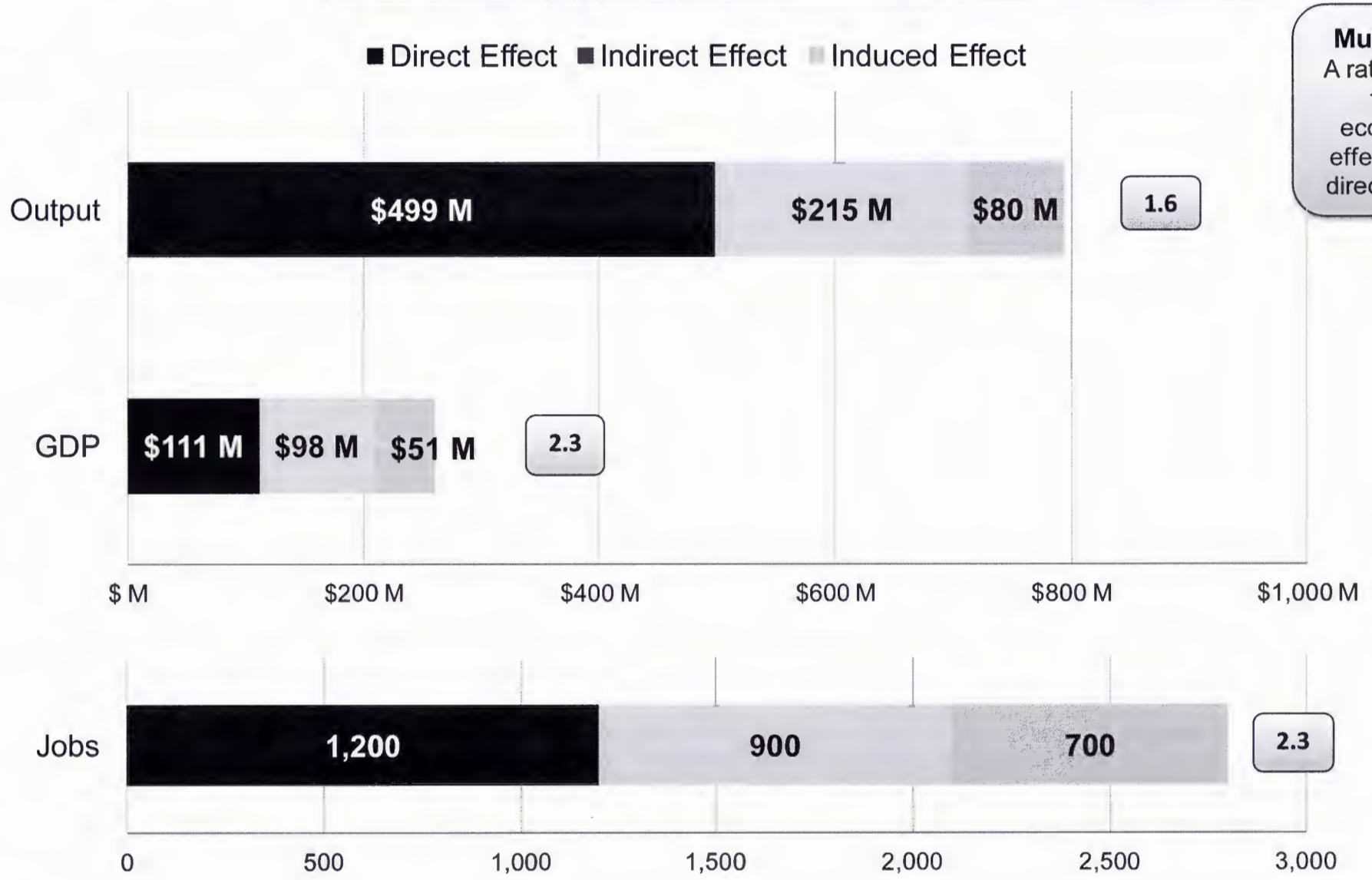
Other direct NCRR impacts

- NCRR invests in the rail network[1]
  - **$9.6 million invested on rail infrastructure improvements in 2013**
  - Supports "rail dependent" industries by increasing efficiency, driving down transportation costs
  - Decreases external costs on society (e.g., accidents) with targeted investments



1. Includes Norfolk Southern capital expenditure and maintenance expense on NCRR.

Economic Impact Model Results



Multiplier
A ratio of the total economic effect to the direct effect.

RTI INTERNATIONAL

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External Costs

- In addition to costs experienced by shippers and passengers, transportation imposes **externals costs**
  - **Costs experienced by individuals who are <u>not</u> directly involved in the transportation sector.**
- Examples of external costs
  - Congestion delays
  - Accidents
  - Air pollution (health costs)
  - Noise pollution



External Cost-Savings due to NCRR

- The net external cost of switching to truck would be about **1.6 cents per ton-mile**
- Based on our calculations, approximately **8.7 billion ton-miles** originated or terminated in North Carolina
- Assuming conservatively that only a portion of the external costs are experienced by North Carolinians, we estimate **a reduction in external cost of $141 million**.

External Cost Category	Trucking cost/ton-mile	Railroad cost/ton-mile	Net External Cost of Switching to Truck	Discount Factor	NC External cost/ton-mile burden
Congestion delay	$0.00410	$0.00030	-$0.00380		-$0.00380
Accident	$0.01130	$0.00240	-$0.00890		-$0.00890
Air pollution (Health)	$0.00890	$0.00195	-$0.00695	0.5	-$0.00348
Noise	$0.00050	$0.00050	$0.00000		$0.00000
Total	$0.03970	$0.00775	-$0.03195		**-0.01618**

$0.016
X
8.7 billion ton-miles
=
$141 million external cost savings

Source: RTI, GAO 2011

Summary

- **The NCRR makes businesses in NC more competitive by decreasing transportation costs for rail users**
  - NCRR's supports additional output, GDP, and jobs in NC
- **NCRR decreases the external costs of transporting goods**
- **Our approach is limited to 2013 impacts of the NCRR**
  - Since it's creation in 1848, NCRR has helped shape the State's economic geography
- **NCRR's impact is a case study of the impact of the statewide rail network**
  - 10% of railroad miles operated in NC
  - 17% of carloads and containers originating and terminating in NC
  - 19% of tonnage originating and terminating in NC

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Data Sources

Data Source	Information
Norfolk Southern	Freight carload and container data by STCC* (2013)
Association of American Railroads	Average cost per ton-mile, rail (2010-2012)
US DOT, Bureau of Transportation Statistics, National Transportation Statistics	Average revenue per ton-mile by mode of transportation (1960-2011)
US DOT, Bureau of Transportation Statistics, Commodity Flow Survey	Average miles per shipment in NC and US by SCTG** (2007)
US DOT, Surface Transportation Board, Carload Waybill Sample Reference Guide	US origin carloads and tonnage from waybill samples by STCC (2010-2012)
US DOT, Federal Highway Administration, Freight Analysis Framework Technical Documentation	STCC-to-SCTG crosswalk
US Census Bureau, Economic Census; EPA Elasticity Databank; literature	Economic data used to calibrate supply elasticities in the model
EPA Elasticity Databank; literature	Demand elasticities
IMPLAN, North Carolina Model	NAICS-to-IMPLAN crosswalk, economic impact multipliers, freight transportation demand, trade flows with other states, and economic indicators such as output, value added, and jobs (2012)
IMPLAN, US	US total output by sector (2010)
Government Accountability Office	External costs per ton-mile (2011)
BTS, America's Container Ports (US Dept. of Commerce)	Intermodal information: container-to-carload ratio, commodity mix
IMPLAN and NS data	Intermodal industry mix

*STCC = Standard Transportation Commodity Code
**SCTG = Standard Classification of Transported Goods

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Comparison with 2007 Results

- Larger cost differential per ton-mile between rail and truck than in 2007 study
- Difference in total ton-miles
  - 2013: 8.7 billion ton-miles
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- IMPLAN differences
  - Industry scheme and updated multipliers
- Other minor differences in methods and input data

RTI INTERNATIONAL

Measuring North Carolina Railroad Company's Impact on North Carolina

A report prepared for the
North Carolina Railroad Company
September 25, 2014

Prepared by:
Katherine Heller
Zack Oliver

RTI International is a trade name of Research Triangle Institute.

About RTI International

RTI is a nonprofit institute with headquarters in Research Triangle Park, North Carolina, that provides research, development, and technical services to government and commercial clients worldwide. Our mission is to improve the human condition by turning knowledge into practice.

About the North Carolina Railroad Company

The North Carolina Railroad is one of North Carolina's most unique assets — a 317-mile ribbon of steel, spanning our State from Morehead City to Charlotte. Through its capital improvement program, the North Carolina Railroad Company has invested in bridges track improvements, sidings, double tracking, safety measures and other infrastructure to attract business and industry and create jobs.

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- **Background and Context**
- Summary of Findings
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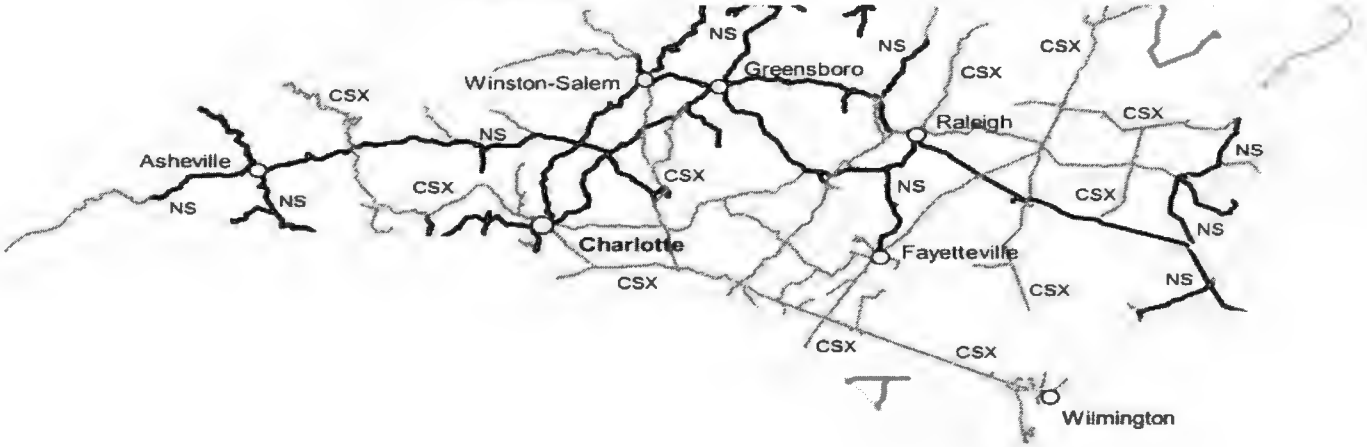
Background and Context

- To better understand and measure their contribution to North Carolina, NCRR asked RTI to estimate the economic impact of NCRR on the State of North Carolina
- Updating 2007 economic impact study
- A one-year snapshot of the contribution of NCRR to the State's economy, using 2013 data provided by Norfolk Southern

- A case study illustration of the value of rail to the NC economy

NCRR: an important part of a larger freight rail network





NCRR's share of NC Rail Freight Network

- NCRR is an important part of a much larger rail network in the State

	Miles	NCRR Share
NCRR	317	
All freight lines in NC	3,342	9.5%
Norfolk Southern	1,297	24%

	Carloads	NCRR Share	Estimated Tons	NCRR Share
NCRR (2013)	159,400		11.3 million	
All freight lines in NC (2011)	835,400	19%	65.2 million	17%

The larger context

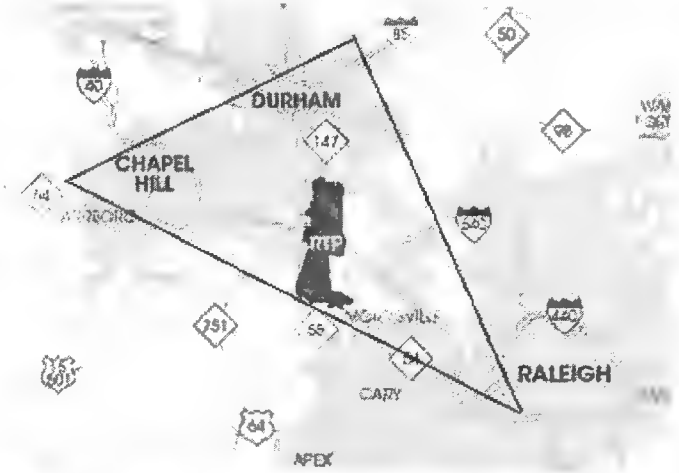
- Study estimates how much additional economic activity takes place in NC due to NCRR in 2013
- Quantifies only part of NCRR's impact – only freight, a single year
- Not considered but also a part of NCRR's impact over time
  - Industries that would not have located in NC without rail freight access
  - Value of projects that have located along NCRR's corridor
- Historically, NCRR enabled the growth of cities and industries along its corridor and throughout the State



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Without NCRR…







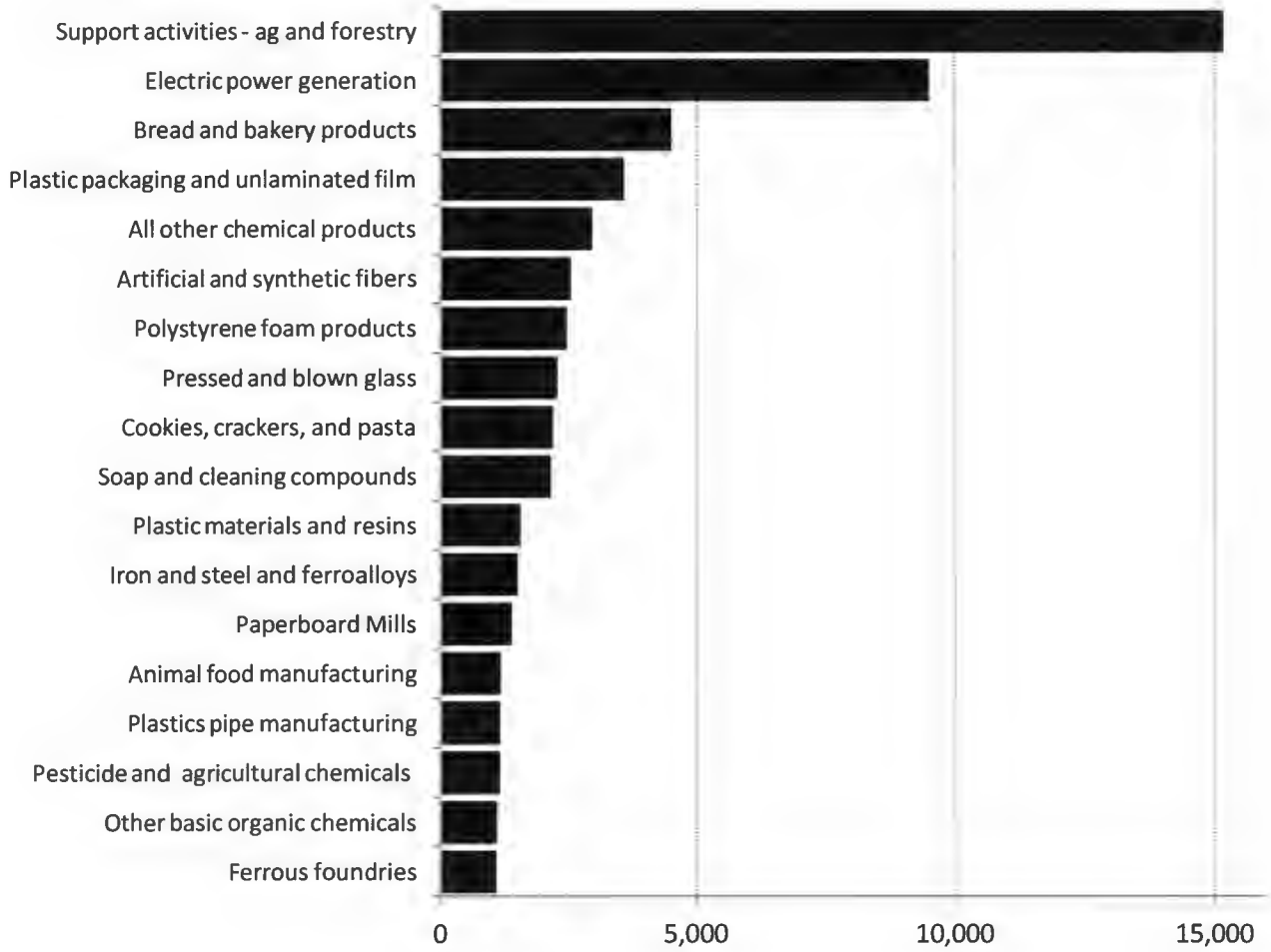


Can generalize many of our findings

- We quantified only NCRR's impacts, but our findings illustrate the value of rail in general to NC economy
- Most NC manufacturing facilities in the state use inputs shipped by rail and/or transport their products by rail.
- Rail dependent industries employ 57,000 North Carolinians and produce $14.6 billion worth of products within the state

Rail Dependent Industries (>1,000 employees)

NC Employment in Rail Dependent Industries



Source: RTI, IMPLAN 2012

*Job[redacted]flect total 2012 NC employment in each industry rather th[redacted]bs supported by NCRR.

Economic Impact

Background

- **Update and revise 2007 study**
  - Update key data inputs for the economic model
  - Specific consideration of intermodal transport
- **Scope**
  - 2013 freight data
  - Economic impact on North Carolina of lower transportation costs
  - External cost savings
- **Ongoing effort to understand and measure the railroad's impact**
  - NCRR's economic impact
  - The greater impact statewide

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Summary of NCRR Impacts

- **Traffic on the NCRR corridor**
  - About 60 Norfolk Southern freight trains per day, about 10 Amtrak passenger trains
  - 159,000 carloads and 188,000 containers originated or terminated on the NCRR corridor in 2013
  - Equivalent to an estimated 11.4 million tons of freight
- **Direct impact on North Carolina economy**
  - Due to the cost-savings that the NCRR corridor provides compared to the alternative of truck transport, North Carolina companies generate an estimated $499 million in additional output
- **Total economic impact number**
  - The direct impact results in a total output impact of $794 million once supply chain effects and household income effects are accounted for using NC multipliers

Summary of Findings, Cont'd

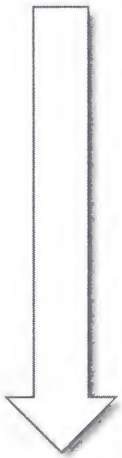
- **Comparison to the 2007 study**
  - NCRR 2007 study: $338 million output impact
  - NCRR 2014 study: $794 million output impact
  - Estimate of 2013 total ton-miles is lower than ton-miles estimate from 2007 study
  - Difference in impact largely driven by higher estimated cost-savings of rail versus truck
- **External cost-savings**
  - Accounting for social costs such as congestion, accidents, and pollution, freight transported over the NCRR corridor has an external cost savings of $141 million
- **NCRR allows NC to capture a larger amount of US market share than it would in the absence of the corridor**
- **Rail dependent industries**
  - Rail supports jobs in a diverse range of "rail dependent" industries in North Carolina such as agriculture, forestry, quarrying, paper, chemicals, and electricity generation.

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Methods and Approach

- **Hypothetical "what if" scenario**
  - NCRR rail corridor does not exist
  - In the absence of the corridor, the next best alternative would be long-haul trucking
  - Without NCRR, businesses would face increased transportation costs
- **Key data and estimates**



  Norfolk Southern freight carload and intermodal container data for shipments originating or terminating on the NCRR corridor

  Tonnage and distance estimates to translate carloads and containers into tons and ton-miles per commodity

  Mapping commodities originating and terminating to industry sectors

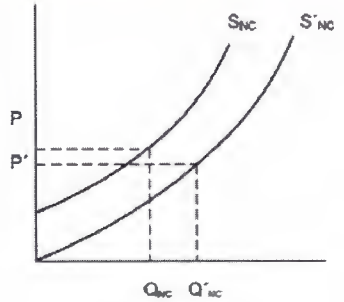
  Costs per ton-mile of freight rail and long-haul trucking

- **Estimated transportation cost savings by industry sector**

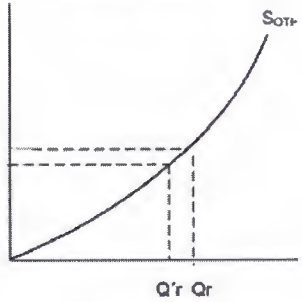
1. Excludes Norfolk Southern capital expenditure and maintenance expense on NCRR.

Methods and Approach, Cont'd

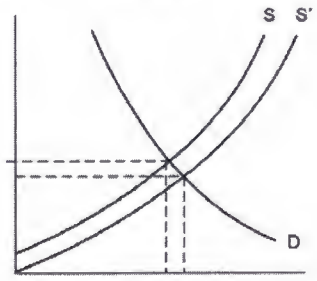
- **Economic Models**
  - Lower transportation costs leads to increased production for NC industries
  - IMPLAN multipliers to determine the total impact on the North Carolina economy
    - Account for supply chain and household income effects
    - Measure the impact on output, State GDP, and jobs
- **Key model inputs and assumptions**
  - Carload and container mapping to industries
  - "Responsiveness" of 440 industries' supply and demand to changes in cost
  - Lower trucking sector revenue partially offsets the positive effects of rail



North Carolina



Other U.S.



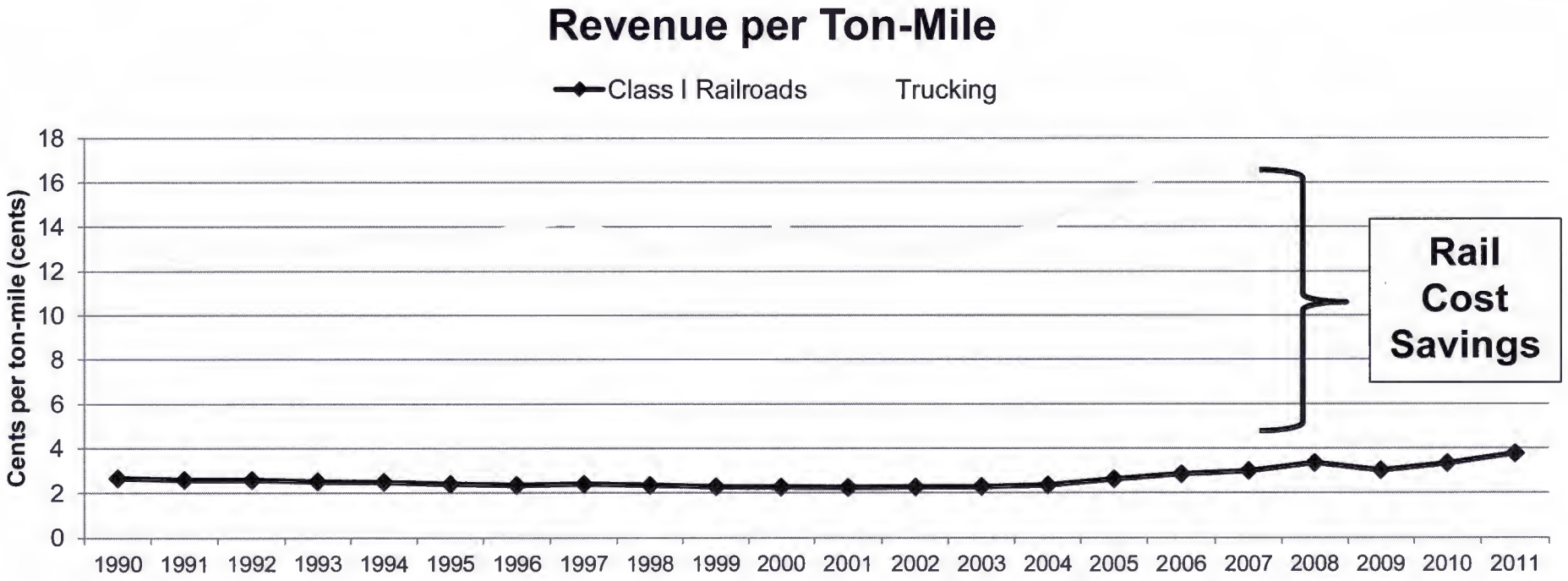
Market

Rail Cost-Savings Lead to Economic Impacts

Revenue per ton-mile (*cents*)

Cost of rail	Cost of intermodal rail	Cost of freight trucking	Cost savings of rail over truck	Cost savings of intermodal rail over pure truck
3.8[1]	7.0[2]	16.5[1]	12.8	9.6

1. BTS (2011, 2007)
2. Weighted average; Dewey (2002)

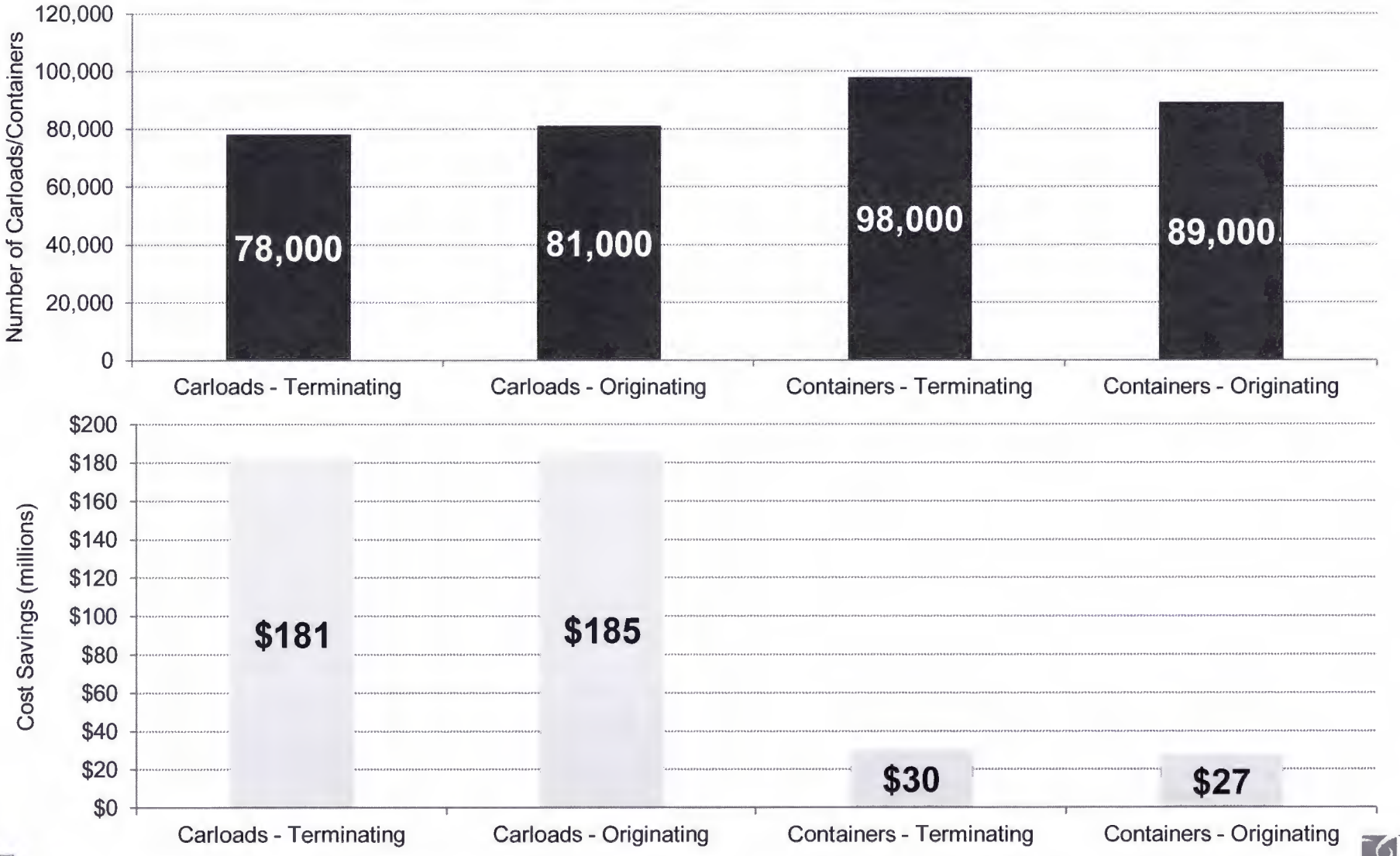


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Rail Traffic on the NCRR Corridor

Total Carloads/Containers and Total Cost Savings on the NCRR Corridor



Note: intermodal container shipments include Greensboro, Linwood, and Charlotte intermodal facilities

Top Ten Industries by Cost Savings due to NCRR

- Industry-specific cost savings depend on the Norfolk Southern freight data combined with our assumptions about trip length, tonnage, and commodity-industry linkages

Terminating

IMPLAN Description	*Cost Savings*
Pharmaceutical preparations	$9 M
Maintenance /repair of nonresidential	$ 8M
Construction of other new nonresidential	$8 M
Petrochemicals	$7 M
Construction of other new residential	$6 M
Personal and household goods repair and maintenance	$6 M
Other animal food manufacturing	$6M
Poultry and egg production	$6M
Food services and drinking places	$5M
Plastics material and resin manufacturing	$5 M

Originating

Industry Name	Cost Savings
Other basic organic chemicals	$33 M
Lime and gypsum products	$20 M
Mining and quarrying	$18 M
Soybean and oilseed processing	$12 M
Rolling mill and other metalworking machinery manufacturing	$12 M
Other basic inorganic chemicals	$11 M
Grain farming	$10 M
Plastics material sand resins	$8 M
Paperboard Mills	$7 M
Petroleum and coal products	$7 M

Supply and Demand Framework Results

- Compared to the "what if" scenario (an absence of the NCRR corridor), North Carolina companies
  - **save an estimated $424 million dollars** versus shipping by truck
  - **generate $499 million in net additional output** (i.e., sales) and
  - **NC industries gain US market share**

- Economic impact of NCRR is **partially offset by estimated revenue losses in the trucking sector**

Other direct NCRR impacts

- NCRR invests in the rail network[1]
  - **$9.6 million invested on rail infrastructure improvements in 2013**
  - Supports "rail dependent" industries by increasing efficiency, driving down transportation costs
  - Decreases external costs on society (e.g., accidents) with targeted investments



1. Includes Norfolk Southern capital expenditure and maintenance expense on NCRR.

Economic Impact Model Results



Multiplier
A ratio of the total economic effect to the direct effect.

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External Costs

- In addition to costs experienced by shippers and passengers, transportation imposes **externals costs**
  - **Costs experienced by individuals who are <u>not</u> directly involved in the transportation sector.**
- Examples of external costs
  - Congestion delays
  - Accidents
  - Air pollution (health costs)
  - Noise pollution



External Cost-Savings due to NCRR

- The net external cost of switching to truck would be about **1.6 cents per ton-mile**
- Based on our calculations, approximately **8.7 billion ton-miles** originated or terminated in North Carolina
- Assuming conservatively that only a portion of the external costs are experienced by North Carolinians, we estimate **a reduction in external cost of $141 million**.

External Cost Category	Trucking cost/ton-mile	Railroad cost/ton-mile	Net External Cost of Switching to Truck	Discount Factor	NC External cost/ton-mile burden
Congestion delay	$0.00410	$0.00030	-$0.00380		-$0.00380
Accident	$0.01130	$0.00240	-$0.00890		-$0.00890
Air pollution (Health)	$0.00890	$0.00195	-$0.00695	0.5	-$0.00348
Noise	$0.00050	$0.00050	$0.00000		$0.00000
Total	$0.03970	$0.00775	-$0.03195		**-0.01618**

$0.016
X
8.7 billion ton-miles
=
$141 million external cost savings

Source: RTI, GAO 2011

Summary

- **The NCRR makes businesses in NC more competitive by decreasing transportation costs for rail users**
  - NCRR's supports additional output, GDP, and jobs in NC
- **NCRR decreases the external costs of transporting goods**
- **Our approach is limited to 2013 impacts of the NCRR**
  - Since it's creation in 1848, NCRR has helped shape the State's economic geography
- **NCRR's impact is a case study of the impact of the statewide rail network**
  - 10% of railroad miles operated in NC
  - 17% of carloads and containers originating and terminating in NC
  - 19% of tonnage originating and terminating in NC

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Data Sources

Data Source	Information
Norfolk Southern	Freight carload and container data by STCC* (2013)
Association of American Railroads	Average cost per ton-mile, rail (2010-2012)
US DOT, Bureau of Transportation Statistics, National Transportation Statistics	Average revenue per ton-mile by mode of transportation (1960-2011)
US DOT, Bureau of Transportation Statistics, Commodity Flow Survey	Average miles per shipment in NC and US by SCTG** (2007)
US DOT, Surface Transportation Board, Carload Waybill Sample Reference Guide	US origin carloads and tonnage from waybill samples by STCC (2010-2012)
US DOT, Federal Highway Administration, Freight Analysis Framework Technical Documentation	STCC-to-SCTG crosswalk
US Census Bureau, Economic Census; EPA Elasticity Databank; literature	Economic data used to calibrate supply elasticities in the model
EPA Elasticity Databank; literature	Demand elasticities
IMPLAN, North Carolina Model	NAICS-to-IMPLAN crosswalk, economic impact multipliers, freight transportation demand, trade flows with other states, and economic indicators such as output, value added, and jobs (2012)
IMPLAN, US	US total output by sector (2010)
Government Accountability Office	External costs per ton-mile (2011)
BTS, America's Container Ports (US Dept. of Commerce)	Intermodal information: container-to-carload ratio, commodity mix
IMPLAN and NS data	Intermodal industry mix

*STCC = Standard Transportation Commodity Code
**SCTG = Standard Classification of Transported Goods

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NORTH CAROLINA
RAILROAD
COMPANY

ANNUAL REPORT 2015

NORTH CAROLINA'S PARTNER

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OUR MISSION:

To develop the unique North Carolina Railroad assets for the good of the people of North Carolina.

OUR VISION:

To improve our state by:

Enabling freight to grow business;

Expanding rail to move people;

Investing in North Carolina.

LETTER FROM THE CHAIRMAN



2015 was a year of action and collaboration for the North Carolina Railroad.

The Company moved forward on implementing "NCRR Invests," an initiative aimed at enhancing the state's economic development activities through investments in North Carolina's railroad infrastructure. NCRR is also working closely with economic development partners at the state and local level to make meaningful investments in sites that have the potential to bring transformational job growth to the state, as demonstrated in the Company's investment in the Greensboro-Randolph Megasite and our commitment to North Carolina's other rail-served megasites.

As stated in its Mission, the North Carolina Railroad Company is developing its assets for the good of the people of North Carolina, its single shareholder. One way the Company does this is by reinvesting its revenue in the corridor itself, ensuring that the rail line is built to meet and exceed the state's freight rail needs. In 2015, NCRR completed significant upgrades to various portions of the corridor and began further upgrades to accommodate future capacity needs.

Partnership is extremely important to NCRR as it implements its strategic vision. One of our key partners is Norfolk Southern. Through our trackage rights agreement with the Class 1 freight rail operator, more than 100 customers are served along the NCRR Line, and the need for freight rail infrastructure continues to grow among businesses looking to locate or expand in our state. With this in mind, the Company continues its management of the 317-mile corridor in ways that create jobs, retain existing industry, help grow the economy and maximize its value.

The North Carolina Railroad was chartered 167 years ago for the purpose of economic development, and that focus continues today. The North Carolina Railroad Company and its Board of Directors look forward to opportunities to collaborate with partners in maintaining North Carolina's competitive advantage. I'm proud to serve as Chairman of the NCRR Board, and to be a part of an historic organization that will continue to build on a dedication to economic growth for our state.

Franklin Rouse
Chairman, NCRR Board of Directors



IN ECONOMIC DEVELOPMENT

tments that drive job creation and economic growth.

NCRR INVESTS

NCRR Invests

The North Carolina Railroad Company has an historic role in the state's economic development. In 2015, NCRR continued to build on that history by launching "NCRR Invests," an initiative that will enhance the state's economic development efforts through investments in railroad infrastructure.

"NCRR Invests" provides assistance to companies that take advantage of North Carolina's freight rail opportunities to create jobs, by locating or expanding their business in North Carolina. Through "NCRR Invests," the North Carolina Railroad Company will consider investments in engineering design, construction or related costs associated with the rail infrastructure needs of a potential new industry location or expansion.

"NCRR Invests is another tool to ensure North Carolina's competitive advantage as businesses look to locate or expand in our state," says Anna Lea Moore, Vice President of Economic Development at NCRR. "Our ability to work with North Carolina's economic development officials to provide needed rail infrastructure is extremely important to many companies as they decide where to locate their operations."

Transformational Opportunities

The southeast is a prime location for large manufacturers looking to relocate or expand assembly operations, and North Carolina continues to be a contender among auto manufacturers and other large-scale assembly plants. In order to accommodate large-scale industry, megasites are an important component in the state's efforts to recruit a manufacturer of significant size.

The North Carolina Railroad Company retained expert counsel who confirmed that North Carolina is home to four of the most competitive sites in the southeast United States.

One of the four identified sites—the Greensboro-Randolph Megasite—needed to be assembled, and this was where the NCRR Board believed the Company could be of assistance, working with Randolph County, the Bryan Foundation and the City of Greensboro to ensure that this site would be another tool to increase the state's competitiveness.

NCRR and its Board of Directors are committed to making select rail investments in key sites that have the potential to bring large scale industry that would result in transformational job growth for our state.

When any of North Carolina's sites are in the running for a transformational job growth opportunity, NCRR will look for ways to assist in site infrastructure, with the focus on ensuring that North Carolina secures a competitive advantage in recruiting new and expanding industry.



Asbury Carbons

In May 2015, Asbury Carbons announced it would build a new minerals processing operation in Lumberton, N.C. The company committed to create at least 25 jobs and invest $8 million in the new Robeson County facility.

NCRR invested $50,000 to assist Robeson County with the engineering and design costs associated with the required new rail infrastructure at the site.

IN BUILDING RAIL INFRASTRUCTURE

Meeting North Carolina's current and future rail capacity needs.

$83 million

invested by NCRR in infrastructure improvements since 2000 (completed projects)

$115 million

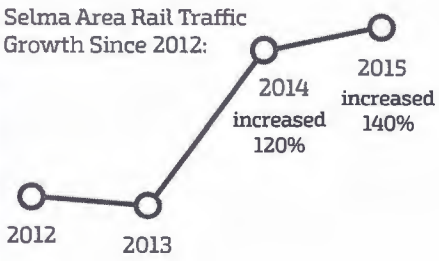
committed by NCRR to future economic development and infrastructure improvements (Board committed projects)



The North Carolina Railroad Company is committed to ensuring that the rail line is prepared to meet future capacity needs. Throughout 2015, the Company continued a $13 million capital investment strategy approved by the Board of Directors in 2014 that is improving safety, increasing capacity and further sustaining the 317-mile corridor from Charlotte to Morehead City.

The Railroad also continued to build on its partnership with the NCDOT Rail Division. Since the North Carolina General Assembly first established the Freight Rail and Rail Crossing Safety Improvement Fund (FR&RCSI) in 2013, the North Carolina Railroad Company has paid $26 million in dividends to its single shareholder, the State of North Carolina. This annual dividend is equal to 25 percent of the Railroad's trackage rights agreement revenue from Norfolk Southern and is designed to assist in funding improvements to railroads across the state in order to recruit new and expanding industry and improve safety.

NCRR is also working closely with NCDOT on the final stages of the Piedmont Improvement Program, which involves upgrades to portions of the NCRR line to accommodate future increases in capacity related to passenger trains. This program is managed by the Rail Division with funds provided through the American Recovery and Reinvestment Act, as well as a capital investment of more than $30 million by NCRR.



Projects



Crabtree Creek Bridge

NCRR is partnering with the Town of Morrisville and is investing $6.9 million to construct a new railroad bridge over Crabtree Creek in Morrisville, replacing a structure built in 1927. The new railroad bridge includes a provision for a pedestrian greenway to be constructed under the bridge, and allows for a future second track that could be required to maintain freight service, and any future passenger rail.



Sugar Creek Road Bridge over NCRR

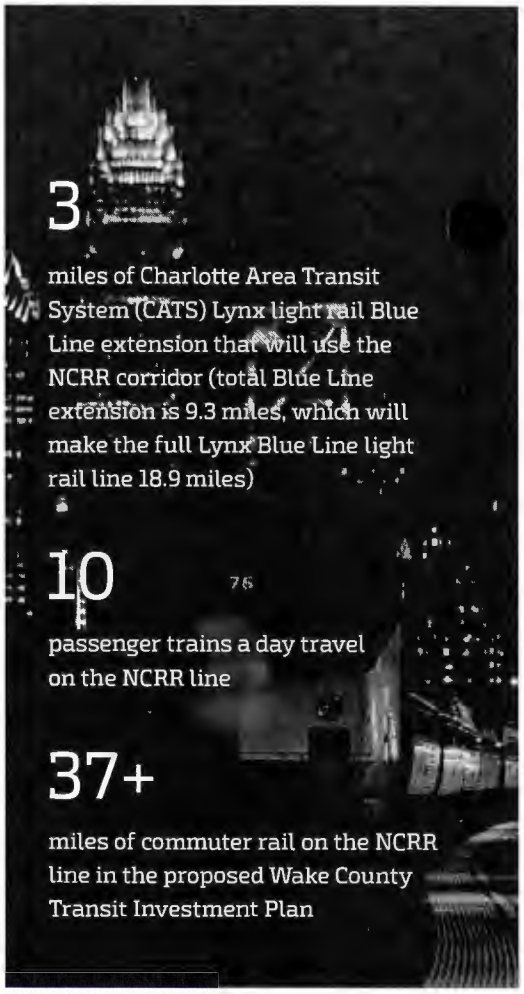
NCRR is partnering with NCDOT on replacing an at-grade or, street-level, crossing with an overhead bridge at Sugar Creek Road in Charlotte. The total cost of the project is $43 million. NCRR is committing a $10 million capital investment to the project. The Sugar Creek Road crossing experiences the highest amount of traffic on the NCRR line.

IN FUTURE PASSENGER RAIL

Moving people in North Carolina.

The North Carolina Railroad Company continues to be an active partner in the state's passenger rail needs. Currently, 10 Amtrak passenger trains travel along the NCRR line every day.

NCRR also understands the local and regional transit needs among the communities that are located along the line. The Company is currently working with the Charlotte Area Transit System (CATS) to accommodate an expansion of the city's Blue Line light rail service that will extend to UNC Charlotte. Approximately three miles of the 9.3 mile Blue Line extension will use the NCRR corridor. NCRR is also working with Wake County leadership as the county considers its long-term transportation strategy and the potential role of commuter rail in the Triangle.



3

miles of Charlotte Area Transit System (CATS) Lynx light rail Blue Line extension that will use the NCRR corridor (total Blue Line extension is 9.3 miles, which will make the full Lynx Blue Line light rail line 18.9 miles)

10

passenger trains a day travel on the NCRR line

37+

miles of commuter rail on the NCRR line in the proposed Wake County Transit Investment Plan

IN RAIL SAFETY

Rail Safety is top of mind for the North Carolina Railroad Company. Although Norfolk Southern operates the trains that run on the railroad, NCRR considers it part of its mission to provide safety resources for those accessing the corridor as part of day to day operations or in case of emergency.

In 2015, NCRR published an updated edition of Rail Safety for First Responders, a pocket-sized rail safety resource for emergency management officials. More than 1,000 booklets were shared with first responders, law enforcement and emergency management officials across the state at no charge.



$3 million

invested by NCRR on safety projects (grade crossing improvements and pedestrian underpasses)

25

number of bridges or culverts NCRR has replaced or improved since 2000 ($35.5 million in NCRR investment on these bridges)

BOARD OF DIRECTORS
AND MANAGEMENT TEAM



NCRR BOARD MEMBERS

Franklin Rouse
Chairman
Leland
President, Rouse Insurance Agency, Inc.

Robert Brown
Vice Chairman
High Point
CEO, B&C Associates

Jacob F. Alexander, III
Salisbury
Sales Director, Genan, Inc

Thomas Glasgow
Morehead City
Retired Vice President and CEO, Clancy and Theys Construction Company, Virginia Division

Jeffrey Goodman
Asheville
Chairman and CEO, Hedrick Industries

Fred Klein
Charlotte
Senior Managing Partner, Childress Klein Properties

James E. Nance
Albemarle
Managing Member, North State Acquisitions, LLC

Gervais Oxendine
Lumberton
Retired, Abbott Laboratories

John M. Pike
Goldsboro
CEO, Goldsboro Milling Company

George Rountree III
Wilmington
Attorney and Special Counsel, Rountree Losee, LLP

Douglas Stafford
Charlotte
Principal, Griffin Stafford Hospitality

John Skvarla, III
Raleigh
Secretary, NC Department of Commerce

Michael Walters
Fairmont
President, Claybourn Walters Logging Co., Inc

MANAGEMENT TEAM

Scott M. Saylor
President

Daniel P. Halloran, CPA
Vice President and Chief Financial Officer

Charles E. Burnell, Jr.
Vice President, Real Estate

James K. Kessler, P.E.
Vice President, Engineering

Anna Lea Moore
Vice President, Economic Development

Donald H. Arant, P.E.
Staff Engineer

Catherine A. Campbell
Planning Director

Cathy Deeley
Real Estate Representative

Melissa DeVita
Department Administrative Assistant

Kristian D. Forslin, GISP, PLS
GIS Coordinator

Megen Hoenk
Director of Corporate Communications

Hilary A. Kanupp, CA
Archivist

Justin Madigan
Infrastructure Manager

William C. Miller
Property Manager

Nancy D. Pickett
Office Manager

John L. Spencer
Director of Corridor Property

Richard L. Wiley
Senior Consultant for Economic Development



FINANCIAL REPORT

Consolidated Financial Statements for the Years Ended December 31, 2015 and 2014, and Independent Auditors' Report

NORTH CAROLINA RAILROAD COMPANY

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DHG
DIXON HUGHES GOODMAN

Directors and Stockholder
North Carolina Railroad Company
Raleigh, North Carolina

We have audited the accompanying consolidated financial statements of North Carolina Railroad Company and subsidiary, which comprise the consolidated balance sheets as of December 31, 2015 and 2014, and the related consolidated statements of operations and comprehensive income (loss), changes in stockholder's equity, and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility
Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of North Carolina Railroad Company and subsidiary as of December 31, 2015 and 2014, and the results of their operations and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Dixon Hughes Goodman LLP

Raleigh, North Carolina
June 2, 2016

NORTH CAROLINA RAILROAD COMPANY
CONSOLIDATED BALANCE SHEETS

	2015	2014
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 5,804,488**	$ 4,927,993
Accounts receivable, net of allowance for doubtful accounts of $350,000 and $308,000 for 2015 and 2014	**102,362**	52,998
Prepaid expenses	**19,498**	25,818
Total current assets	**5,926,348**	5,006,809
Property and equipment:		
Roadway and land	**7,848,742**	7,848,742
Tracks, signals and bridges	**141,548,125**	132,652,580
Land	**4,402,236**	4,654,561
Buildings and improvements	**16,396,347**	15,875,959
Equipment and furniture	**2,561,604**	2,106,703
Construction in progress	**3,578,952**	6,295,850
	176,336,006	169,434,395
Less accumulated depreciation	**102,838,984**	92,727,598
Property and equipment, net	**73,497,022**	76,706,797
Other assets:		
Funded capital projects	**82,450,682**	80,624,572
Long-term receivables	**4,573,674**	3,595,532
Other	**8,065**	22,265
Total other assets	**87,032,421**	84,242,369
Total assets	**$ 166,455,791**	$ 165,955,975

See accompanying notes to consolidated financial statements

	2015	2014
LIABILITIES AND STOCKHOLDER'S EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	**$ 1,698,180**	$ 697,531
Dividend payable	**3,779,305**	3,717,995
Current portion of unearned rent	**262,623**	225,517
Total current liabilities	**5,740,108**	4,641,043
Long-term liabilities:		
Security deposits	**47,514**	47,514
Deferred tax liability	**1,043,000**	1,147,000
Unearned rent	**10,874,545**	11,025,000
Total long-term liabilities	**11,965,059**	12,219,514
Total liabilities	**17,705,167**	16,860,557
Stockholder's equity:		
Common stock, $0.50 par value; 10,000,000 shares authorized; 317 shares issued and outstanding	**159**	159
Additional paid-in capital	**204,866,667**	199,001,857
Accumulated deficit	**(56,625,365)**	(51,802,448)
Accumulated other comprehensive income:		
Unrealized gain on available-for-sale securities	**509,163**	1,895,850
Total stockholder's equity	**148,750,624**	149,095,418
Total liabilities and stockholder's equity	**$ 166,455,791**	$ 165,955,975

See accompanying notes to consolidated financial statements

NORTH CAROLINA RAILROAD COMPANY

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)

	2015	2014
Income:		
Lease of roadway and land	$ 15,117,219	$ 14,871,981
Other lease income	2,531,006	3,005,105
Total lease income	17,648,225	17,877,086
Expenses:		
Wages and benefits	2,009,007	1,819,870
Professional fees	574,238	450,944
Contracted services	1,186,891	764,903
Franchise and property taxes	437,961	431,434
Insurance	157,902	151,762
Reporting and public relations	189,186	224,311
Depreciation	10,111,387	10,509,215
Engineering, surveying and mapping	539,818	742,786
Property and corridor management	402,667	366,310
Bad debts	44,481	20,812
General and administrative	696,461	660,016
Economic development	535,100	-
Total expenses	16,885,099	16,142,363
Operating income	763,126	1,734,723
Other income (expenses):		
Investment income	2,666,092	1,651,483
Gain on disposition of assets	181,856	-
Other income	853,756	859,621
Project contributions	(5,410,000)	-
Total other income (expense)	(1,708,296)	2,511,104
Income (loss) before income taxes	(945,170)	4,245,827
Income tax expense	98,442	141,079
Net income (loss)	$ (1,043,612)	$ 4,104,748
Other comprehensive income (loss):		
Unrealized gains (losses) on securities:		
Unrealized holding gains (losses) arising during the period	(587,979)	1,382,794
Less reclassification adjustments for unrealized holding gains (losses) included in net income	(798,708)	357,805
Other comprehensive income (loss)	(1,386,687)	1,740,599
Comprehensive income (loss)	$ (2,430,299)	$ 5,845,347

See accompanying notes to consolidated financial statements

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDER'S EQUITY

	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholder's Equity
Balance, December 31, 2013	$ 159	$ 199,001,857	$ (52,189,201)	$ 155,251	$ 146,968,066
Dividends	-	-	(3,717,995)	-	(3,717,995)
Net income	-	-	4,104,748	1,740,599	5,845,347
Balance, December 31, 2014	159	199,001,857	(51,802,448)	1,895,850	149,095,418
Capital improvement contributions	-	5,864,810	-	-	5,864,810
Dividends	-	-	(3,779,305)	-	(3,779,305)
Net loss	-	-	(1,043,612)	(1,386,687)	(2,430,299)
Balance, December 31, 2015	$ 159	$ 204,866,667	$ (56,625,365)	$ 509,163	$ 148,750,624

See accompanying notes to consolidated financial statements

NORTH CAROLINA RAILROAD COMPANY
CONSOLIDATED STATEMENTS OF CASH FLOWS

	2015	2014
Cash flows from operating activities:		
Net income (loss)	**$ (1,043,612)**	$ 4,104,748
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Provision for bad debts	**44,481**	(20,812)
Depreciation	**10,111,387**	10,509,215
Deferred income tax benefit	**(104,000)**	(87,000)
Interest earned by funded capital project investments	**(2,674,044)**	(1,746,857)
Gain on disposal of property and equipment	**(181,856)**	-
Changes in operating assets and liabilities:		
Accounts receivable	**(93,845)**	17,573
Long-term receivable	**(978,142)**	(961,198)
Prepaid expenses	**6,320**	6,851
Other assets	**14,200**	(1,042)
Accounts payable and accrued expenses	**1,447,755**	(3,271,072)
Unearned revenues	**(150,455)**	(200,454)
Net cash provided by operating activities	**6,398,189**	8,349,952
Cash flows from investing activities:		
Purchase of property and equipment	**(1,699,126)**	(1,861,175)
Proceeds from sale of property	**434,180**	-
Transfer of unrestricted cash and cash equivalents to funded capital projects to fund board designations	**(6,000,000)**	(10,000,000)
Transfers of funded capital projects monies to cash and cash equivalents for capital expenditures	**5,461,247**	5,143,190
Net cash used in investing activities	**(1,803,699)**	(6,717,985)
Cash flow from financing activities:		
Payment of dividend	**(3,717,995)**	(3,654,157)
Net cash used in financing activities	**(3,717,995)**	(3,654,157)
Net increase (decrease) in cash and cash equivalents	**876,495**	(2,022,190)
Cash and cash equivalents at beginning of year	**4,927,993**	6,950,183
Cash and cash equivalents at end of year	**$ 5,804,488**	$ 4,927,993
Supplemental disclosure of cash flow information:		
Cash paid for income taxes	**$ 207,495**	$ 113,500
Supplemental schedule of noncash investing and financing activities:		
Additions to property and equipment contributed by the North Carolina Department of Transportation	**$ 5,864,810**	$ -
Disposal of CIP to Economic Development Expense	**$ 410,000**	$ -
Accrued dividends payable	**$ 3,779,305**	$ 3,717,995

See accompanying notes to consolidated financial statements

Notes to Consolidated Financial Statements

1. Nature of Business

The North Carolina Railroad Company and subsidiary, a North Carolina company, (collectively referred to as the "Company"), owns approximately 317 miles of continuous railroad line extending from Charlotte, North Carolina to Morehead City, North Carolina. The Company's railroad facilities are operated by Norfolk Southern Railway Company ("NSR"). The State of North Carolina is the sole owner of all the common stock of the Company.

N.C. Railroad, Inc. ("NCRI"), a wholly owned subsidiary of the North Carolina Railroad Company ("NCRR"), was formed on December 15, 2006. NCRI conducts certain taxable activities, such as leasing of commercial real estate, while NCRR conducts all tax exempt activities, such as leasing of railroad facilities and corridor management.

2. Significant Accounting Policies

Basis of Consolidation

The accompanying consolidated financial statements include the accounts of NCRR and its wholly owned subsidiary, NCRI. All intercompany transactions and balances have been eliminated in consolidation.

Use of Estimates

In preparing its consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP"), management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the consolidated balance sheet date and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and cash equivalents

For purposes of the consolidated statement of cash flows, the Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents. Cash equivalents include money market funds. Cash and cash equivalents that are restricted or designated by the Board of Directors for capital projects are reported as Funded Capital Projects in the accompanying consolidated balance sheets. See Note 5.

At times, the Company places cash and cash equivalents and certificates of deposits with original maturities of three months or more with financial institutions in amounts that are in excess of Federal Deposit Insurance Company insurance limits. The Company has not experienced any losses in such accounts. The financial condition of financial institutions is periodically reassessed, and the Company believes the risk of any loss is minimal.

Accounts Receivable

Accounts receivable are uncollateralized obligations due under agreements. The Company provides an allowance for doubtful accounts equal to the estimated losses that are expected to be incurred in their collection. The allowance is based on historical collection experience and management's review of the current status of the existing receivables. An account receivable is considered to be past due if any portion of the receivable balance is outstanding for more than 30 days.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. The Company computes depreciation using the straight-line method over the following estimated useful lives:

	Estimated Useful Lives (Years)
Buildings and building improvements	25
Bridges	25
Track and signals	10
Equipment and furniture	3 - 7

Values of the properties included in roadway and land approximate 1916 valuations by the Interstate Commerce Commission. These properties represent fully depreciated roadway or undepreciated land. The Company assesses long-lived assets for impairment whenever events or changes indicate that the carrying amount of the assets may not be recovered based on estimated future undiscounted cash flows. In the event such cash flows are not expected to be sufficient to recover the carrying value of the assets, the useful lives of the assets are revised or the assets are written down to their estimated fair values.

Funded Capital Projects

Securities Held to Maturity

Debt securities for which the Company has the positive intent and ability to hold to maturity are classified as "held-to-maturity" and are reported at amortized cost, adjusted for premiums and discounts that are recognized in interest income using the interest method over the period to maturity. There are no held to maturity securities as of December 31, 2015.

Securities Available for Sale

Investments in marketable equity securities and debt securities not classified as held-to-maturity securities are classified as available-for-sale and are reported at fair value, with changes in net unrealized gains and losses included in other comprehensive earnings, net of tax, if any. When securities are sold, gains and losses are determined using the specific identification method for all investments except mutual funds which are determined using the average cost method. Investments are classified as noncurrent due to the board designations of investments for capital improvements. The Company reviews securities when quoted market prices are less than cost to determine if the impairment is other than temporary. Declines in the fair value of individual securities below their cost that are other than temporary would result in write-downs of the individual securities to their fair value with such write down being included in earnings as realized losses.

Fair values

The Company uses market data or assumptions that market participants would use in pricing assets and liabilities at fair value, and establishes a three-tier fair-value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include values based on quotes in active markets for identical assets (Level 1), values estimated based on other available market information including quoted market prices for similar assets in active and non-active markets and pricing models based on observable inputs (Level 2), and values based on management's estimates using various valuation methods (Level 3).

Revenue Recognition

Lease of Roadway and Land

Revenue received from property that is operated by NSR is reflected in the consolidated statements of income when earned in accordance with the Company's lease arrangements.

Other Lease Income

The Company leases certain property that is not operated by NSR. Revenue is reflected in the consolidated statements of operations when earned. The Company also collects license fee revenue which is recognized when earned. The Company defers recognition of contingent rentals until the requirements are met.

Advertising

The Company paid $37,788 and $63,855 in advertising expenses for 2015 and 2014, respectively.

Income Taxes

Pursuant to Section 11146 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (the "Act"), a substantial portion of the Company's income is exempt from federal and state income taxes. The activities that generate income which is not exempt from federal and state income taxes pursuant to the Act are conducted in NCRI.

Deferred tax assets and liabilities are recognized by NCRI for the estimated future tax consequences attributable to differences between the tax bases of assets and liabilities and their carrying amount for financial reporting purposes. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which the temporary differences are expected to be recovered or settled. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that the tax benefits will not be realized.

3. Funded Capital Projects

The following is a summary of the securities portfolio by major classification included in funded capital projects at December 31, 2015 and 2014:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2015				
Available for Sale:				
Foreign debt instruments	$ 1,421,698	$ 17,296	$ -	$ 1,438,994
U.S. Government and federal agencies	4,763,388	-	12,058	4,751,330
Mortgage backed securities	11,557,311	-	114,458	11,442,853
Collateralized mortgage obligations	16,346,845	-	108,383	16,238,462
State and local governments	5,511,823	-	75,139	5,436,684
Corporate debt securities	17,196,939	-	157,635	17,039,304
Mutual funds	13,002,863	959,540	-	13,962,403
	$ 69,800,867	$ 976,836	$ 467,673	$ 70,310,030

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2014				
Held to Maturity:				
Corporate bonds	$ 4,986,607	$ 2,517	$ -	$ 4,989,124
Available for Sale:				
Foreign debt instruments	$ 909,323	$ 15,897	$ -	$ 925,220
U.S. Government and federal agencies	8,402,770	3,810	12,723	8,393,858
Mortgage backed securities	9,594,640	9,088	4,336	9,599,392
Collateralized mortgage obligations	10,457,070	-	10,003	10,447,066
State and local governments	3,914,472	-	99,987	3,814,485
Corporate debt securities	15,744,592	-	57,566	15,687,026
Mutual funds	18,180,343	2,051,670	-	20,232,013
	$ 67,203,210	$ 2,080,465	$ 184,615	$ 69,099,060

Held to maturity securities are carried in the financial statements at amortized cost. Available for sale securities are carried in the financial statements at fair value. For the year ended December 31, 2015, a net unrealized holding loss on available for sale securities in the amount of $1,386,687 has been included in accumulated other comprehensive income. For the year ended December 31, 2014, a net unrealized holding gain on available for sale securities in the amount of $1,740,599 has been included in accumulated other comprehensive income.

The fair values of securities carried at fair value in the accompanying financial statements are determined as follows:

	December 31, 2015	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Foreign debt instruments	$ 1,438,994	$ -	$ 1,438,994	$ -
U.S Government and federal agencies	4,751,330	-	4,751,330	-
Mortgage backed securities	11,442,853	-	11,442,853	-
Collateralized mortgage obligations	16,238,462	-	16,238,462	-
State and local governments	5,436,684	-	5,436,684	-
Corporate debt securities	17,039,304	-	17,039,304	-
Mutual funds	13,962,403	13,962,403	-	-
	$ 70,310,030	$ 13,962,403	$ 56,347,627	$ -

	December 31, 2014	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Foreign debt instruments	$ 925,220	$ -	$ 925,220	$ -
U.S Government and federal agencies	8,393,858	-	8,393,858	-
Mortgage backed securities	9,559,392	-	9,559,392	-
Collateralized mortgage obligations	10,447,066	-	10,447,066	-
State and local governments	3,814,485	-	3,814,485	-
Corporate debt securities	15,687,026	-	15,687,026	-
Mutual funds	20,232,013	20,232,013	-	-
	$ 69,099,060	$ 20,232,013	$ 48,867,047	$ -

All assets have been valued using a market approach. Fair values for assets in Level 2 are calculated using quoted market prices for similar assets in markets that are not active

In addition to the investments disclosed above, Funded Capital Projects includes cash and cash equivalents totaling $12,136,635 and $6,528,835 and accrued interest receivable totaling $4,017 and $10,070 at December 31, 2015 and 2014 respectively. Investment management fees, totaling $156,657 and $130,949, respectively, in 2015 and 2014, are netted against investment income.

The amortized cost and fair values of available for sale securities at December 31, 2015 and 2014 by contractual maturity, and the amortized cost and fair values of held to maturity securities at December 31, 2014 by contractual maturity are shown below. Actual expected maturities may differ from contractual maturities because issuers may have the right to call or prepay obligations. No securities have been in a continuous loss position for more than 12 months.

	Amortized Cost	Fair Value
December 31, 2015		
Available for sale:		
Due within one year	**$ 4,568,766**	**$ 4,406,318**
Due after one year through five years	**21,995,609**	**21,733,043**
Due after five years through ten years	**11,435,275**	**11,407,749**
Due after 10 years	**18,798,353**	**18,800,517**
Equities	**13,002,863**	**13,962,403**
	$ 69,800,867	**$ 70,310,030**
December 31, 2014		
Held to Maturity:		
Due after one year through five years	$ 4,986,607	$ 4,989,124
Available for sale:		
Due within one year	$ 1,387,339	$ 1,357,902
Due after one year through five years	24,472,872	24,136,012
Due after five years through ten years	10,042,177	10,135,621
Due after 10 years	13,120,479	13,237,512
Equities	18,180,343	20,232,013
	$ 67,203,210	$ 69,099,060

4. Trackage Rights Agreement and Leases on Roadway and Land

Prior to 1999, substantially all of the Company's assets were leased to NSR or its predecessors, in two leases originally dating back to 1895 and 1939. The terms of the leases did not require either the Company or Norfolk Southern to renew the leases.

On August 10, 1999, the Board of Directors of the Company approved a Trackage Rights Agreement ("TRA") concurrent with NSR terminating the original leases. The TRA's term is 15 years with two 15-year renewal options by NSR (45 years) for a base annual rental of $11,000,000 (minimum) beginning January 1, 2000, with annual adjustments based upon an inflation index and a 4.5% annual cap (arbitration of cap if it exceeds an average of 4.5% over any 7-year period). The TRA provides for transition of management of certain non-rail properties to the Company, maintenance of the Company's rail property, inspections, records sharing, and audit. The TRA was approved by the Surface Transportation Board on September 1, 1999. During 2012 NSR exercised its option to renew the TRA for the 15 year period beginning January 1, 2015 and ending on December 31, 2029.

The TRA grants exclusive freight trackage rights to NSR to conduct all freight operations over the NCRR railroad line. Under federal law the National Rail Passenger Corporation ("Amtrak") operates over NSR operated lines under agreements with NSR. NSR is obligated under the TRA to provide rail service to all industries on the NCRR line. NSR is obligated to maintain the NCRR line and any improvements made to the line by NSR for freight operations. Under the TRA, NSR does not have financial responsibility for passenger improvements made by the Company, North Carolina Department of Transportation (NCDOT), Amtrak, or other parties.

Approximately 38 parcels not used in railroad operations have been returned to the Company for separate (non-NSR) management. These noncorridor properties are managed by the Company after transition from NSR management. The TRA contains provisions for responsibility for environmental matters by NSR and the Company.

NSR is responsible for any taxes on its freight operations. A Policy Planning Committee comprised of NCRR and NSR representatives addresses all future planning issues, capital improvements, and any disputes that arise under the TRA. In the event of any disagreements, NCRR and NSR are subject to binding arbitration under the TRA.

A lease of certain properties in Charlotte, North Carolina to NSR (the 1968 Lease) expires on December 31, 2067, and provides for an annual rental of $81,319 through December 2018. The 1968 lease provides that beginning on January 1, 2019, the annual rental for the remaining term of the 1968 Lease is 6% of the appraised value of the property on that date. Under the terms of the 1968 Lease, all taxes connected with the property, except income taxes, are paid by the lessee. The 1968 Lease was not affected by the TRA.

Pursuant to agreements signed in each year since 2008, NCRR has assigned to NSR all of the NCRR lines that constitute eligible railroad tracks solely for purposes of allowing NSR to qualify as an eligible taxpayer with respect to such track and to claim tax credits under section 45G(a) for qualified railroad track maintenance expenditures it pays or incurs during each year under agreement with respect to such track. In exchange, NSR agrees to pay to NCRR fifty percent of the tax credits NSR claims. Payment of the amount owed under the agreement is not due until the amount of the allowable credit is not subject to further appeal, review or modification through proceedings or otherwise.

The Company has recorded a long-term receivable amounting to $4,555,718, representing $4,243,750 of total tax credit revenue that the Company is due for tax years 2011 to 2015 from NSR, plus accumulated 4% interest of $311,968, as of December 31, 2015.

5. Capital Commitments

Project Agreements and Contracts

As of December 31, 2015, the Company has capital commitments under various individual project agreements and other contracts totaling $47.4 million. The contractual commitments of the Company consist of certain capital improvement projects set forth in project agreements, other strategic and economic development investments including commitments for the purchase of certain real estate, and ARRA/PRIIA High-Speed Passenger Rail improvement projects. The ARRA/PRIIA High-Speed Passenger Rail improvement commitments are further described in more detail below. The various individual projects, capital improvements and strategic investments to which capital is committed are scheduled for completion between 2016 and 2020.

ARRA/PRIIA High-Speed Passenger Rail Projects

In 2011, the State of North Carolina was selected to receive certain federal grant awards through the American Recovery and Reinvestment Act of 2009 ("ARRA") and the Passenger Rail Investment Act of 2008 ("PRIIA") for the capital funding of certain high speed intercity passenger rail projects, under which NCDOT is the grantee of the awards. On December 15, 2010, the Company, the NCDOT, and NSR entered into an Agreement on Principles ("AOP"), which outlined certain terms for capital improvements within and along the NCRR corridor operated by NSR (Note 4). On March 21, 2011, the Company, NCDOT, NSR and Amtrak entered into a Definitive Service Outcomes Agreement ("DSOA"), clarifying the individual parties' responsibilities and further detailing the projects to be funded by the grants to NCDOT. On March 21, 2012, the Company and the NCDOT entered into a Railroad Corridor Property Acquisition Agreement ("RCPA") regarding rail corridor property, including acquisition of additional railroad corridor property needed in connection with certain projects funded by the grants to NCDOT. As a result of these agreements, management expects to record a capital contribution and related assets for a portion of the improvements that will be made by NCDOT as the improvements are completed in future periods, in addition to the commitment of funds made by the Company described below.

Under the AOP, DSOA, and RCPA, the Company has committed up to a total of $31,000,000 of capital investment toward certain projects in order to assist in completion of certain track capacity improvement projects and engineering. Out of its $31,000,000 commitment, the AOP and DSOA provide that the Company reserve up to $10,000,000 for a Capital Reserve Fund, which is designated by the Company for the purpose of making further capacity improvements to the NCRR line in the future in order to improve passenger and freight train reliability caused by identified unacceptable train delays. Investments by the Company under these agreements are to be applied against and reduce the Company's commitment under the agreements. Through December 31, 2015, the Company has expended approximately $4 million of its commitments under these agreements. In the year ended December 31, 2015, the Company made a project contribution of $5.4 million for a joint highway and rail project in Charlotte for which the Company did not receive any depreciable assets. The Company also has committed use of the Company's rail corridor lands for such capacity and other related improvement projects.

Board Designated Funds

The Board of Directors passed resolutions during 2015 and 2014 to designate $6,000,000 and $10,000,000, respectively, of unrestricted cash for use on capital improvement projects.

The Company has designated the following amounts (invested in cash, certificates of deposit or debt securities) for capital improvement projects as follows:

	2015	2014
Restricted under contracts	$ 47,376,109	$ 37,695,918
Restricted for other capital improvements	146,772	146,062
Board designated funds	34,927,801	42,782,592
Funded capital projects	$ 82,450,682	$ 80,624,572

6. Employee Benefit Plan

The Company established a Safe Harbor 401(k) Plan effective January 1, 2012 to provide retirement benefits for its employees. All full-time employees who meet certain eligibility requirements are qualified to participate in the 401(k) Plan. Participants may make pre-tax deferrals up to 90% of their compensation subject to Internal Revenue Service limitations. Participants are fully vested in their contributions plus actual earnings thereon and any rollovers into their accounts. The Company contributes 3% of the compensation of all eligible active participants. In addition, the Company may elect each plan year whether to make a discretionary employer contribution on behalf of eligible active participants. Employer contributions for the years ended December 31, 2015 and 2014 were $92,977 and $91,200, respectively, including $53,130 and $52,180, respectively, of discretionary contributions.

On April 18, 2013, the Company established a deferred compensation plan for an officer. The compensation will be paid out according to the terms of the plan unless the employee is terminated for cause as defined in the plan. The Company incurred expenses of $35,908 and $50,802 related to the plan in 2015 and 2014.

7. Future Minimum Lease Revenue

The Company derives income from leased commercial space and other property under non-cancellable operating leases. Of the non-cancellable leases, one lease, described in Note 4, comprises 86% of the lease income. Rental income received from this lease during 2015 and 2014 was approximately $15.1 million and $14.9 million, respectively. The remaining non-cancellable leases are related to the rental of commercial space. Future minimum rent receipts, excluding renewal periods, on the non-cancellable operating leases are as follows for the years ending December 31:

	Amount
2016	$ 15,673,949
2017	15,649,308
2018	15,520,217
2019	15,273,517
2020	15,282,783
Thereafter	137,941,161
	$ 215,340,935

Minimum lease receipts do not include contingent rentals that may be received under certain leases. The Company's policy is to defer recognition of such contingent rentals until the requirements are met. Contingent rental income earned during the years ended December 31, 2015 and 2014 totaled $69,933 and $27,005, respectively.

City of Charlotte Lease Agreement

The Company and the City of Charlotte ("Charlotte") entered into an agreement ("Lease Agreement") dated May 3, 2012, whereby Charlotte leased a segment of the North Carolina Railroad corridor, approximately 2.7 miles in length parallel to the Company's main line railroad tracks and facilities, for the purpose of the extension of Charlotte's LYNX Blue Line light rail transit system. The Lease Agreement provides for a one time rent payment to be paid to the Company in the amount of $11,760,000 for the 50 year lease term, all of which was received in full on October 16, 2013. The Lease Agreement provides that Charlotte is responsible for all construction, operations, maintenance, taxes, assessments and costs related to Charlotte's use of the segment.

Coincident with the execution of the Lease Agreement, Charlotte entered into a Construction and Reimbursement Agreement and an Operations Agreement with NSR related to Charlotte's use of the segment and the compatibility thereof with NSR's operation and maintenance of the Company's rail line.

The Lease Agreement provides that design and construction is to be provided by Charlotte at its expense, subject to the approval of the Company. The Lease Agreement is subject to early termination, in which event a portion of the lease fee may be refundable. The Lease Agreement contains one renewal term at a rate agreed upon by the parties, or in the absence of agreement, based upon an appraised value.

The Company has recorded unearned rent liability of $11,137,168 and $11,250,517 at December 31, 2015 and 2014, respectively. At December 31, 2015 and 2014, $262,623 and $225,517 of the liability is included in the current portion of unearned rent.

8. Income Taxes

The Company's income (loss) before income taxes for the years ended December 31, 2015 and 2014 is as follows:

	2015	2014
Income (loss) before income taxes:		
Nontaxable entity	$ (1,313,589)	$ 3,822,591
Taxable entity	368,419	423,236
Income (loss) before income taxes	$ (945,170)	$ 4,245,827

The difference between the federal income tax computed by the statutory federal income tax rate of 34% and NCRI's income tax expense as reflected in the consolidated financial statements is as follows:

	2015	2014
Income tax at statutory federal income tax rates	$ 125,262	$ 143,900
Decrease attributable to:		
State income tax, net of federal income tax benefit	22,137	9,854
Change in state tax rate	(40,000)	(13,769)
Other	(8,957)	1,094
	$ 98,442	$ 141,079

The Company's taxable subsidiary, NCRI, has a deferred income tax liability at December 31, 2015 and 2014 as follows:

	2015	2014
Noncurrent deferred tax liability, property and equipment	$ 1,043,000	$ 1,147,000

The Company's total tax expense for 2015 and 2014 is summarized as follows:

	2015	2014
Current income tax expense	$ 202,442	$ 228,079
Deferred income tax benefit	(104,000)	(87,000)
Total income tax expense	$ 98,442	$ 141,079

9. Subsequent Events

The Company evaluated the effect subsequent events would have on the consolidated financial statements through June 2, 2016, which is the date the financial statements were available to be issued.

On April 13, 2016, the Company completed several purchases to acquire 630 acres of real estate in Randolph County at a purchase price of $8,014,301. The purchase of additional acreage is expected to occur in 2016 or later and is expected to cost approximately $7,226,000. The purpose of the land purchase is to assist the State of North Carolina in attracting transformational manufacturing entities that will invest significant sums in plant and equipment and will create a significant number of jobs. The Company is investing in this property with the intention of assembling it with properties owned by Randolph County and a private foundation for marketing to large-scale transformational users or for high-value multi-user industrial sites.

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NORTH CAROLINA RAILROAD COMPANY
CORRIDOR MAP

Freight Routes	Passenger Routes
North Carolina Railroad Company *operated by Norfolk Southern	Carolinian
Norfolk Southern	Crescent
CSX Transportation	NCRR
Various Shortlines	Piedmont



	Intermodal Routes	Logistical Centers
Palmetto/Silver Meteor	Norfolk Southern	Military Bases
Silver Star	CSX Transportation	Seaports
Great Smoky Mountains Railroad		Airports

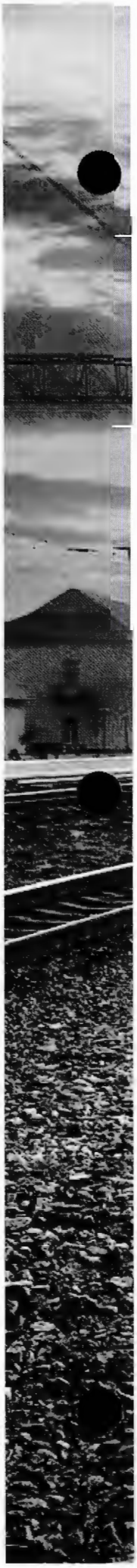


ANNUAL REPORT 2015

NORTH CAROLINA RAILROAD COMPANY

2809 Highwoods Blvd.
Raleigh, NC 27604
www.ncrr.com

NORTH CAROLINA RAILROAD COMPANY



NORTH CAROLINA RAILROAD COMPANY

Freight Routes

- North Carolina Railroad Company *operated by Norfolk Southern
- Norfolk Southern
- CSX Transportation
- Various Shortlines

Passenger Routes

- Carolinian
- Crescent
- Piedmont
- Palmetto/Silver Meteor
- Silver Star
- Great Smoky Mountains Railroad

Intermodal Terminals

- Norfolk Southern
  Link to Norfolk Southern >
- CSX Transportation
  Link to CSX >

Logistical Centers

- Military Bases
- Seaports
- Airports



Major Capital Improvements

Completed Projects: 2000-2016

NORTH CAROLINA RAILROAD COMPANY

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Completed Investment Description	Benefit	Total Cost / NCRR Investment	Partner(s)	Completion Date
Wayne, Lenoir, Craven, and Carteret Counties: Upgrade track condition between Goldsboro and Morehead City Upgraded the track condition between Goldsboro and Morehead City, included tie and rail replacement.	Improve Efficiency & Speed	$9,957,700	NA	2000
Durham County: Extend Siding in West Durham (Funston) Extended a passing siding and straightened a curve west of Durham for approximately a 1-mile segment.	Improve Efficiency & Speed for Passenger Trains	$2,308,257 $22,917	NCDOT (Federal Funds)	2003
Lenoir County: Repair/Replace Neuse River Bridge in Kinston; Improve Rail Increased the load of bridge to permit 286,000 lb. standard railcars as on other segments of NCRR and allow for increased port traffic. The project also replaced jointed rail with continuous welded rail for a 14-mile segment in Kinston.	Improve Efficiency & Speed	$6,570,182	NA	2004
Lenoir County: Replace Jointed Rail Replaced jointed rail with continuous welded rail for a 17-mile segment near Kinston.	Improve Efficiency & Speed	$3,875,652	NA	2005
Craven County: Replace Bridge Trestle at Batchelder Creek Replaced a single track wooden trestle over Batchelder Creek in Craven County.	Improve Capacity & Safety	$372,237	NA	2006
Durham County: Highway 54 Bridge Replace existing single track RR bridge in RTP with double track ready structure to improve capacity and improve vehicular traffic flow below and eliminate substandard clearance.	Improve Rail Capacity & Ease Vehicle Congestion	$5,460,726	NA	2006
Repair/Renovate - Neuse River Bridge in Johnston County & Hwy 87 Bridge in Alamance County Bridge repair/renovation to eliminate clearance and elevation restrictions.	Improve Clearance/Loading	$78,236	NA	2008
Wake/Johnston Counties: Construct Three Segments of Passing Tracks and CTC & Communications This work improved capacity by adding three passing tracks totaling approximately 8 miles between Raleigh and Selma to improve passenger and freight train performance and service. It added Centralized Traffic Control for 31 miles to raise to the same standard as Raleigh to Charlotte. The project also included the installation of the Cabarrus Street Interlocking and revised the track layout to increase speed to and from the yard in Raleigh. The project also improved the Boylan Storage Track.	Improve Capacity, Speed & Efficiency	$20,882,331	NA	2008
Johnston County: Replace Restricted Bridge in Clayton Replaced a bridge structure on the main line to eliminate speed restrictions and improve clearance on Old Hwy 70 in Clayton.	Improve Safety & Speed	$889,600	NA	2008
Wayne/Lenoir/Craven/Carteret Counties: Continuous Welded Rail Installation and Drainage Improvement Upgraded 90 lb. rail (originally dated to 1924) with higher grade continuous welded rail. This portion of the project was completed in 2007. Also improved drainage in Dover and constructed a retaining wall to support the track and welded rail. This portion of the project was completed in 2009.	Improve Reliability Safety & Drainage	$4,836,410	NA	2009, 2007
Guilford County: Double Track High Point/Greensboro Segment - 9 Miles Added a second track to reduce delays associated with meeting and passing trains. DOT studies identified this portion of railroad as one of the most congested. (Cox-Hoskins)	Improve Capacity and Efficiency	$27,963,685 $4,000,000	NCDOT (Federal Funds)	2009
Alamance County: Elon University Pedestrian Underpass Constructed a pedestrian underpass at Elon University to improve safety and encourage pedestrian access to the rail corridor. Allowed campus to safely expand.	Improve Safety & Economic Development	$2,500,000 $881,273	Elon University	2010

Major Capital Improvements

Completed Projects: 2000-2016

NORTH CAROLINA RAILROAD COMPANY

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Completed Investments Description	Benefit	Total Cost / NCRR Investment	Partner(s)	Completion Date
Lenoir County: Straighten Curve in Kinston Straightened a curve in the railroad in downtown Kinston improving train speeds from 10 mph to 25 mph and improving clearances.	Improve Safety and Speed	$2,759,628	NA	2010
Lenoir County: Transload Track Spur track and loading Ramp to serve Global Transpark and other users. Site work, road access, and staging area for transfer point.	Economic Development	$891,937	NA	2010
Craven/Carteret Counties: Field Welding Welded joints in the rail between New Bern and Morehead City. The rail is 100 lb. continuous welded rail, but has many joints as a result of breakage and detected defects.	Improve Safety and Speed	$300,510	NA	2010
Lenoir/Craven Counties: Replace Bridges in Eastern North Carolina This project will replace trestles over creeks in Lenoir and Craven counties to address settling piers and weight requirements.	Improve Speed and Safety	$3,007,616 $1,503,808	Norfolk Southern	2011
Johnston/Wayne/Lenoir/Craven/Carteret Counties: Eastern Grade Crossing Improvements (Phase 1) Improve grade crossing protection on unsignaled or partially signalized grade crossings between CSX Junction in Selma and Morehead City (115 miles). *23 crossings have been improved as part of this phase of the project*	Improve Safety and Speed	$3,757,366 $913,040	NCDOT (Federal Funds) Norfolk Southern	2012
Craven County: Trent River Bridge (Phase I) Reinforce steel pipe piles on the main track bridge over the Trent River in New Bern. *50/50 with Norfolk Southern*	Improve Safety	$1,886,756 $943,378	Norfolk Southern	2012
Lenoir County: Rebuild Bridges at Mileposts EC-27.8 and EC-27.9 Rebuild wooden bridge trestles over the Neuse River near Kinston.	Improve Safety & Speed	$3,310,808 $1,655,404	Norfolk Southern	2012
Durham/Wayne/Lenoir/Craven/Carteret Counties: Bridge & Culverts Improve bridge at Goldsboro, improve 3 culverts (Durham, Kinston, and Cove City), and replace bridge at Newport.	Improve Safety & Speed	$4,792,000 $1,995,643	Norfolk Southern	2013
Guilford County: UNC-Greensboro Pedestrian Underpass Construct pedestrian underpass at the University of North Carolina at Greensboro under 4-track main line to improve safety and improve pedestrian access across the rail corridor.	Improve Safety & Economic Development	$9,000,000 $1,085,265	UNC - Greensboro	2014
Lenoir County: Passing Siding near LaGrange Build two-mile passing siding and increase capacity on the eastern part of the NCRR. Previously no passing sidings were located between Selma and Morehead City (114 miles).	Improve Capacity	$3,515,462	NA	2014
Craven County: Trent River Bridge (Phase II) Replace bridge deck ties and draw span lift rails on the bridge over the Trent River in New Bern (EC-59.3)	Improve Speed and Safety	$804,960 $402,480	Norfolk Southern	2014
Alamance County: Webb Avenue Bridge Restoration Restoration and painting of bridge structure and cleaning of concrete abutments and wing walls of the bridge over Webb Avenue/Hwy 87.	Safety/Preservation	$849,296 $424,648	Norfolk Southern	2014
Rowan/Davidson Counties: Main Line Track Realignment - Double I-85 Bridges over Yadkin River (Double Track Main) Curve improvement project near the Yadkin River to improve speed and operations. Project in partnership with NCDOT I-85 bridge replacements.	Improve Operations & Speed	$4,444,659 $3,000,000	NCDOT (Federal Funds - ARRA)	2014

Major Capital Improvements

Completed Projects: 2000-2016

NORTH CAROLINA RAILROAD COMPANY

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Completed Investments Description	Benefit	Total Cost / NCRR Investment	Partner(s)	Completion Date
Johnston County: Selma Yard Improvements Improve railcar storage and handling capacity in the Selma yard by adding a fourth yard track due to business expansions in Johnston County and eastern NC.	Improve Capacity	$1,906,162	NA	2014
Corridor wide: Survey/Monumentation Project (Phase 1) This project establishes permanent rail corridor monumentation for corridor management & engineering/planning purposes. Incorporate permanent geodetic monuments in the statewide survey grid.	Corridor Management	$1,533,912	NA	2015
Durham County: Hopson Road Grade Separation & Realignment and New Passing Siding – Research Triangle Park Acreage for straightening of a curve in Durham County (RTP) for adding a passing siding and improving curvature to allow higher speeds for freight and passenger trains. NCRR completed land acquisition in 2006. NCDOT received ARRA funds to build a grade separation at Hopson Road and to realign the curve, thereby eliminating a crossing hazard and improving speed by straightening curve east of the I-40 bridge.	Improve Capacity & Speed	$26,065,276 $2,067,276 (land acquisition completed in 2006)	NCDOT (Federal Funds - ARRA)	2015
Lenoir & Craven Counties: Kinston & Dover Drainage Improvements Existing brick arch culvert is showing signs of deterioration and it was determined that it should be replaced. Most culverts east of Selma have been replaced over the past several years.	Investing in NC - Sustaining Investment	$101,372 $50,686	Norfolk Southern	2016
Craven County: Trent River Bridge (Phase III) During the past few years the Trent River bridge in New Bern has undergone a significant rehabilitation effort including the replacement of pile bents, timber bridge deck and miter rail joints. Phase III will replace pile bents near the swing span and complete the rehabilitation of the bridge structure.	Investing in NC - Sustaining Investment	$479,070 $239,535	Norfolk Southern	2016
Alamance County: NCIC Industrial Lead Track (Cambro Manufacturing) Lead Track at North Carolina Industrial Center (NCIC) in Mebane. Initially to serve Cambro Manufacturing (100 jobs, new industry). Lead track will eventually be extended to other manufacturing sites.	Enabling Freight to Grow Business-Freight Customer Access	$750,000	NA	2016

Summary of Completed NCRR Projects:
Total cost of completed projects: $130 million
NCRR investment in completed projects: $82.8 million
Partner investment in completed projects: $47.2 million

This summary of completed projects does not include certain capacity and passenger train or station improvements made from federal funds appropriated to NCDOT.

NCRR investment does not include overhead/planning costs.

As of 02/23/2017

Major Capital Improvements

Committed Projects: 2017-2020

NORTH CAROLINA RAILROAD COMPANY

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Committed Investments Description	Benefit	Total Cost / NCRR Investment	Partner(s)	Completion Date
Corridor wide: Survey/Monumentation Project (Phase 2) This project establishes permanent rail corridor monumentation for corridor management & engineering/planning purposes. Incorporate permanent geodetic monuments in the statewide survey grid.	Corridor Management	$1,466,088	NA	2017
Guilford County: High Point - slope stabilization and drainage improvements The main line through High Point is in a deep cut through downtown with a number of bridges. Several retaining walls have been constructed over the years (not by NCRR) to retain the slopes. The project will make improvements to the slopes which will improve drainage and enhance the slopes. Cost sharing with High Point and Norfolk Southern.	Investing in NC - Sustaining Investment	5,000,000 $3,000,000	Norfolk Southern; City of High Point	2018
Wake County: Morrisville - Replacement of Crabtree Creek RR Bridge Project will replace aging bridge over Crabtree Creek, replace single track with double track capability, and allow for pedestrian greenway under the railroad bridge. Town of Morrisville will partner in constructing an underpass to take a greenway beneath the railroad.	Investing in NC-Rail Safety	$8,300,000 $6,900,000	Town of Morrisville	2018
Wake to Mecklenburg County ARRA-Funded Track Projects: - Alamance County: Haw River Passing Siding - Davidson County: Thomasville to Lexington Double Track Segment - 4.2 Miles - Cabarrus/Rowan Counties: Kannapolis to Salisbury Double Track Segment - 10 Miles - Mecklenburg/Cabarrus Counties: North Charlotte to Concord Double Track Segment - 12.1 Miles.	Improve Capacity (Main Line)	Over $200 million $21,000,000*	NCDOT (Federal Funds - ARRA)	2017
Wake to Mecklenburg Counties: ARRA Project Capital Reserve (Contract) The capital reserve is designated by NCRR under a 2010 agreement for the purpose of making any necessary capital improvements to the NCRR line that improve passenger train reliability for additional NCDOT-sponsored passenger trains between Raleigh and Charlotte. NCDOT's train sponsorship is required under agreements with the Federal Railroad Admin. for ARRA projects. The NCRR capital reserve may only be used to resolve train performance or other capacity-related issues arising out of the Projects to ensure long term reliability of both freight and passenger trains.	Improve Capacity	$10,000,000	NA	post 2017
Mecklenburg County: Grade Separation at Sugar Creek Road in Charlotte Replace at-grade railroad crossing with an overhead bridge of the main freight & passenger line at Sugar Creek Rd. Highest traffic railroad crossing on NCRR.	Improve Safety and Speed	$43,000,000 $10,000,000	NCDOT (Federal Funds - TIGER)	2018
Lead Track & Freight Access Industrial sites, including large sites/parks, require rail access for location of major job creating manufacturing or processing facilities. The purpose of this commitment is to enable capital intensive infrastructure for major rail served industries in North Carolina, thereby creating a statewide competitive advantage compared to other southeastern states. NCRR will work with economic developers to provide rail access design and infrastructure where warranted for investment. Lead and freight track access is subject to receiving adequate assurances of rail usage and job creation.	Enabling Freight to Grow Business – Freight Customer Access	TBD $9,000,000	TBD	TBD
Lenoir to Carteret Counties: Clearance Improvements for Economic Development The ability to move oversized cargo between the port at Morehead City, GTP and locations east of I-95 (such as military installations using the Ports) creates unique large cargo capability. NCRR is evaluating modifications to existing railroad infrastructure (bridges, signage, roadways, etc.) required to move high/wide shipments to accommodate new jobs and military applications.	Enabling Freight to Grow Business	TBD $10,500,000	TBD	TBD

As of 02/23/2017

Major Capital Improvements

Committed Projects: 2017-2020

NORTH CAROLINA RAILROAD COMPANY

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Committed Investments Description	Benefit	Total Cost / NCRR Investment	Partner(s)	Completion Date
Craven County: Passing Track There are currently no passing sidings between western Lenoir County and Morehead City (approx. 80 miles) on the NCRR. This passing track will add capacity, improve efficiency, and shift some main line switching operations out of downtown New Bern. Wide clearances will promote high/wide capabilities and access to the Morehead City Port.	Enabling Freight to Grow Business	TBD / $6,000,000	TBD	TBD
Craven to Carteret Counties: Rail Replacement, New Bern to Morehead City The project would replace old, lighter weight 100 lb rail with heavier, welded rail. This improvement will allow heavier load freight cars to travel safely on the tracks. This project will complete rail replacement begun in 2001 on all NCRR segments east of Goldsboro.	Investing in NC-Sustaining Investment	$30,000,000 / $15,000,000	TBD	TBD
Passenger Station Improvements Includes renovations to existing Salisbury Amtrak Station and potential new stations in Harrisburg and at Sugar Creek Road in Charlotte (CATS connector).	Expanding Rail to Move People – Stations & Access	TBD / $10,000,000	TBD	TBD
Durham County: Durham Short Term Grade Crossing Improvements The City of Durham and NCRR have identified improvements to grade crossings for the purpose of improving urban pedestrian safety. The City and NCRR are preparing final plans for adoption (partnership).	Investing in NC-Rail Safety	TBD / $50,000	City of Durham	TBD
Johnston/Wayne/Lenoir/Craven/Carteret Counties: Eastern Grade Crossing Improvements (Phase 2) Improve grade crossing protection on unsignaled or partially signalized grade crossings between CSX Junction in Selma and Morehead City (115 miles). *9 crossings remain under review as part of this phase of the project*	Improve Safety and Speed	$3,884,384 / $1,314,160	NCDOT (Federal Funds) Norfolk Southern	TBD

Summary of Committed Projects:

Total estimated cost of committed projects: $300+ million

NCRR investment in committed projects: approx. $103 million

Partner investment in committed projects: $200+ million

**Please note that a portion of NCRR's investment in the Crabtree Creek railroad bridge project ($5.9 million) is utilizing funds from the Company's matching funds for the ARRA projects ($21 million). The total cost figures are included in the table above for description purposes, but only counted once in NCRR commitment total.*

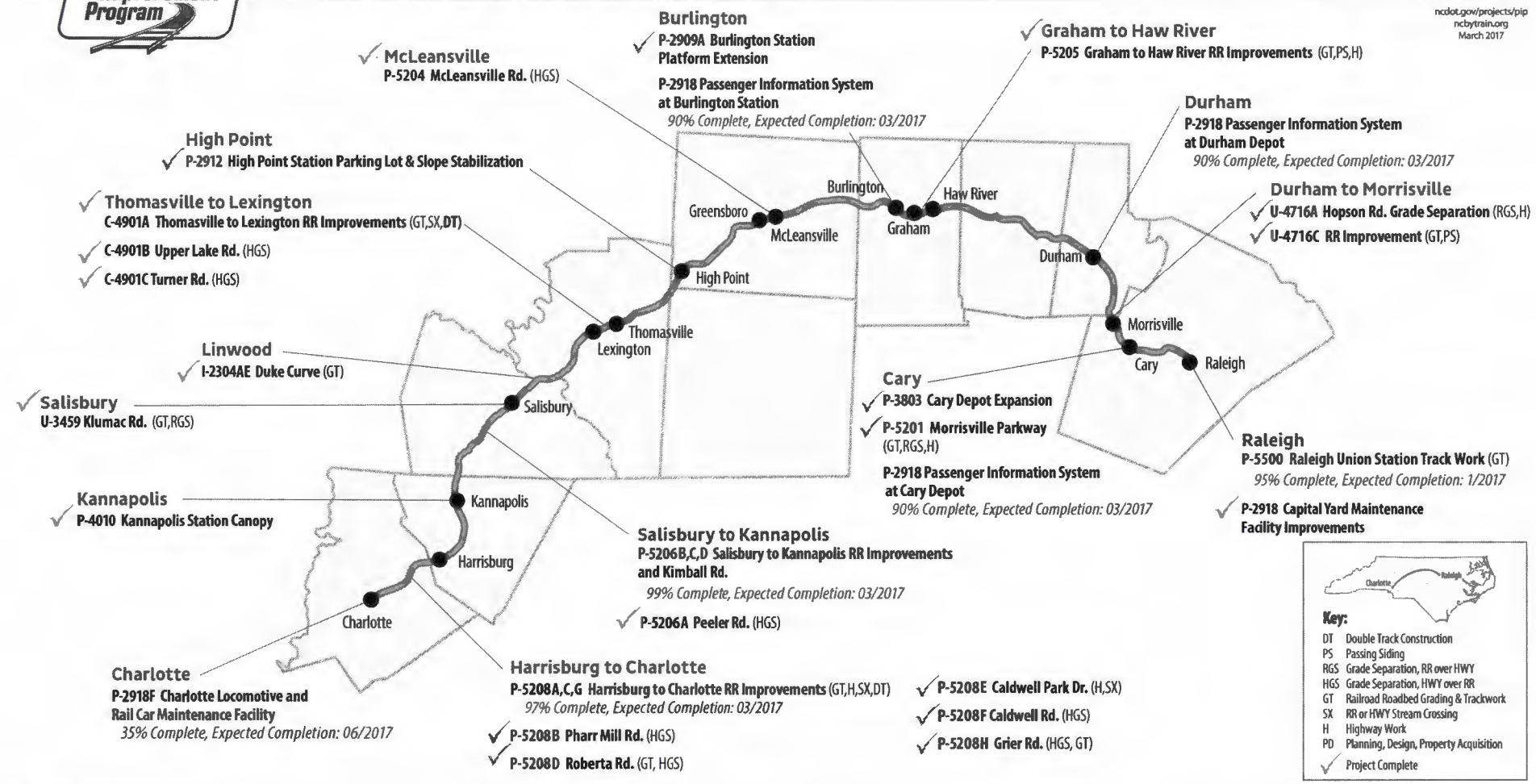
Committed projects are those currently budgeted by the NCRR for further development, some of which are subject to existing cost-sharing contracts. Other committed investments are subject to partner contribution agreements under negotiation and/or preliminary engineering.

NCRR investment does not include overhead/planning costs.

As of 02/23/2017

Piedmont Improvement Program

ncdot.gov/projects/pip
ncbytrain.org
March 2017



Note: % is NCDOT Contract Completion percentage



NC By Train – Piedmont Equipment ✓ 5 Locomotives ✓ 2 Cab Control Units ✓ 12 Railcars

2 Additional Cab Control Units from non-ARRA funding*

House Pages
Assignments
Wednesday, March 22, 2017
Session: 2:00 PM

Committee	Room	Time	Staff	Comments	Member
Appropriations on General Government and Information Technology	425	8:30 AM	Colin Konieczka		Rep. Linda Hunt-Williams
			Garrett Penley		Rep. Julia Howard
Appropriations, Agriculture and Natural and Economic Resources	Other	8:30 AM	Joshua Babson		Rep. William Brisson
			Connor Scanlon		Rep. Joe John
Appropriations, Transportation	1027/1128	8:30 AM	Lily Ahlin		Rep. George Cleveland
			Blake Bellanger		Rep. Larry Bell

VISITOR REGISTRATION SHEET

Jt. Comm. on Appropriation Dept of Transportation
(Committee Name)

3-22-17
Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY
Gregory Ladermann	Rep. Hall
Jillian Totman	MWC LLC
Dan Palmeter	OSBM
[illegible]	[illegible]
Hans Vaughan	NCRR
Megan Hoenke	NCRR
Scott Saylor	NCRR
Hunter Saylor	NCRR
[illegible]	MFS
Dan Sipe	SA
Kelly Kirgsmy	DP
Jake Cer	NCC
[illegible]	PPAB
Brian Merrell	LMM
[illegible]	[illegible]
Ed [illegible]	BP
Hugh Tolson	[illegible]

VISITOR REGISTRATION SHEET

H. Comm. on App Dept of Transportation
(Committee Name)

3-22-17
Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY
David Howard	NCDOT
Joy Hicks	NCDOT
T Jay Mullins	RAMC - LPOs NCMA
Aldea Douglas	NCDOT
John McMillan	MPOs
H TASAICO	NCDOT
Dan Collins	
	Ben Asd.
Pam Worley	NCDOT

09-22-2012

Senate Pages Attending

COMMITTEE: Jt. App. on D.O.T. **ROOM:** 1027

DATE: 3-22 **TIME:** 8:30

PLEASE PRINT <u>LEGIBLY</u>!!!!!!!!!!!!!!....*or else!!!!!*

Page Name	Hometown	Sponsoring Senator
1. Isabelle Merifield Merrifield	Asheville	Van Dyrn
2. Bethany Forrest	Norwood	McInnis
3.		
4.		
5.		
6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

NCGA

NORTH CAROLINA GENERAL ASSEMBLY

Joint Committee on Appropriations
Department of Transportation

March 22, 2017

Room 1027

House Sergeant at Arms:

Joe Crook

David Leighton

Russell Salisbury

Senate Sergeant at Arms:

Terry Edmondson

Becky Myrick

House Committee on Appropriations, Transportation
Wednesday, March 23, 2017 at 8:30 AM
Room 1027/1128 of the Legislative Building

MINUTES

The House Committee on Appropriations, Transportation met at 8:30 AM on March 23, 2017 in Room 1027/1128 of the Legislative Building. Representatives Frank Iler, Michele Presnell, Phil Shepard, John Torbett, Dana Bumgardner, Larry Strickland, and Sam Watford attended, and Senators Jim Davis, Tom McInnis, Don Davis and Cathy Dunn attended (Attachment 1). Visitors were also in attendance (Attachment 2).

Representative Michele D. Presnell, Chair, presided.

The chair called the meeting to order, and introduced pages (Attachment 3 and 4) and House and Senate sergeants-at-arms (Attachments 5).

In accordance with the committee meeting agenda (Attachment 6), a handout, prepared by Susan Tyler, Fiscal Analyst of the Fiscal Research Division, was distributed (Attachment 7); Debbie Collins, Public Transportation Director of the Dept. of Transportation, presented a Public Transportation Overview (Attachment 8); Rick Barkes, Interim Executive Director, Dept. of Transportation, made a Global TransPark presentation (Attachment 9); Ed Johnson, Interim Bicycle and Pedestrian Director, Dept. of Transportation, made a Bicycle and Pedestrian Division presentation (Attachment 10). Committee members, presenters and committee staff discussed presentations while in progress and after completion.

The meeting adjourned at 9:49 a.m.

Representative Michele D. Presnell, Chair
Presiding

John Wall, Committee Clerk

Attachment 1

ATTENDANCE
TRANSPORTATION APPROPRIATIONS

DATES	3-1-17	3-22-17														
Representative Frank Iler	✓	✓														
Representative Michele Presnell	✓	✓														
Representative Phil Shepard	✓	✓														
Representative John Torbett	✓	✓														
Representative Dana Bumgardner	✓	✓														
Representative Terry Garrison		✓														
Representative Duane Hall	✓															
Representative Grier Martin																
Representative Larry Strickland	✓	✓														
Representative Evelyn Terry	✓															
Representative Sam Watford	✓	✓														
Senator Jim Davis	✓	✓														
Senator Tom McInnis	✓	✓														
Senator Wesley Meredith		✓														
Senator Don Davis	✓															
Senator Cathy Dunn	✓	✓														
Senator Joel Ford	✓															

Attachment 2

JT

VISITOR REGISTRATION SHEET

House Committee on Appropriation,Transportation 3/22/2017

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Lexi Arthur	NCRMA
Ed Tulloch	BP
Alden Douglas	NCDOT
Thom Mann	C GA
David Howard	NCDOT
Jacqueline Gonzalez	Ford Staff
Ken McMon	K.M.A
Jeff Moore	NST

VISITOR REGISTRATION SHEET

JT

House Committee on Appropriation,Transportation 3/22/2017

Name of Committee Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Joy Hicks	NCDOT
Rick Brooks	NCDOT – NCGTP
Ed Johnson	NCDOT
[illegible]	RAMC · NCMA · LPAs
[illegible]	[illegible]
Joe McClees	McClees Consulting
Jodi Cox	NCC
Cassie Gavin	Sierra Club
H. TAYLOR	NCDOT
Dan Palmater	OSBM
Kym Hunter	SELC

Attachment 3

House Pages
Assignments
Thursday, March 23, 2017
Session: 12:00 PM

Committee	Room	Time	Staff	Comments	Member
Agriculture / Environment / Natural Resources	421	8:30 AM	Lily Ahlin		Rep. George Cleveland
			Colin Konieczka		Rep. Linda Hunt-Williams
Appropriations, Education	Other	8:30 AM	Autumn Brisson		Rep. William Brisson
			Kailey Gause		Rep. William Brisson
Appropriations, Transportation	1027/1128	8:30 AM	Blake Bellanger		Rep. Larry Bell
			Connor Scanlon		Rep. Joe John
Appropriations on Justice and Public Safety	415	9:00 AM	Joshua Babson		Rep. William Brisson
			Garrett Penley		Rep. Julia Howard
Homeless, Foster Care, and Dependency	1228/1327	9:00 AM	Akirah Graves		Rep. Rodney Moore
			Kayla Yarborough		Rep. Dean Arp

Attachment 4

Senate Pages Attending

COMMITTEE: J. App. on Dept. of Transp. **ROOM:** 1027

DATE: 3-23 **TIME:** 8:30

PLEASE PRINT LEGIBLY!!!!!!!!!!!!!!....*or else!!!!!*

Page Name	Hometown	Sponsoring Senator
1. April Butts	Wallace	Berger
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Pages: Present this form to either the Committee Clerk at the meeting or to the Sgt-at-Arms.

Attachment 5

Committee Sergeants at Arms

NAME OF COMMITTEE JT Committee on Appropriation, Trans

DATE: 3/22/2017 Room: 1027/1128

House Sgt-At Arms:

1. Name: David Leighton
2. Name: Joe Crook
3. Name: Russell Salisbury
4. Name:
5. Name:

Senate Sgt-At Arms:

1. Name: Billy Fritscher
2. Name: John Enloe
3. Name:
4. Name:
5. Name:

Attachment # 6

Joint Appropriations Committee on Transportation

March 23, 2017
8:30 a.m.
Room 1027/1128 LB

Agenda

Chairs:

Senator Jim Davis
Senator Tom McInnis
Senator Wesley Meredith

Representative Frank Iler
Representative Michele Presnell, Chairing
Representative Phil Shepard
Representative John Torbett

1. Call to Order

2. Public Transportation and Bicycle/Pedestrian Base Budget Reviews- *Handouts*

    - No presentation
    - Prepared by Susan Tyler, Fiscal Analyst, Fiscal Research Division
      North Carolina General Assembly

3. Public Transportation Overview

    - Debbie Collins, Public Transportation Director
      Department of Transportation

4. Global TransPark

    - Rick Barkes, Interim Executive Director
      Department of Transportation

5. Bicycle and Pedestrian Division

    - Ed Johnson, Interim Bicycle and Pedestrian Director
      Department of Transportation

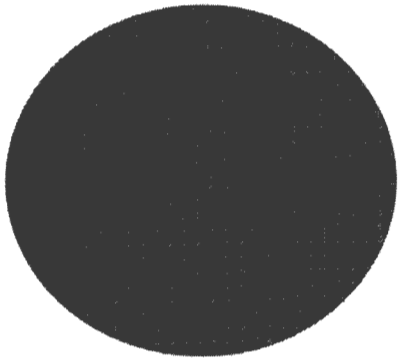
Attachment #7

Department of Transportation

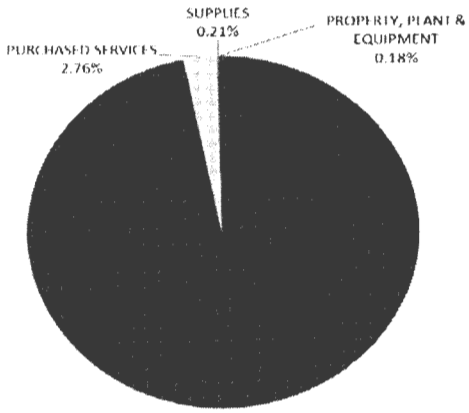
Public Transporation

Purpose: It is the mission of the Public Transportation Division, in partnership with other public and private entities, to support and promote the availability of high quality public transportation services and partnerships throughout the State by delivering funding, technical assistance, oversight and leadership. The division administers federal and State grant funding to sub recipients for planning, administration, capital improvements and operations and maintenance needs; develops and implements policies and procedures related to State sponsored funding programs; and monitors the use of federal and State financial assistance.

Source of Funds



Expenditure of Funds



Purchased Services:
- 42% is for telephone service
- 22% is for repairs

BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
PERSONAL SERVICE	$266,030	$324,276	$ 420,826	$ -	$420,826	$ -	$420,826
PURCHASED SERVICES	28,753	11,974	11,974	-	11,974	-	11,974
SUPPLIES	5,120	925	925	-	925	-	925
PROPERTY, PLANT & EQUIPMENT	11	798	798	-	798	-	798
OTHER EXPENSES AND ADJUSTMENTS	-	-	-	-	-	-	-
INTRA-GOVERNMENTAL TRANSFERS	-	-	-	-	-	-	-
Total Requirements	**$299,914**	**$337,973**	**$ 434,523**	**$ -**	**$434,523**	**$ -**	**$434,523**
Total Receipts	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Appropriation	**$299,914**	**$337,973**	**$ 434,523**	**$ -**	**$434,523**	**$ -**	**$434,523**

FTE Account Code	Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
531XXX	PERSONAL SERVICES	4	3	4	0	4	0	4
Total FTE		**4**	**3**	**4**	**0**	**4**	**0**	**4**

Increase/Decrease Detail- NR Items Removed

None

2016-17 Session Significant Budget Actions- Money Items

None

2016-17 Session Significant Budget Actions- Special Provision

None

2017-20 Session Significant Issues

None

Department of Transportation

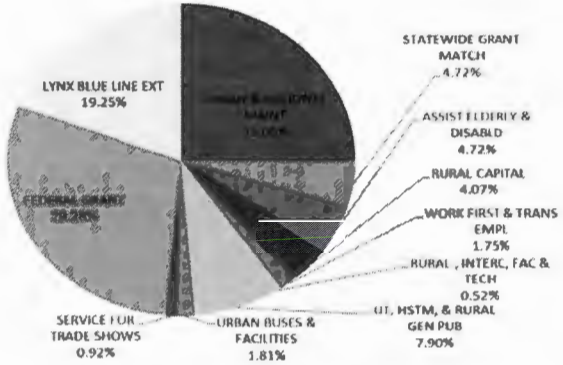
Public Transportation- Highway Fund

Purpose: It is the mission of the Public Transportation Division, in partnership with other public and private entities, to support and promote the availability of high quality public transportation services and partnerships throughout the State by delivering funding, technical assistance, oversight and leadership. The division administers federal and State grant funding to sub recipients for planning, administration, capital improvements and operations and maintenance needs; develops and implements policies and procedures related to State sponsored funding programs; and monitors the use of federal and State financial assistance.

Source of Funds
2017-18



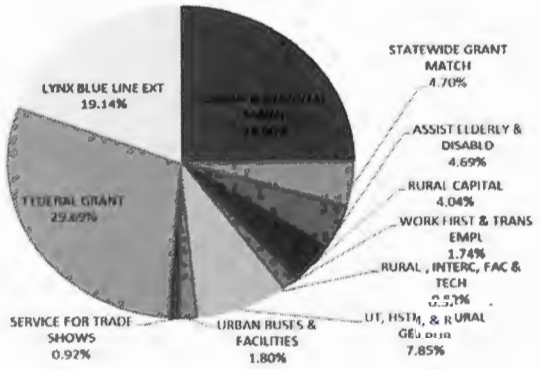
Expenditure of Funds
2017-18



Source of Funds
2018-19



Expenditure of Funds
2018-19



*See page 5 for descriptions of expenditure fund accounts

BASE BUDGET

Account Title	Actual 2015-16	Certified 2016-17	Authorized 2016-17	Incr/Decr 2017-18	Total 2017-18	Incr/Decr 2018-19	Total 2018-19
URBAN & REGIONAL MAINT	$ 30,528,557	$ 32,528,557	$ 32,528,557	$ -	$ 32,528,557	$ -	$ 32,528,557
STATEWIDE GRANT MATCH	5,320,976	6,135,195	6,135,195	-	6,135,195	-	6,135,195
ASSIST ELDERLY & DISABLD	7,085,054	6,131,728	6,131,728	-	6,131,728	-	6,131,728
RURAL CAPITAL	2,752,288	5,283,766	5,283,766	-	5,283,766	-	5,283,766
WORK FIRST & TRANS EMPL	2,342,901	2,272,210	2,272,210	-	2,272,210	-	2,272,210
RURAL , INTERC, FAC & TECH	652,941	681,663	681,663	-	681,663	-	681,663
REG NEW START & CAPITAL	419,233	-	-	-	-	-	-
UT, HSTM, & RURAL GEN PUB	7,984,818	10,260,485	10,260,485	-	10,260,485	-	10,260,485
URBAN BUSES & FACILITIES	1,905,724	2,349,465	2,349,465	-	2,349,465	-	2,349,465
SERVICE FOR TRADE SHOWS	1,200,000	1,200,000	1,200,000	-	1,200,000	-	1,200,000
FEDERAL GRANT	37,649,397	34,732,983	34,732,983	3,293,048	38,026,031	4,053,569	38,786,552
LYNX BLUE LINE EXT	22,696,658	25,000,000	25,000,000	-	25,000,000	-	25,000,000
Total Requirements	**$ 120,538,547**	**$ 126,576,052**	**$ 126,576,052**	**$ 3,293,048**	**$ 129,869,100**	**$ 4,053,569**	**$ 130,629,621**
PARTICIPATION REVENUE	$ 36,975	$ -	$ -	$ -	$ -	$ -	$ -
GRANTS RECEIPTS	39,889,422	34,732,983	34,732,983	3,293,048	38,026,031	4,053,569	38,786,552
FEES,LICENSES & FINES	-	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-	-
INTRAGOVERNMENTAL TRANSACTION	-	-	-	-	-	-	-
Total Receipts	**$ 39,926,397**	**$ 34,732,983**	**$ 34,732,983**	**$ 3,293,048**	**$ 38,026,031**	**$ 4,053,569**	**$ 38,786,552**
Net Appropriation	**$ 80,612,150**	**$ 91,843,069**	**$ 91,843,069**	**$ -**	**$ 91,843,069**	**$ -**	**$ 91,843,069**

NO FTE

Increase/Decrease Detail- NR Items Removed

Requirements	
Federal Grant FY2017-18	3,293,048
Federal Grant FY2018-19	4,053,569
Receipts	
Federal Grant FY2017-18	(3,293,048)
Federal Grant FY2018-19	(4,053,569)
Total	**0**

2016-17 Session Significant Budget Actions- Money Items

- Increased funding for rural transit system operating assistance (ROAP) by $2,000,000 R in FY2016-17.
- Increased funding for urban transit system operating assistance (SMAP) by $2,000,000 R in FY2016-17.

2016-17 Session Significant Budget Actions- Special Provision

- S.L. 2016-94 Section 35.12 repealed G.S. 136-189.11(e1) by removing the $500,000 cap on State expenditures for Strategic Transportation Investments (STI)-eligible light rail projects funded by the Highway Trust Fund. Section 35.12(b) required the resubmission of previously submitted light rail projects under the next round of prioritization ("Prioritization 5.0"). Section 35.12(c) and 35.12(d) set maximum State funding for light rail and commuter rail transit projects funded through the STI Regional and Division needs tiers at 10% of the total project cost used for the project prioritization process.

2017-20 Session Significant Issues

- Public Transportation's role in grant oversight
- ROAP formula changes
- Bus/van replacements and expansions
- Consultant-led strategic planning project

Statewide Grant – Supports several areas: Transportation Demand Management, Traveler's Aid, Interns and Apprentices, Development Grants, State Match for planning, administration and capital grants.

International Tradeshow – Appropriation to the High Point Furniture Market.

Urban Technology – Supports technology for urban areas that enhance safety and customer services. Annually these funding goals are reviewed for that year.

Urban State Match – Provides 10% match for urban capital projects.

State Maintenance Assistance Program (SMAP) – Operating assistance for urban fixed route providers.

Rural Capital – Provides the match for rural capital projects (vehicles, facilities, equipment, etc.)

Rural Operating Assistance Program (ROAP) – Provides funding to all 100 counties and is broken into three funding categories – Rural General Public, Elderly and Disabled Transportation Assistance, and Employment Transportation Management Program.

New / Small Starts – Appropriation to major fixed guideway projects.

Attachment 8

NORTH CAROLINA
Department of Transportation



Public Transportation Division: Joint Transportation Appropriations

Debbie Collins

What is Public Transportation?





Public transportation allows North Carolina's citizens to live in the community they choose while having connectivity within their community and to other neighboring / regional communities.

North Carolina Population Growth

Wake County:

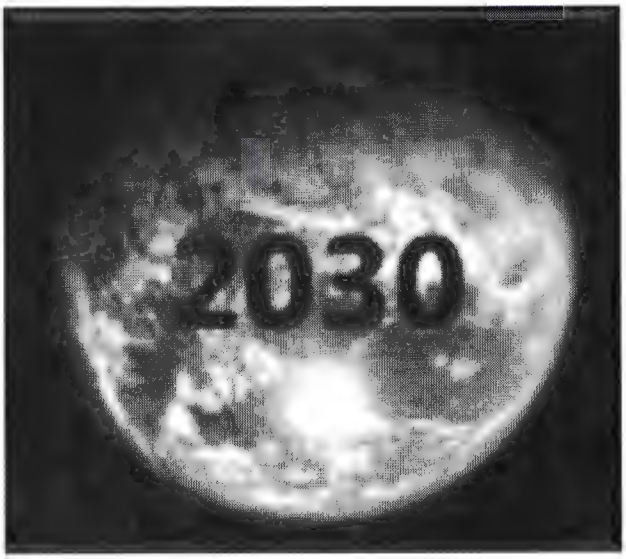
- **64** new residents each day

Statewide:

- **281** new residents each day

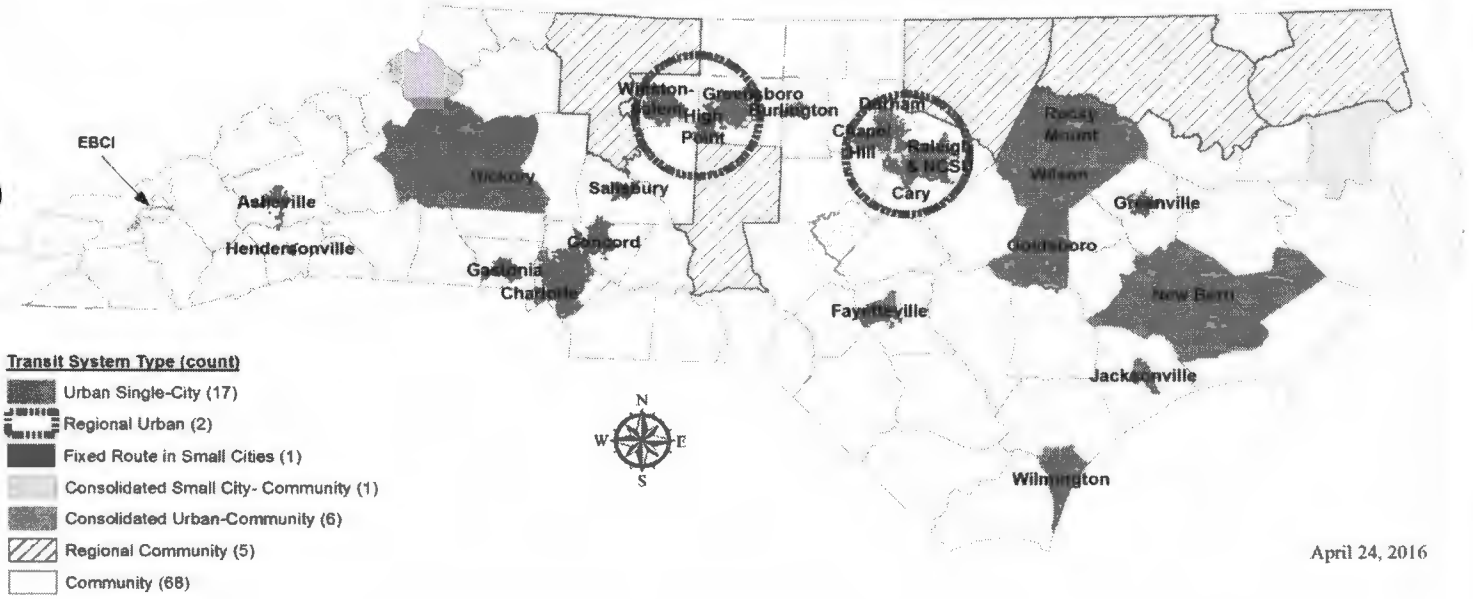
By 2030, expect:

- **3 million** new residents



Are we ready?

NC Public Transportation Coverage

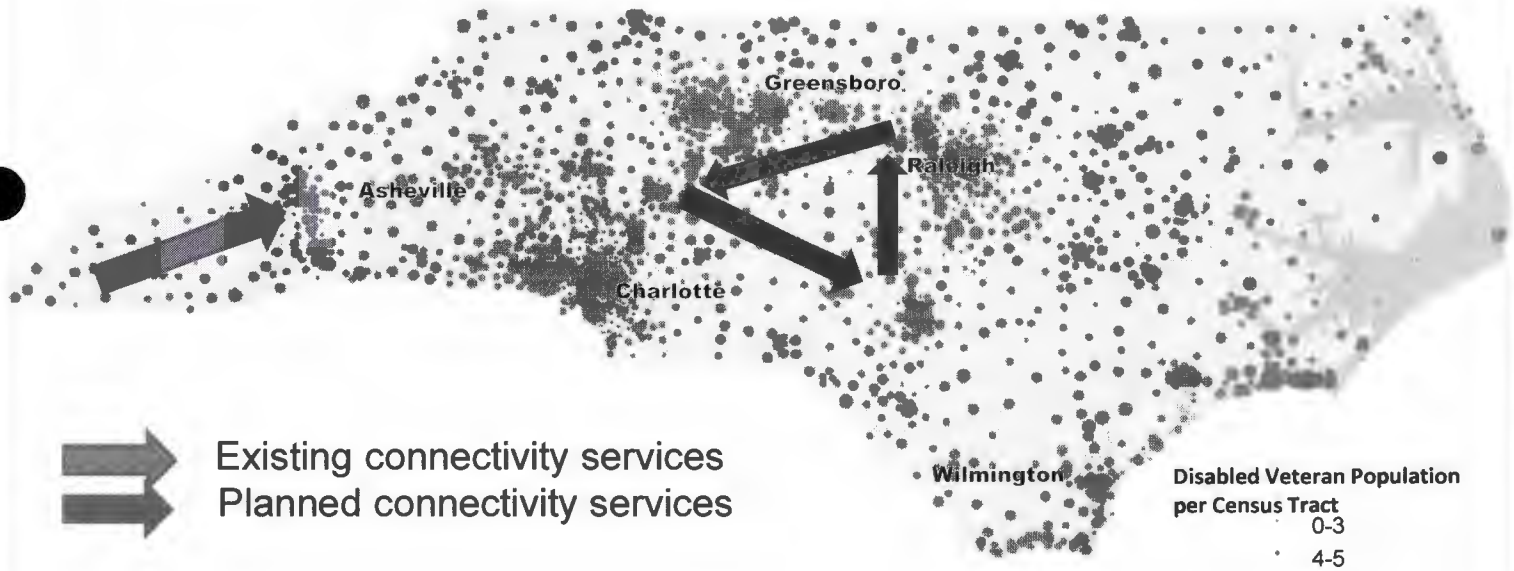


April 24, 2016

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PUBLIC TRANSPORTATION STRATEGIC PLAN

Connecting North Carolinians to Opportunities



Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates
***Significant** denotes one standard deviation above the mean of the disabled veteran population to the total population in the census tract.

Benefits of Transit

Public Transportation Enhances Connectivity and Personal Opportunities

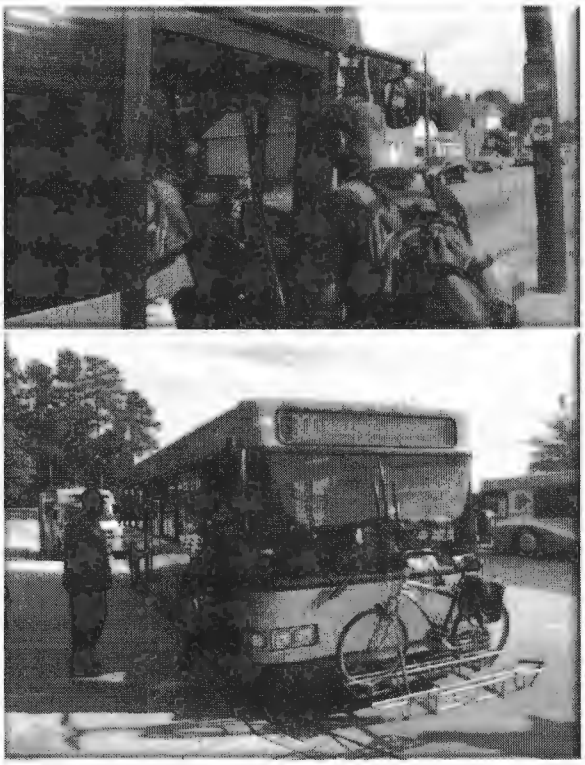
- Gives people options or provides the only way to get to work, school, doctor's appointments, and other important places

Public Transportation Saves Families Money

- A two-person household can save, on average, more than $10,174 a year by downsizing to one car

Public Transportation Reduces Congestion

- Latest research shows that in 2011, U.S. public transportation use saved 865 million hours in travel time



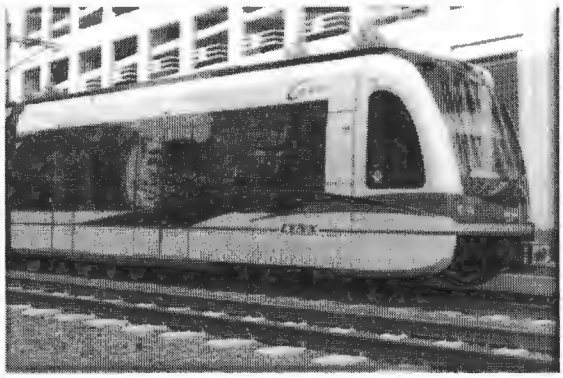
** Source: American Public Transportation Association*

Investments in Transit

Public Transportation Provides Economic Opportunities

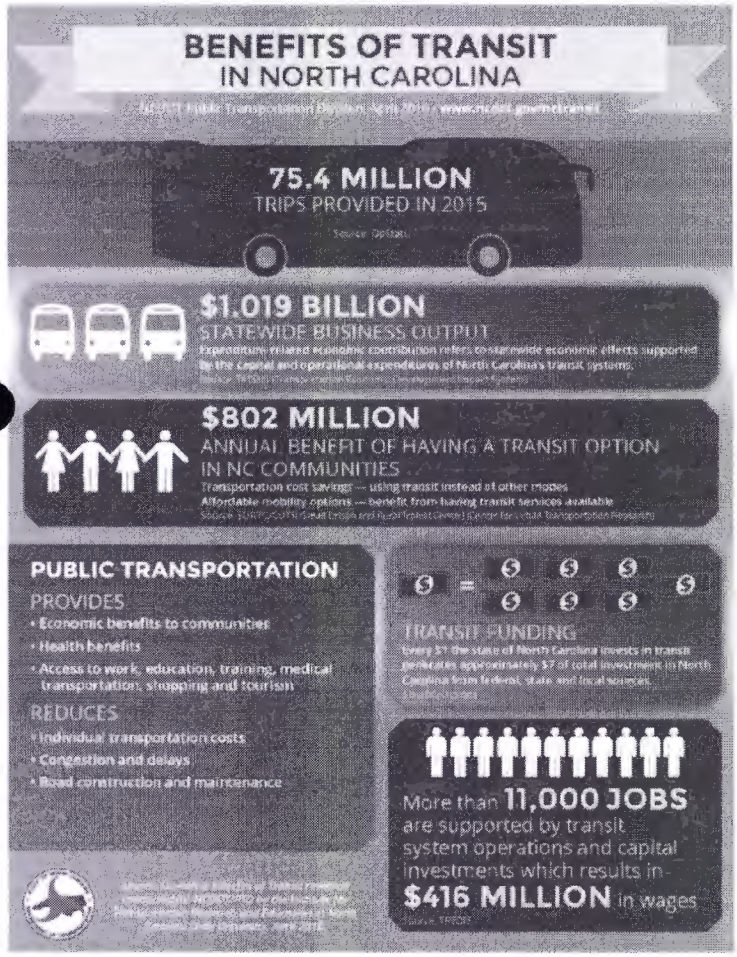
- Every $1 invested in public transportation generates approximately $4 in economic returns
- Every $1 billion invested in public transportation supports and creates more than 50,000 jobs
- Every $10 million in capital investment in public transportation yields $30 million in increased business sales
- Home values performed 42 percent better, on average, if they were located near public transportation with high-frequency service





** Source: American Public Transportation Association*

Benefits of Transit in North Carolina



State money invested in transit in all 100 counties results in direct Federal and local investment and helps secure the following **annual benefits**:

- 75.4 million passengers in 2015
- 11,000 jobs supported
- $416 million in wages
- $1.019 billion in statewide business output

Note: this analysis uses NCDOT operating statistics and does not include urban capital

Budget Overview



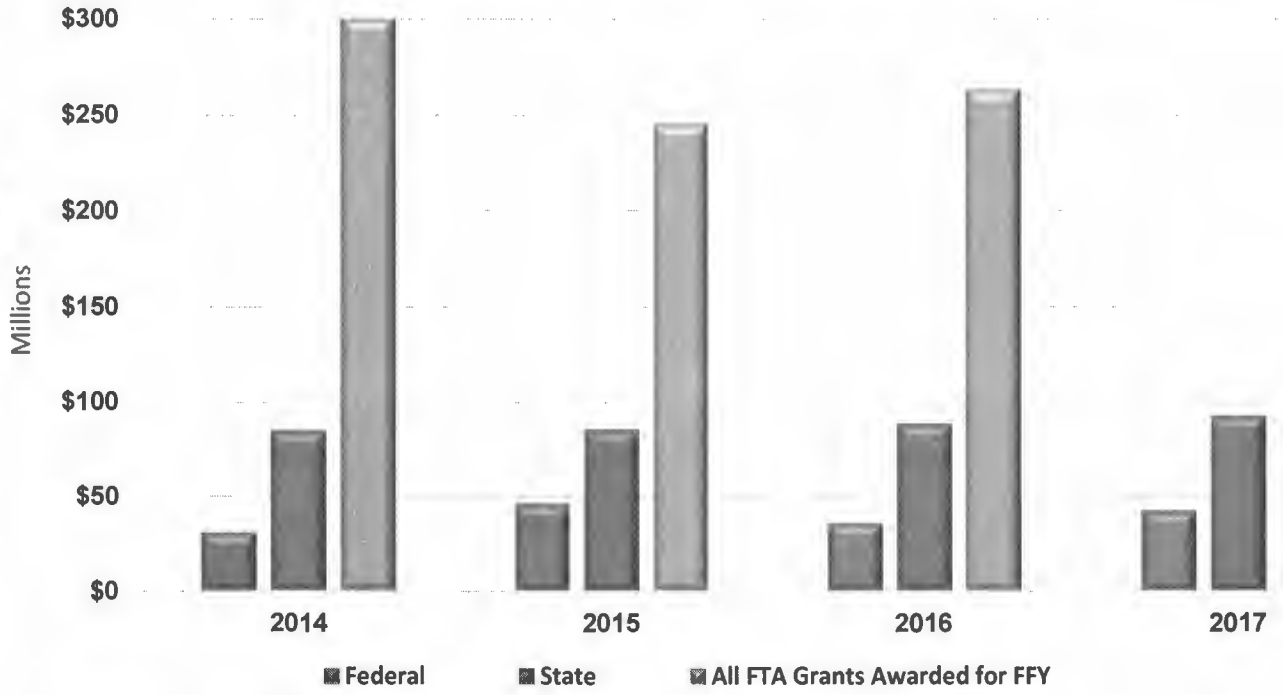


State Funding Categories from Highway Fund

State Operating Assistance	• Urban (SMAP) • Rural (ROAP) • International Trade Show Transportation	$52.4 M
FTA Matching Assistance	• Administration • Capital • Operating • Planning	$36.5 M
State Programs	• Interns & Apprentices • Technology • Transportation Demand Management	$3.3 M
	Total	**$92.2 M**

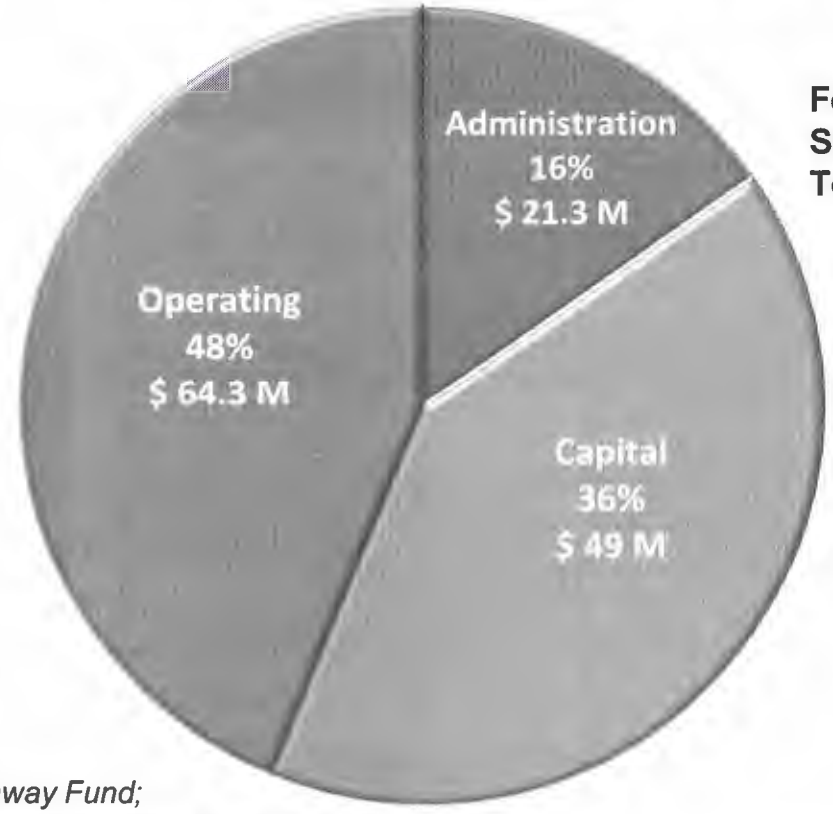
Note: No Highway Trust Fund projects

Federal Transit Administration and State Highway Fund Projects - Managed by NCDOT by Fiscal Year



Federal Transit Administration (FTA) Grant Awards for FFY 2017 available in January 2018

FY 17 Funding Managed by NCDOT: by Expense Category



Federal	**$42.4 M**
State	**$92.2 M**
Total	**$134.6 M**

Note: State Highway Fund; Federal Transit Administration flow through funds

Federal Transit Administration (FTA) Formula Program – N.C. Federal FY16 Apportionments

FTA Program	Title	FFY16 NC Funding
5303 / 5304	Metropolitan and Statewide Planning	$2,621,428
5310	Enhanced Mobility for Adults and People with Disabilities	$7,781,071
5311	Non-urbanized Area Formula	$28,826,455
5307	Urbanized Area Formula	$67,086,380
5309*	Fixed Guideway Capital Investment Grants (CIG)	$174,999,999
5329	State Safety Oversight	$343,847
5337*	State of Good Repair Formula (Rail)	$2,415,191
5339	Bus and Bus Facilities Formula (New funding with FAST Act)	$8,299,924
North Carolina Federal Formula Program FY 2016 Total		$292,374,295

Source: FTA FFY 16 Apportionment Tables by Funding Program – FFY17 not available

* *5309 and 5337 funds flow directly to urban areas with rail FAST Act - Fixing America's Surface Transportation*

Financial Plan Goals

- Supports coordination model
- Supports regionalism
- Rewards performance
- Every county receives funding
- Formula driven
- Simple and transparent
- Flexible

Innovations Office Current Initiatives

Research Projects

- ecoPRT
- Cameras as passenger counters for deviated fixed route services

Rides to Wellness

- NC Center for Rural Health
- NC Division of Health and Human Services
- Veterans Initiatives

Transportation Demand Management

- New initiative for projects must have: statewide applicability; measurable performance; innovation; and vehicle miles traveled (VMT) impact

FEMA Mission Assignment for Evacuation Events

- Created in partnership with FTA
- National model



Ridership

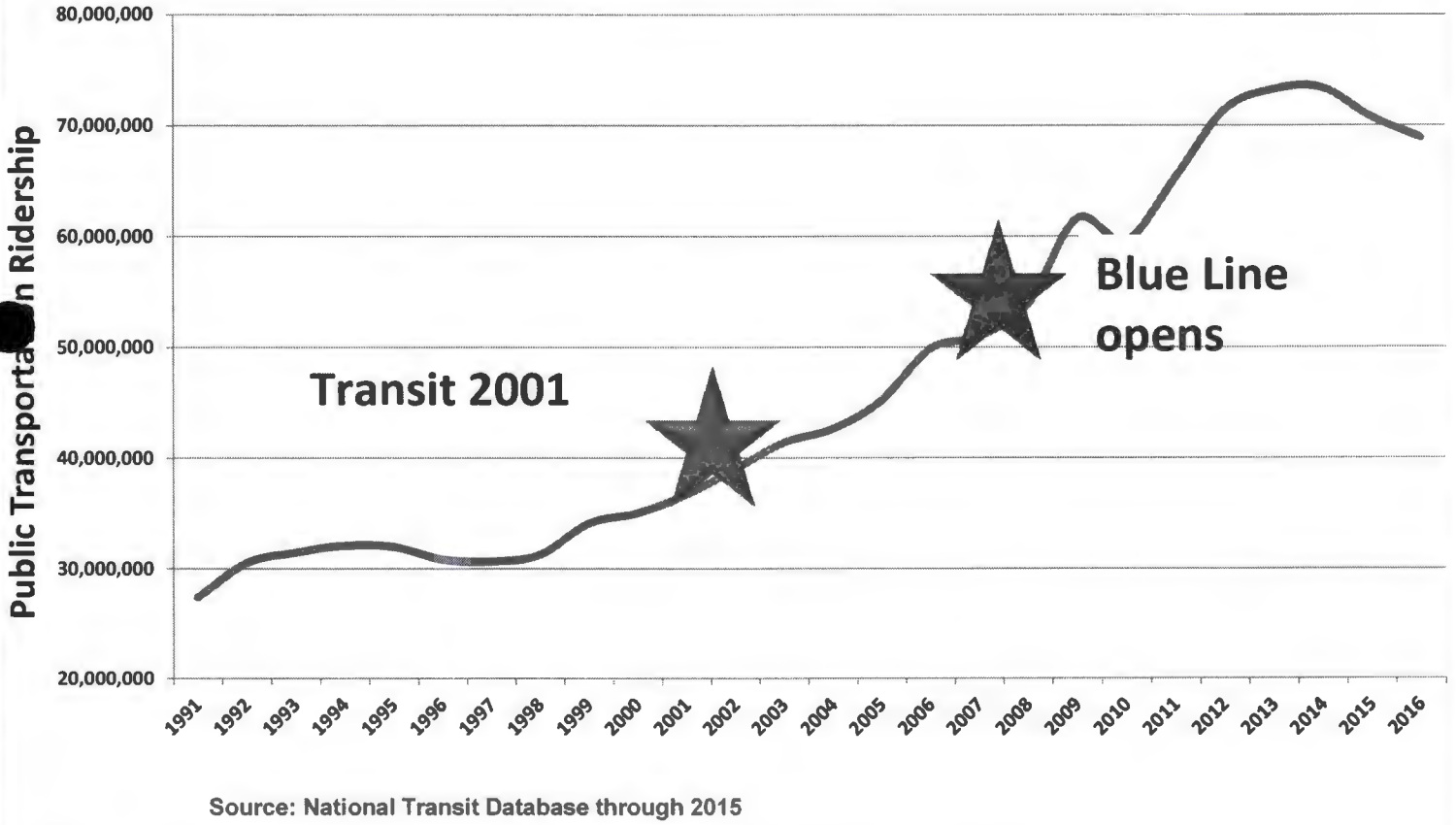






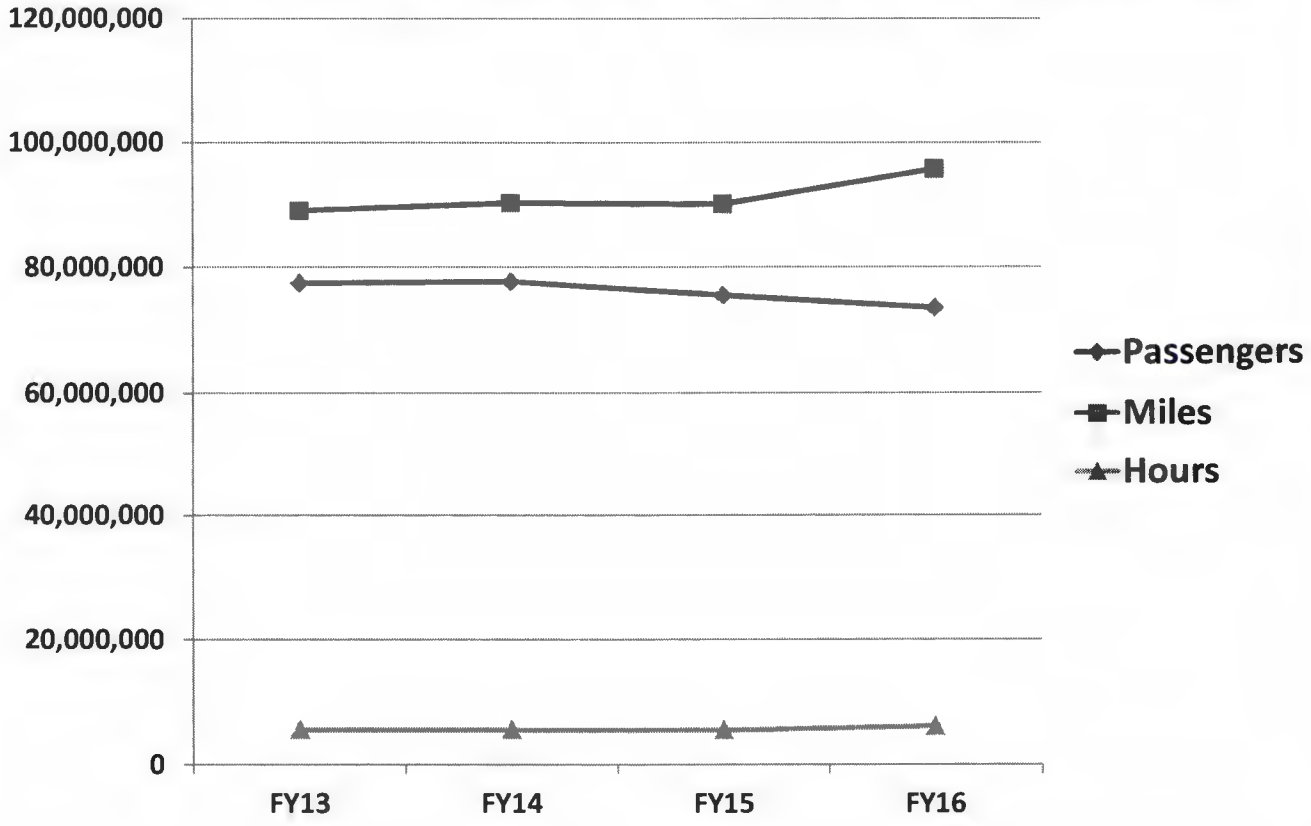


NC Urban Public Transit Fastest Growing in Southeast



Source: National Transit Database through 2015

North Carolina Operating Statistics



Traditional Service Delivery Models

	Community*	Urban
ADA Complementary Paratransit**		★
Demand Response	★	
Deviated Fixed Route	★	★
Fixed Route		★
Fixed Guideway		★

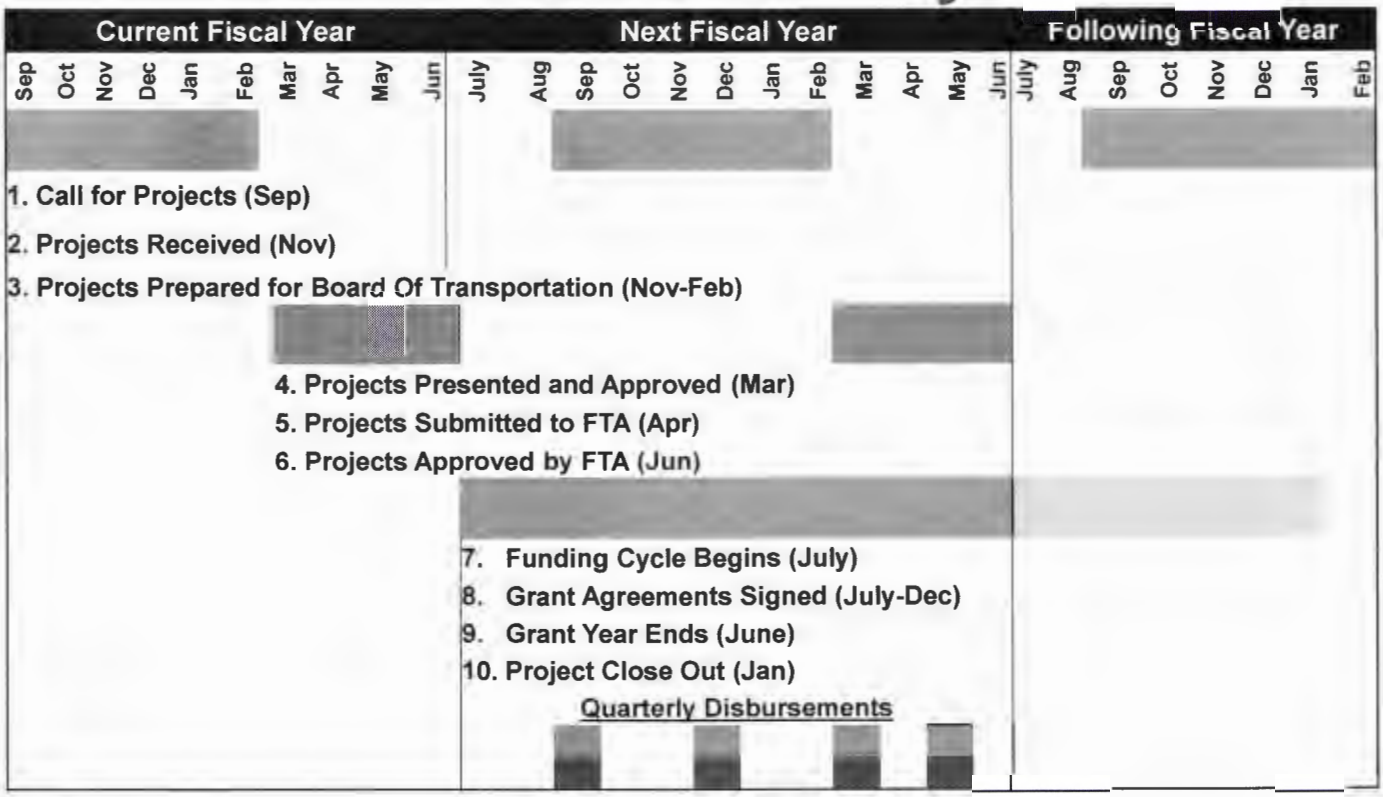
** Community Transportation (CT) also referred to as Rural*
*** ADA – Americans With Disabilities Act*

Grant Process





28 Month Grant Cycle



Call for Projects
Board Of Transportation (BOT) and Federal Transit Administration (FTA) Approval
Grant Cycle
Grant Close Out
State Maintenance Assistance Program (SMAP) payments
Rural Operating Assistance Program (ROAP) payments

Meeting Oversight Expectations

State of North Carolina

- State Auditor
- NC Grants administrative expectations (2016)
- NCDOT Fiscal and Office of Inspector General

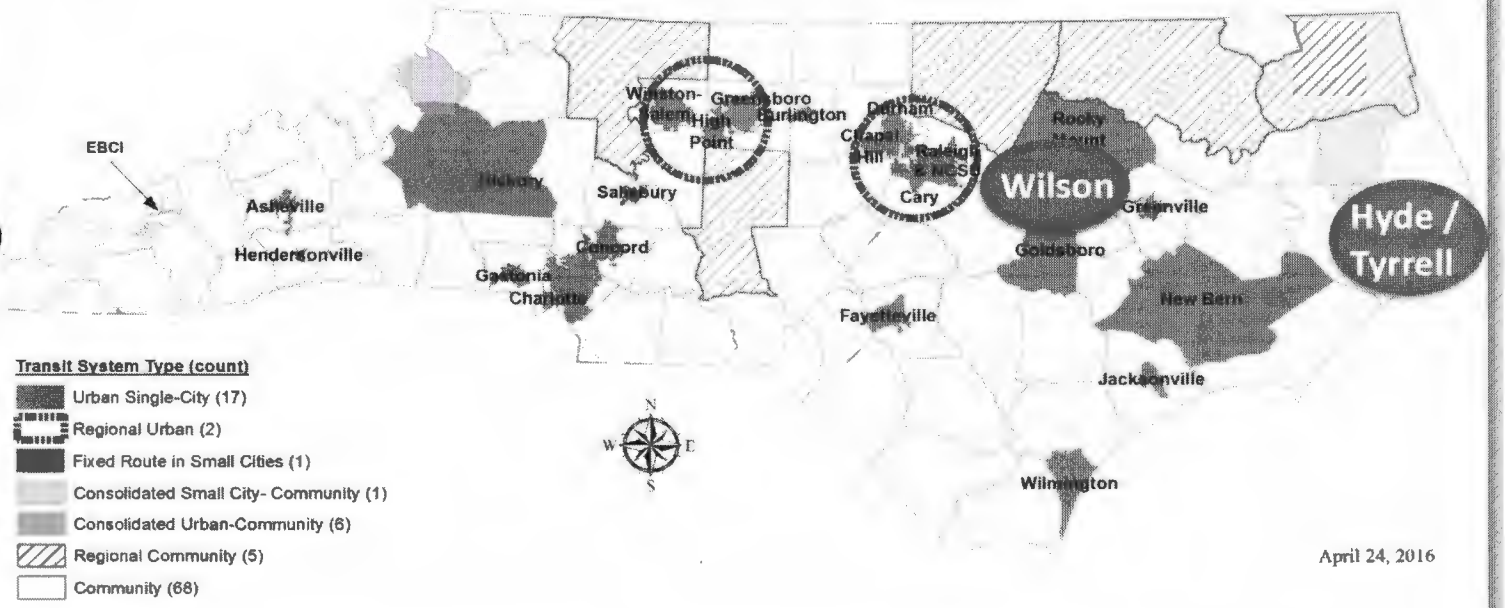


Federal Transit Administration

- Review every 3 years (2017)
  - 17 oversight areas plus Safety Management System, National Transit Database and Transit Asset Management
- Six year master schedule for oversight activities
- Staff has assigned activities for **150** sub recipients
- Structured grant application review / pre-award audit of new grantees



Regional and Consolidated Transit Systems



Expected new regional / consolidated systems on July 1, 2017

Consolidated and Regional Systems

Major Findings from Prior Studies

- Regional framework is a continuum of activities ranging from communication, coordination, collaboration, to consolidation
- Incentives are necessary to encourage regional implementation of action plans

Recent Activities

- Promoting City / County consolidated applications
- Encouraging new general public activities through regional partnerships

Current Incentives / Activities

- Providing base funding per county in rural formula program
- Shifting federal formula funding due to urbanization of NC
- Funding operating assistance for consolidated and coordinated systems
- Conducting a statewide Strategic Plan



Public Transportation Bus/Van Replacement and Expansion Update for FY18-19

Bus and Van Replacements

Category *	Total
Rural replacement	$ 28,960,790
Urban replacement	$111,855,271
Total	$140,816,061

Highway Trust Fund – STI Projects

2018-2019 Draft STIP	Total
FY18	$ 101,200
FY19	$ 326,571
Total	$ 427,771



** Data sources: Rural (PTD Transit Asset Management Plan); Urban (2017 Funding Plan); STI expansion from Prioritization 4 selected projects*

Thank you!



Debbie Collins
dgcollins1@ncdot.gov
(919) 707-4684

Attachment 9

NORTH CAROLINA
Department of Transportation



North Carolina Global TransPark

Richard Barkes, Interim Executive Director

March 23, 2017

NORTH CAROLINA GLOBALTRANSPARK

Mission: To enhance the economic well-being of North Carolinians by providing multi-modal capabilities for global commerce.

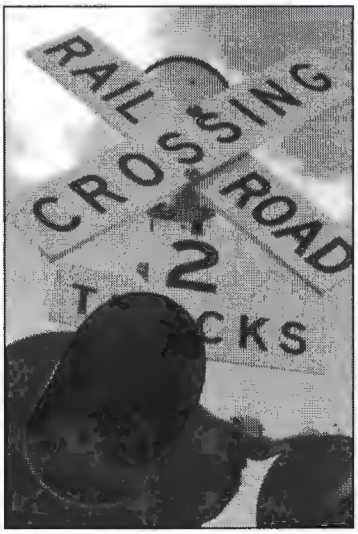


Strategic Plan

To build a diverse tenant base at the GTP that is capable of growing its business, creating jobs and contributing to the State and global economy by operating the GTP (High Tech Aviation Industry focused Industrial Park) and the Kinston Regional Jetport.







Facilities and Assets Overview

Infrastructure

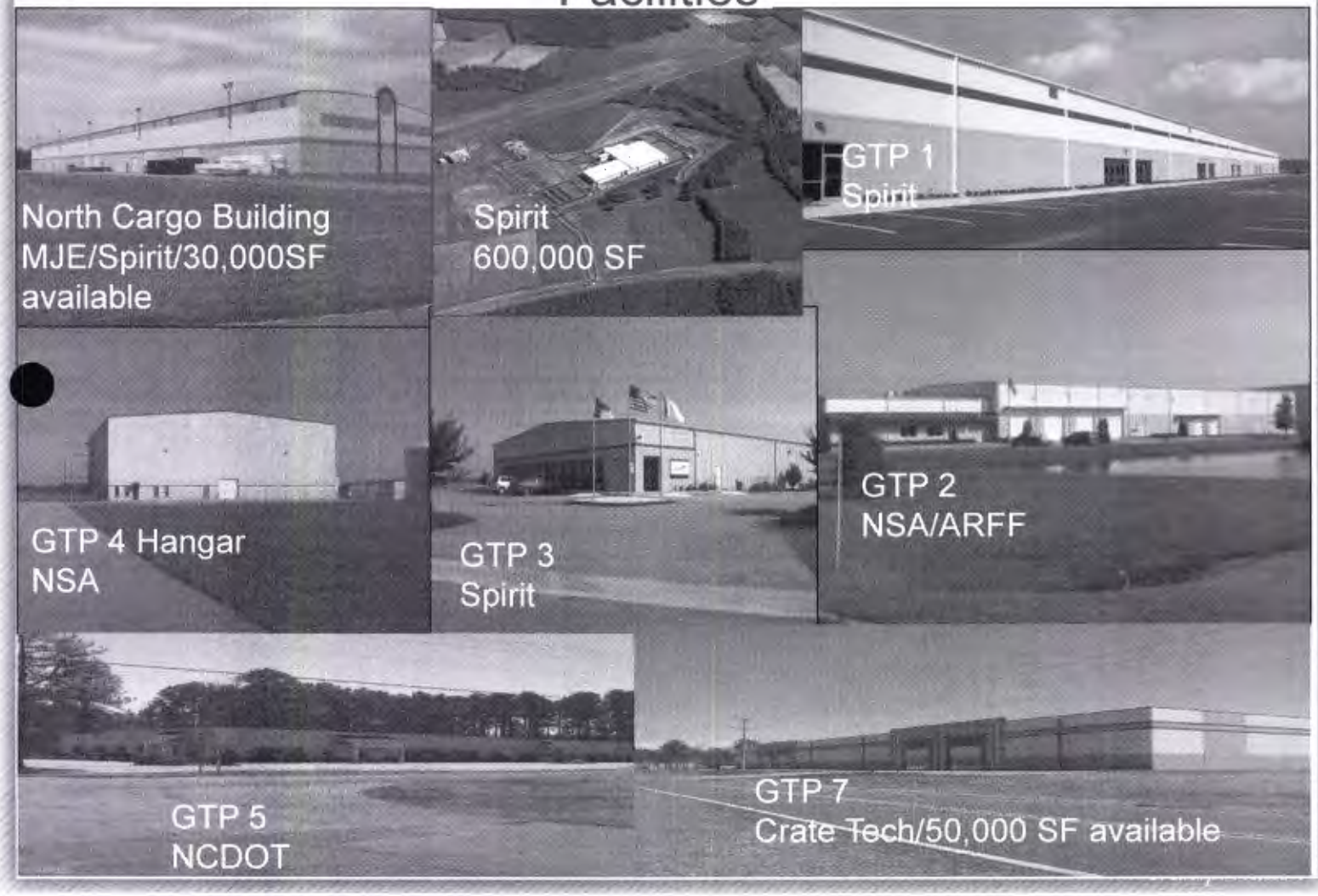
- 4 lane access to Highway 70
- 11,500 foot runway
- 6.5 mile rail spur connects to NCRR

Land & Facilities

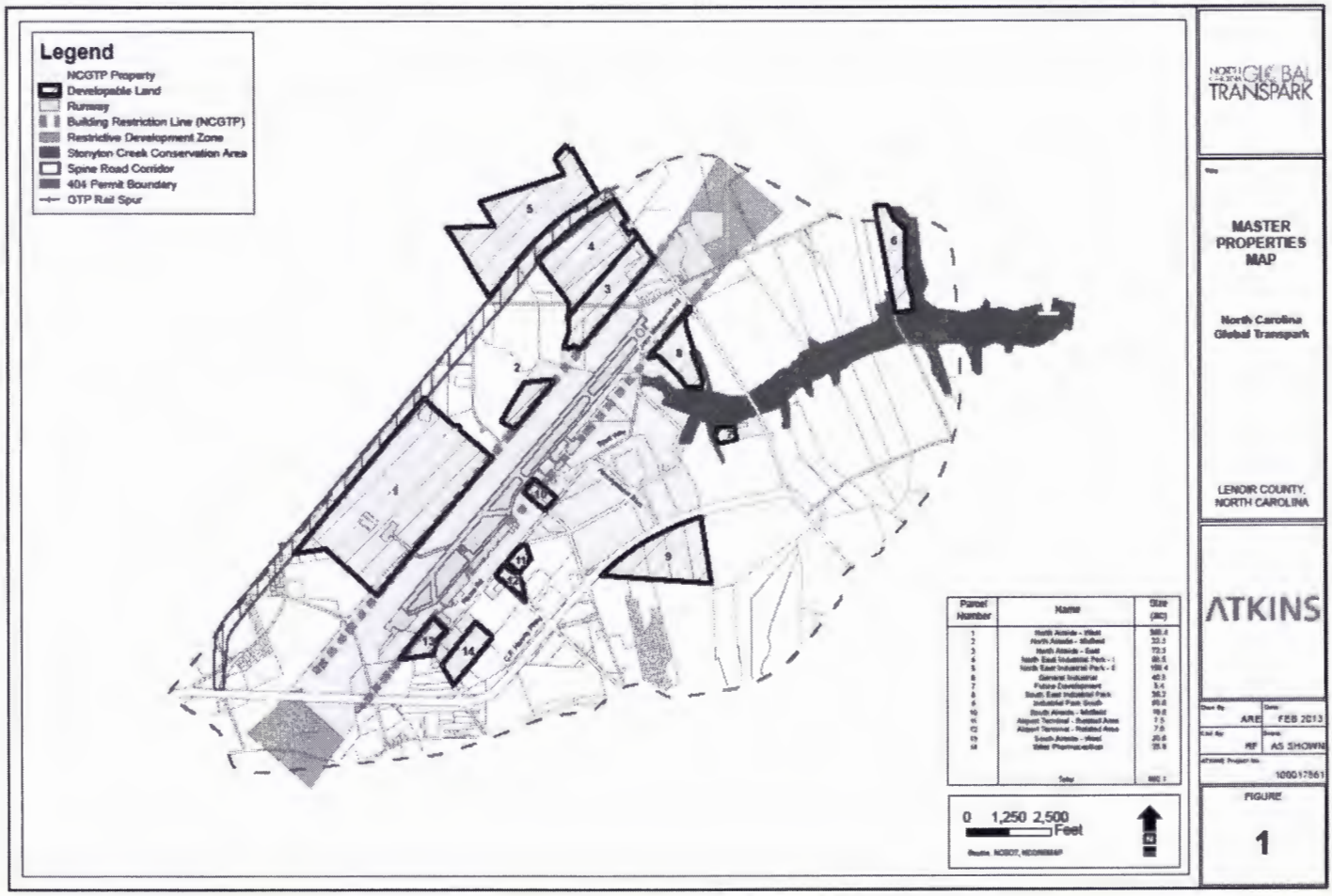
- 14 parcels – 902 acres (valued over $22M)
- 744 acres within 404 permit area
- 13 facilities – warehouse, office & hangar facilities (valued over $188M)



Facilities

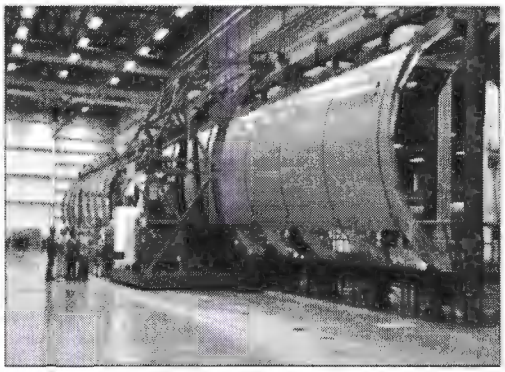

North Cargo Building
MJE/Spirit/30,000SF
available
Spirit
600,000 SF
GTP 1
Spirit
GTP 4 Hangar
NSA
GTP 3
Spirit
GTP 2
NSA/ARFF
GTP 5
NCDOT
GTP 7
Crate Tech/50,000 SF available

GTP Properties



NORTH CAROLINA GLOBAL TRANSPARK

The North Carolina Global TRANSPARK (GTP) is a 2500-acre multi-modal industrial park and airport strategically located on the east coast of the United States to support the manufacturing and logistics needs of the aviation, aerospace, defense, emergency response and advanced materials industries.



Spirit AeroSystems manufactures composite fuselage panels and wing spars for the Airbus A350 XWB at its 600,000 SF facility at the Global TransPark.

TRANSPARK Transportation

- 11,500 foot runway with CAT I Instrument Landing System;
- 5.8-mile rail spur onsite
- Foreign Trade Zone #214 – covers 22 Eastern NC counties
- One day's drive to four (4) international Atlantic Coast ports
  - 75 miles to Port of Morehead City
  - 90 miles to Port of Wilmington
- Adjacent to 4-lane, controlled access highway

TRANSPARK Business Climate

- Over 700 acres of shovel-ready land for immediate development;
- Streamlined environmental permitting;
- Spirit AeroSystems Composite Center of Excellence for onsite education and training needs;
- Real property tax exemptions for tenants leasing GTP facilities;
- All utility infrastructure onsite; including dedicated "dark" fiber for GTP companies.





TRANSPARK Workforce

- Convenient to six North Carolina military facilities; over 15,000 exiting service members entering the regional workforce annually;
- Total regional workforce of over 264,000;
- Customizable workforce development training available through the nation's third-largest community college system;
- Access to the Spirit AeroSystems Composite Center of Excellence – a 30,000 SF training facility dedicated to aerospace workforce training in composite & sheet metal manufacturing and repair.

TRANSPARK Tenant

NORTH STATE AVIATION

SPIRIT AEROSYSTEMS

CRATE TECH INC.

DB SCHENKER

MJE Telestructure

exclusive jets LLC

Economic Benefit - Increased Business

- Based On NC Dept. Of Commerce Statistics and TransPark Survey - FY 2016
  - TransPark Average Salary - $59,859
  - State Average Salary - $56,610 (*TransPark 6% Higher)*
  - Eastern NC Average Salary - $44,780 *(TransPark 34% Higher)*
  - Lenoir County Average Salary- $41,915 *(TransPark 43% Higher)*
- Two New Tenants
  - North State Aviation
  - Exclusive Jets LLC
- More Jobs Created
  - 62% increase in number of employees located at TransPark
  - 40% increase in total Payroll

Fiscal Year	# of Full Time Jobs	Total Payroll
FY 2014	456	$21,972,515
FY 2015	498	$23,326,866
FY 2016	737	$30,818,362

***Jobs # does not include any Federal, State, or Local government employment

North State Aviation

- Latest tenant at the GTP
- North Carolina based MRO Company
- Projected to have 109 New Jobs by December 2017









2016 Airport Economic Contribution Study

- Completed by ITRE for the NCDOT Division of Aviation (72 Airports including CLT, RDU, & GSO)
  - GTP Impact on North Carolina Economy
    - Jobs: 1,350
    - Annual Payroll Income: $48,290,000
    - Annual Economic Impact: $452,270,000
  - Compared to all 72 Airports Statewide
    - 6th in Economic Impact
    - 11th in Employment
    - 9th in Payroll
    - 14th in added Tax Revenue

ncdot.gov


• 360K SF Aircraft Maintenance Complex
• (3) 90K SF Maintenance Hangars
• (1) 90K SF Paint Hangar
• Cost $141.7M w/o utilities
• Job creation – 1200-1300
• Est. Avg. Salary - $52K
Visualization
Aircraft Maintenance Facility
NORTH CAROLINA GLOBALTRANSPARK

ncdot.gov

POST EVENT REPORT

2016

MFG DAY®

featuring the

NORTH CAROLINA GLOBAL TRANSPARK

THURSDAY, DECEMBER 1

KINSTON JETPORT TERMINAL

3780 JETPORT ROAD

KINSTON, NC

REPRESENTING CRAVEN, GREENE, JONES, LENOIR, AND WAYNE COUNTIES



















Financial Condition

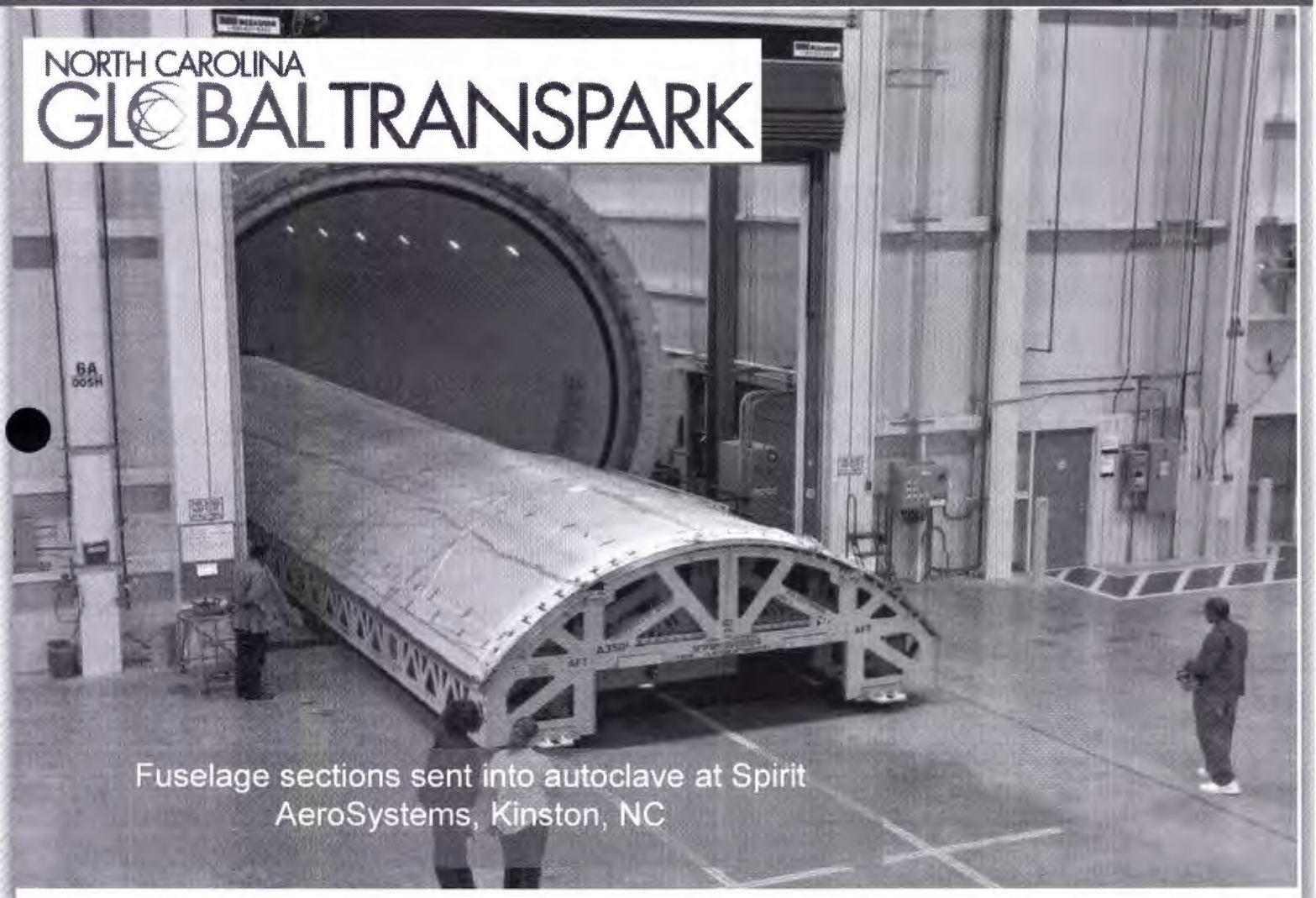
- Improved bottom line by:
  - Insourced consultancy work – Reporting (Environmental, FAA, TSA, Construction estimates, etc.)
  - Consolidating GTP workforce (4% reduction)
  - Implemented Debt reduction plan
    - Paid off highest interest rate and longest term loans
      - $3.5M debt reduction in FY 2015
      - Saving over $4M in long term interest
      - Saving over $380K in annual debt service
      - Released over $850k from restricted funds
    - Refinanced remaining loans
      - Reduced interest rates from 5.75% to 3.75% and from 4.25% to 3%
      - Reduced loan terms from 32 years to 10 years

Financial Issues Going Forward

- Strengths
  - Restricted Cash released and available for use
  - Building cash reserves from temporary leases
  - Generating Profit on cash basis
  - Debt service greatly reduced
  - Have good relationship with funding agencies

- Deficiencies
  - Operating without sufficient funds for routine repairs & maintenance
  - Insufficient funds for major repairs
  - Operating without sufficient personnel for operations of airfield and business park
  - Operating without sufficient marketing funding and personnel
  - Insufficient cash flow, when required to build for tenant

NORTH CAROLINA
GLOBAL TRANSPARK



Fuselage sections sent into autoclave at Spirit AeroSystems, Kinston, NC



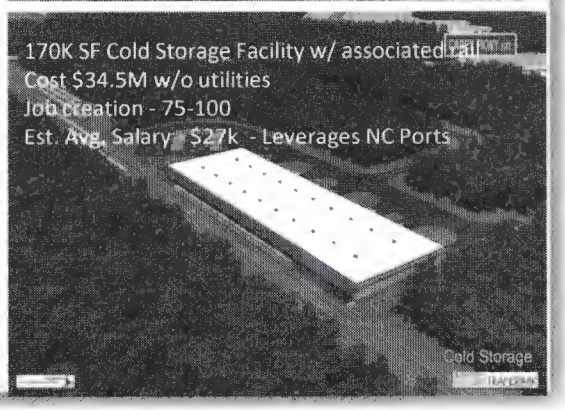
Fuselage panel production
at Spirit AeroSystems
in Kinston, NC

Targeted Implementation of Strategic Plan

- Close cooperation with CCX project (air transport element as well as agricultural focus).
- Expand Aircraft Maintenance Repair and Overhaul (MRO) – larger aircraft.
- Product returns platform development
- Agricultural processing center
- Leverage association with LCED, EDPNC,NC East for marketing and site development
- Establish Focus Areas for Economic Development





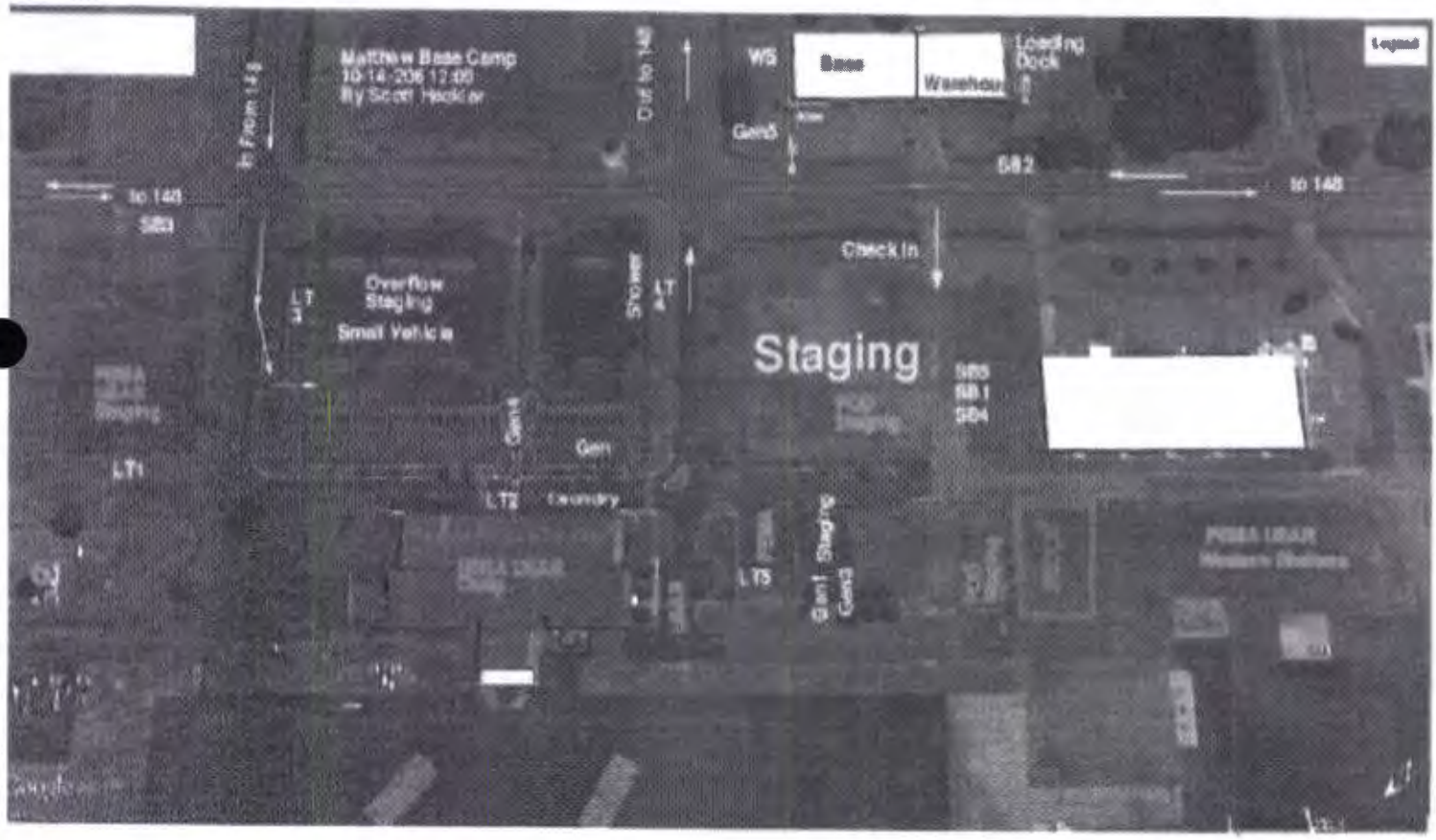


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Hurricane Matthew



Hurricane Matthew
Eastern NC Command Center & Base Camp



Disaster Command Center – Search & Rescue, Operations, Logistics and Recovery



QUESTIONS?

Attachment 9

2016 MFG DAY featuring the NORTH CAROLINA GLOBAL TRANSPARK

Post Event Report

Thursday, December 1, 2016

Media Coverage

WNCT: http://tinyurl.com/znd6dzc
WCTI: http://tinyurl.com/hmsvsmj
WITN: http://tinyurl.com/jloqh5n
KFP: http://tinyurl.com/zoexxlq

Facility Tour Participants

Beta Box, Barnet, Neil Medical, Domestic Fabrics & Blankets, Canon Marketing, Eaton, LGM Enterprises, North State Aviation, NC MFG Inc., NC DOT Aviation, LCC Aviation, Moen, Field Controls, SPX Transformer Solutions, Tide Tamer

Event Sponsors

Master: ChickfilA, Lenoir Community College, Electricities, Lions Industries for the Blind, Minges Bottling Group, Inc., Dupont Sorona, Fly Exclusive/LGM Enterprises, Lenoir County Manufacturers Association, Lenoir Committee of 100, Inc.

Journeyman: Wayne County Development Alliance, STEM East, NC DOT Division of Aviation, MasterBrand, Jones County

Apprenticeship: Kinston Realty Group, Lenoir County Economic Development, Eastern Carolina Council, Greene County, Craven 100 Alliance, Duke Energy

Income	Expense	In Kind
Sponsorships $8,250.00	Shirts $2,787.90	LCC Signage $2,600.00
	Drones $263.84	ChickfilA $1,933.00
	ChickfilA $5,337.50	Pepsi $1,200.00
		Eastern Outdoor $600.00
		Lions Industries for the Blind $1,100.00
		BetaBox $2,000.00

Event Totals
$8,250.00 Income
$8,389.24 Expense
$9,433.00 In Kind

2016 MFG DAY featuring the NORTH CAROLINA GLOBAL TRANSPARK

Post Event Report

Thursday, December 1, 2016

Exhibitors in Attendance (# representatives)	Guests in Attendance (# representatives)
Static Displays (8)	Lenoir County Public Schools (545 students/staff)
North State Aviation (3)	Greene County Public Schools (70 students/staff)
NC Division of Aviation (4)	Wayne County Public Schools (25 students/staff)
RC Plane Association (15)	Craven County Public Schools (45 students/staff)
Kinston Community Council for the Arts (3)	Jones County Public Schools (10 students/staff)
MasterBrand Cabinets (4)	Dawn Stroud, Lenoir County Clerk of Court
Spirit AeroSystems (2)	Julia Hamilton, North Carolina Community College System
Duke Energy (1)	Jerry Kanter, NC GTP Board
Affordable Care (3)	Billy Lamm, Duke Energy
DPHill Manufacturing (3)	Brian Rick, NC DOT Communications
Forestry Service (4)	Craig Hill, Lenoir County Commissioner Chair
Control Tower (1)	Mac Daughety, Lenoir County Commissioner
LGM Enterprises (6)	Adam Caldwell, US Senator Thom Tillis Office
Wayne Community College (4 programs) (5)	Betty Jo Shepheard, US Senator Richard Burr Office
Lenoir Community College (7 programs) (12)	Dr. Rusty Hunt, President of Lenoir Community College
Greene County STEM (12)	Gregory Henderson, Caswell Center
Lenoir County STEM (3)	Ray Mayo, NC MFG Inc.
Spice Bouquet (4)	Steve Mayo, GTP Board/NC MFG Inc.
Lenoir County EMS (6)	Lori Fuller, NC DOT
SPX Transformer Solutions (3)	JoAna McCoy, NC DOT
NC DOT Equipment (12)	Mark Pope, Lenoir County Economic Development
LCC Aviation (1)	Tony Sears, City of Kinston Manager
History Museum (1)	Tom Vermillion, Lenoir Committee of 100/DEPS
Beta Box (2)	Lucy Marston, Lenoir County Tourism Director
Minges (1)	Tiffany Creech, Wayne County Development Alliance
Elks Lodge # 740 (3)	Amanda Conner, LCED/C100/LCMA
Fleet Readiness Center East (3)	Mike Afarian, Field Controls/LCMA President
Repreve Renewables (2)	Nick Tennyson, NC Secretary of Transportation
4 H Robotics (8)	Roger Dail, Lenoir County EMS Director
Uchiyama Manufacturing (2)	Rick Barkes, Interim Executive Director NC GTP
Sanderson Farms (4)	Mary Jane Westphal, Controller NC GTP
Smithfield Farmland (3)	Additional volunteers/attendees (15)
Estimated Total in Attendance: 880	

Attachment 9

MASTER SPONSORS

flyexclusive

We provide the Private Jet market with accessible, high quality and dependable point to point private jet transportation at affordable pricing throughout North America. Founded on a wealth of experience in the private jet industry, flyExclusive has selected the Cessna Citation family of business jets, noted for their efficient performance, outstanding reliability and tremendous passenger comfort.

DUPONT sorona

The DuPont approach to solving global challenges is rooted in our science and engineering expertise. Our expertise and global reach help promote safety and health for the planet and its inhabitants. Our focus revolves around Agriculture & Nutrition, Advanced Materials and Bio-Based Industrials. For more than two centuries, DuPont has delivered innovative solutions to tackle global challenges. Our company and its employees make a difference in their communities and beyond. DuPont offices and sites in North Carolina: Fayetteville, Kinston, Laurel Hill, Laurinburg, Research Triangle Park, Whiteville. DuPont offices and sites in each region: Africa, Asia & the Pacific, Europe & the Middle East, North America, South America.

LENOIR COUNTY MANUFACTURERS ASSOCIATION

The Lenoir County Manufacturers Association (LCMA) is the powerful voice of Lenoir County's manufacturing community and the leading advocate to assist small and large manufacturers in various industry sectors. Lenoir County Manufacturing employs more than 7,500 men and women. The LCMA was established in 1977. The organization actively encourages STEM education and workforce development.

Minges BOTTLING GROUP, INC.

As an independent franchise bottler, Minges Bottling Group commits itself to providing excellent service as well as delivering a quality product to all of its customers. Since 1935, we have made every effort to meet the needs of all our customers, big and small. Our customers vary from independent businesses, chain stores, convenient stores, supermarkets, supercenters, restaurants, drug channels, dollar channels, military and various institutions. We service all of these segments of business in the 13 counties in which we operate.

COMMITTEE OF 100, INC.

Lenoir Committee of 100, Inc. was re-organized in 1985 by a group of citizens who wanted to help their community to be a better place in which to live, work, and raise a family. Members recognized that a gap existed between the needs of private business and the ability of public organizations to meet those needs. The Lenoir Committee of 100, Inc. is a private, not for profit organization, that raises private funds from individuals and businesses in the greater Lenoir County area. Our purpose is to provide funding for such economic development projects as may be deemed beneficial to the citizens of Lenoir County, North Carolina.

MASTER SPONSORS

Chick-fil-A

At Chick-fil-A of Kinston, we believe in providing our guests the best restaurant experience we can. Our team prides itself on providing great tasting food and a comfortable environment in which to enjoy it. Chick-fil-A has steadily grown to become the largest quick-service chicken restaurant chain in the United States, based on domestic annual sales with over 2,000 locations in 43 states and Washington, D.C. In 2015, annual sales exceeded $6 billion. Chick-fil-A has set itself apart by pioneering innovations and delicious products.

Lenoir Community College

Lenoir Community College, a member of the North Carolina Community College System, is a comprehensive two-year public institution. The College offers associate degrees, diplomas, or certificates through educational programs in college transfer, business, industry, public services, health sciences, and continuing education for the intellectual, economic, social, and cultural development of students and the community. Programs and support services are accessible through traditional and distance learning options.

ELECTRICITIES of NORTH CAROLINA, INC.
The energy behind public power

ElectriCities is a membership organization including public power communities in North Carolina, South Carolina and Virginia. ElectriCities also provides management services to the state's two municipal power agencies - North Carolina Municipal Power Agency Number 1 and North Carolina Eastern Municipal Power Agency. ElectriCities - delivering value to public power communities through collective strength, wisdom and action while promoting a more successful future for our citizens.

LIB Lions Industries for the Blind, Inc.

Lions Industries for the Blind, Inc. provides employment opportunities for non-sighted persons in a work setting. Most of our products are sold to the Federal Government under the Javits-Wagner-O'Day Act. LIB Graphic Solutions of Kinston, North Carolina, is a proud supplier of customized apparel. Over the years Lions Industries for the Blind, Inc. has received industry and community awards that express our core values and goals of excellence!

JOURNEYMAN SPONSORS

WAYNE COUNTY DEVELOPMENT ALLIANCE

STEMEAST NETWORK

DIVISION OF AVIATION

MASTERBRAND KINSTON, NC OPERATION

COUNTY OF JONES NORTH CAROLINA

APPRENTICESHIP SPONSORS

ERA Kinston REALTY GROUP

Lenoir COUNTY ECONOMIC DEVELOPMENT

ECC Eastern Carolina Council

GREENE COUNTY A Place To Grow The Way To Live

CRAVEN 100 ALLIANCE

DUKE ENERGY

2016

MFG DAY®

featuring the NORTH CAROLINA GLOBAL TRANSPARK

THURSDAY, DECEMBER 1

KINSTON JETPORT TERMINAL
2780 JETPORT ROAD
KINSTON, NC

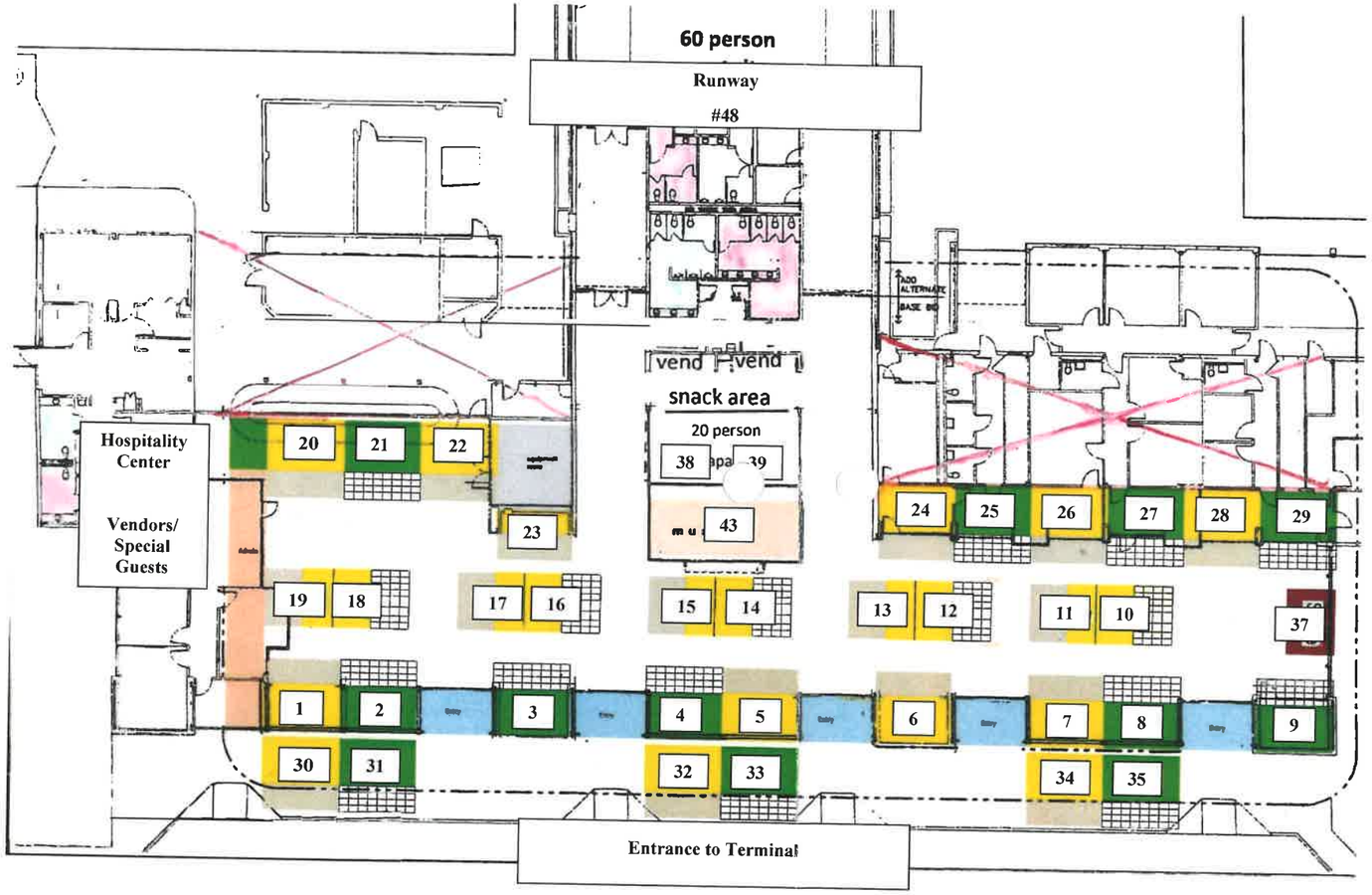
REPRESENTING CRAVEN, GREENE, JONES, LENOIR, AND WAYNE COUNTIES

Welcome

On behalf of the Lenoir County Manufacturers Association, I would like to personally thank you for your support in making the 2016 Manufacturing Day event, featuring the North Carolina Global TransPark a success. As an organization, we have a goal of establishing and promoting a strong relationship with our local community. We see this event as a way to give back to our community by showcasing the value of our member companies. We encourage all students to take full advantage of the valuable educational experience being provided by your local school system (Craven, Greene, Jones, Lenoir, and Wayne Counties). By opening our doors we hope you will open your minds in exploring the very real, very exciting and very viable career opportunities that exist right here, in your very own backyard. Thank you for your participation.

Mike Afarian, LCMA President (Vice President Finance, Field Controls, LLC in Kinston, NC)

2016 MFG DAY featuring the NORTH CAROLINA GLOBAL TRANSPARK





1 ..... Registration/Goosechase
2 ..... Greene County STEM Jr & Sr
3 ..... Wayne Community College
4 ..... Wayne Community College
5 ..... Wayne Community College
6 ..... Repreve Renewables
7 ..... Lenoir Community College—3D printing
8 ..... Lenoir Community College—Welding
9 ..... Fleet Readiness Center East
10 ..... Lenoir Community College—Hort/Agriculture
11 ..... Lenoir Community College—Robots
12 ..... Lenoir Community College—Comp. Engineering
13 ..... Lenoir Community College—Custom Paint
14 ..... NC Division of Aviation
15 ..... 4H Robotics
16 ..... Wayne Community College
18 ..... Affordable Care
19 ..... STEM Greenscreen
20 ..... MasterBrand Cabinets
21 ..... DPHi[illegible]nufactur
22 ..... Uchiyama Mfg
23 ..... Spice Bouquet
24 ..... Sanderson
25 ..... Smithfield
26 ..... Spirit AeroSystems
27 ..... North State Aviation
28 ..... Elks Lodge #740
29 ..... SPX Transformer Solutions
30 ..... Kinston Community Council for the Arts
31 ..... Kinston Community Council for the Arts
32 ..... Duke Energy
34 ..... #48 Alternate
35 ..... #48 Alternate
37 ..... Fleet Readiness Center East
38 ..... #30 Alternate
39 ..... #31 Alternate
40 ..... Control Tower
41 ..... LCC Aviation
42 ..... LGM Enterprises
43 ..... History Museum
44 ..... Lenoir County EMS
45 ..... Beta Box
46 ..... NCDOT
47 ..... NCDOT
48 ..... RC Planes/Static Displays
49 ..... LCC Mobile Lab
50 ..... Lunch Forestry Dining Hall
51 ..... Lunch Forestry Dining Hall
52 ..... Lunch Forestry Dining Hall

Attachment 10

NORTH CAROLINA
Department of Transportation



Bicycle and Pedestrian Overview

Ed Johnson, Division of Bicycle and Pedestrian

March 2017

Agenda – Bicycle and Pedestrian Division

- Mission
- Bicycle and Pedestrian Plans
- Bicycle and Pedestrian Infrastructure
- Economic Benefit
- Budget Overview
- Federal Funding Sources



Core Functions

- MISSION: Create safe and efficient bicycle & pedestrian travel options
- Bicycle and pedestrian planning program
- Bicycle and pedestrian safety programs
- Federal project oversight



MISSION: Create safe and efficient bicycle & pedestrian travel options

Local Government Responsibilities	NCDOT-Div. of Bicycle and Ped Role
Create and adopt long-range, comprehensive plans	Provide financial and technical support for plan development
Identify local funding for design and construction	Prioritize and program available federal funds for eligible projects
Convey interest in roadway and bridge accommodations	Provide technical advice for facility accommodation and design
Project administration	Support division project overight
Facility maintenance	Evaluate process and collect local project

ncdot.gov

The Statewide Pedestrian and Bicycle Master Plan



WALKBIKENC

Learn about North Carolina's Statewide Pedestrian and Bicycling Plan

RESOURCES

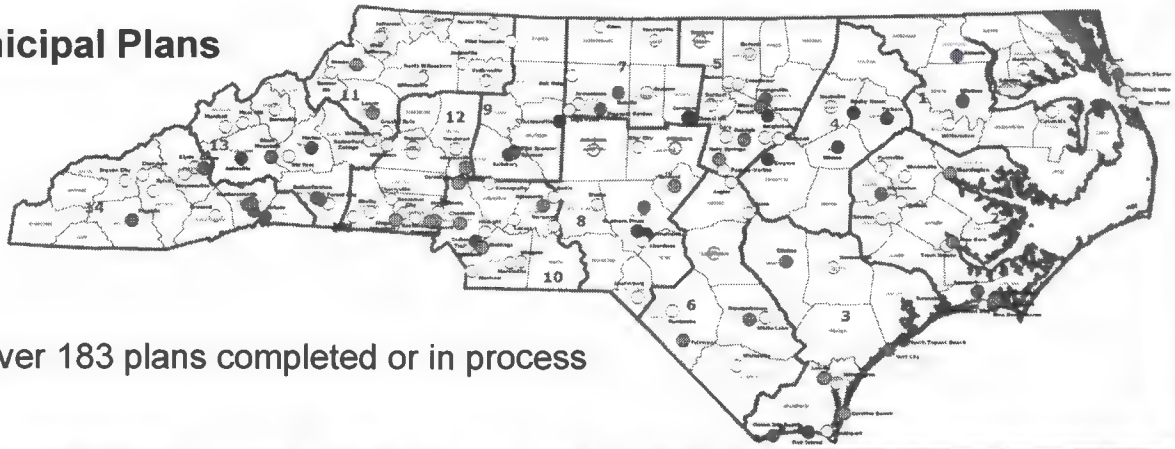
Find Bicycling and Walking Resources

BIKING NC

Map Your Bike Ride Across North Carolina

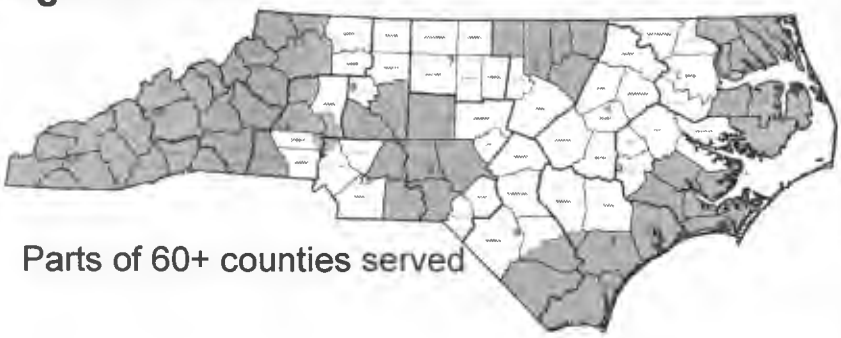
Bicycle/Pedestrian Plans

Municipal Plans



Over 183 plans completed or in process

Regional Plans



Parts of 60+ counties served

YEAR	Bicycle	Pedestrian	Small Town	Bicycle/ Pedestrian	Total
2004	5	13			18
2005	5	13			18
2006	6	6			12
2007	3	13			16
2008	2	13			15
2009	5	7	2		14
2010	2	9	2		13
2011	5	7	3		15
2012	3	9			12
2013	1	5		3	9
2014	4	2	3	3	12
2015	2	2		6	10
2016	1	4		4	9
2017	4	2		4	10

Bicycle and Pedestrian Infrastructure – How is it constructed?

- Independent STIP project
- Complete Streets / Incidental project
- Locally funded project
- Restriping/resurfacing project



Economic Impact – Walk Bike NC Plan

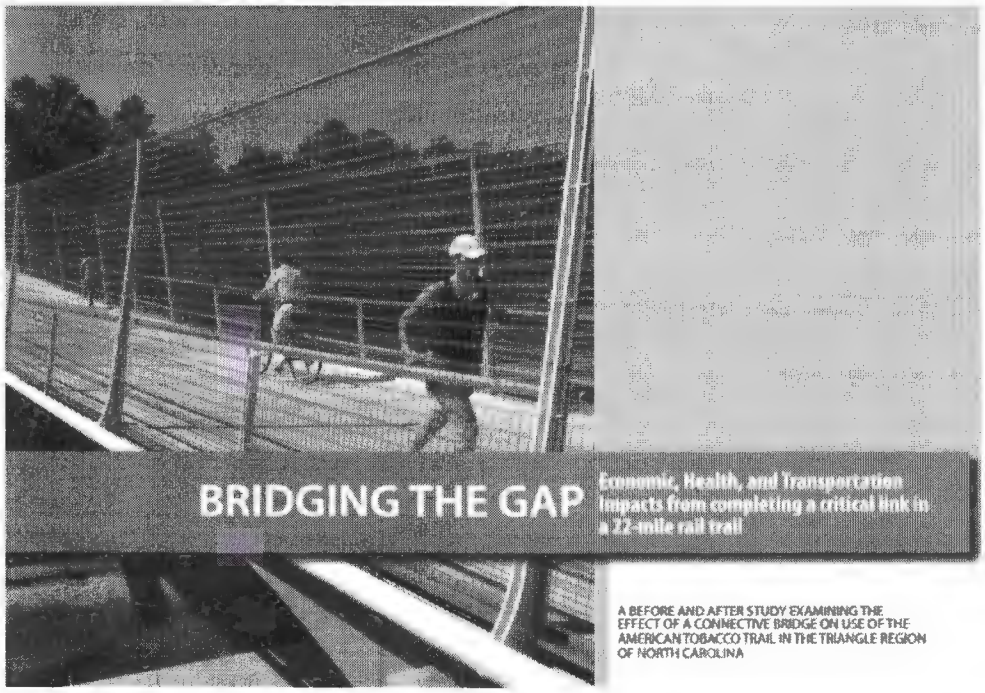


Economic Impact Category
Economic stimulus from upfront construction
Economic stimulus from increased tourism activity
Direct use value from usage of bicycle and pedestrian infrastructure
Health care cost reduction from usage of bicycle and pedestrian infrastructure
Commuting gains from increased usage of bicycle and pedestrian infrastructure
Property value gains from proximity to bicycle and pedestrian infrastructure

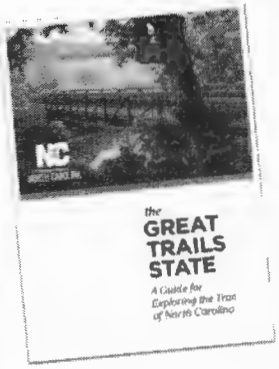
Economic Impact – Research Studies

2014 NC State University study of American Tobacco Trail

- 500,000 annual trips
- $6.1 million annual trail user spending

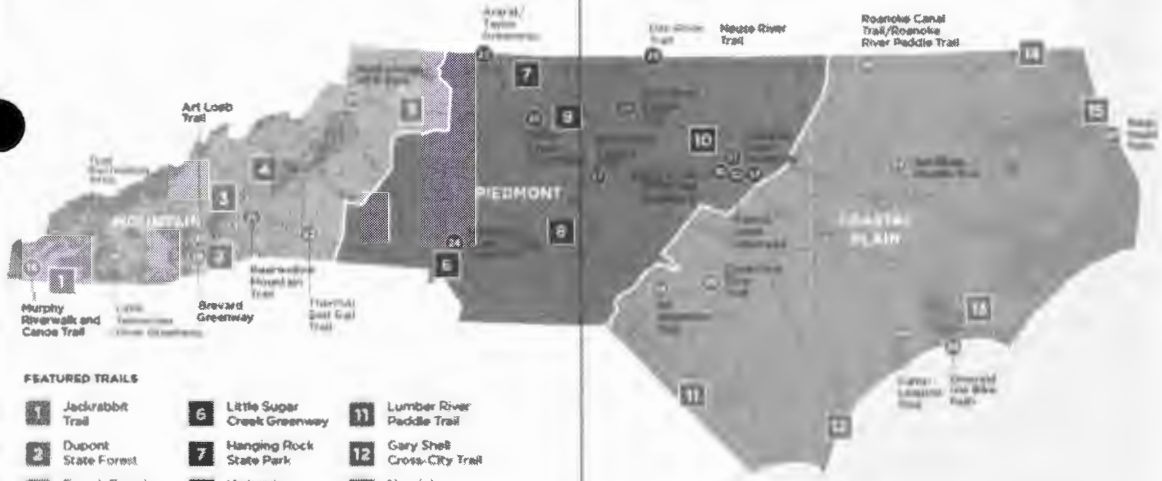


Economic Impact – Maps/Tourism



Explore
NORTH CAROLINA'S TRAILS

These are just a sampling of North Carolina's greatest trails. These were selected based on input from residents and visitors about their favorite trails, trail length, and a desire to feature a variety of trail types across the state. North Carolina is fortunate to have many great trails, and this booklet may be updated in future years to feature more of them.



FEATURED TRAILS

1. Jackrabbit Trail
2. Dupont State Forest
3. French Broad River Paddle Trail and Greenway
4. Mount Mitchell State Park
5. Yadkin River Greenway and Paddle Trail
6. Little Sugar Creek Greenway
7. Hanging Rock State Park
8. Uwharrie National Recreation Trail
9. Bicentennial Greenway
10. American Tobacco Trail
11. Lumber River Paddle Trail
12. Gary Shell Cross-City Trail
13. Neusiok Trail
14. Dismal Swamp Canal Trail and Paddle Trail
15. Duck Trail and Boardwalk

Indirect Economic Impacts

Health Benefits



ACTIVE ROUTES TO SCHOOL

A North Carolina Safe Routes to School Project

Safety Benefits and Programming

WATCH FOR ME NC

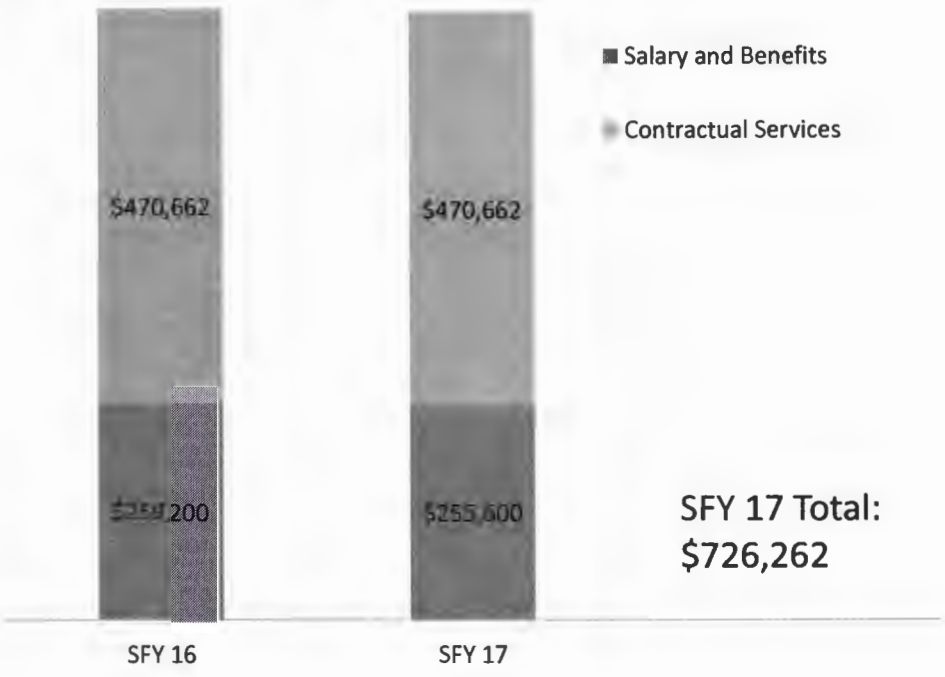
NC VISION ZERO

- 2,400 NC pedestrians & 960 bicyclists hit / yr
- NC is 10th in size but 7th in # of ped deaths
- 90% of NC agree that having a safe pedestrian and bicycle network contributes to their well being and quality of life



Division Budget

Bicycle Program Appropriations SFY 16-17



SFY 17 Total:
$726,262

Bicycle and Pedestrian Project Funding Sources

Pre MAP-21

- **Enhancement**
- **Safe Routes to School**
- CMAQ
- Highway Safety Improvement Program
- Surface Transportation Program
- Local, Other

Post MAP-21, FAST Act

- **Transportation Alternatives Program**
- CMAQ
- Highway Safety Improvement Program
- Surface Transportation Program
- Local, Other

Questions

Ed Johnson, RLA, ASLA
Interim Director, Bicycle and Pedestrian Transportation
919.707.2604
erjohnson2@ncdot.gov

