



**MEETING AGENDA**  
**Monthly Meeting of the North Carolina Board of Transportation**  
 1 South Wilmington Street Raleigh, North Carolina 27601  
**November 5 - 6, 2014**  
**REVISED 11-5-14**

**WEDNESDAY, NOVEMBER 5, 2014**

**9:00AM – 11:00AM**

Multi-Modal Committee	EIC
Highways Committee	Room 150

**11:00AM – 11:30AM**

Road Naming Committee	Room 160
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**11:30AM – 12:00PM**

Audit Committee	Room 160
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<b>11:30AM</b>	<b>Lunch Available</b>	<b>Breezeway</b>
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<b>12:00PM – 1:00PM</b>	<b>Working Lunch – Full Board Attendance</b>	<b>Room 150</b>
<ul style="list-style-type: none"> <li>• Lean Six Sigma: Project Updates <span style="float: right;">Ann Dishong</span></li> <li>• Fees/Privatization/Sponsorship Opportunities <span style="float: right;">Mike Holder &amp; David Tyeryar</span></li> <li>• Scenic Byways Annual Report <span style="float: right;">Jeff Lackey</span></li> <li>• 4.0 Timeline (Moved to Thursday) <span style="float: right;">Don Voelker</span></li> </ul>		

**1:00PM – 3:00PM**

Economic Development & Intergovernmental Relations Committee	Room 150
Funding & Appropriation Strategies Committee	EIC

**3:00PM – 4:00PM**

General Meeting Time	Various Locations
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<b>4:00 PM</b>	<b>Adjourn</b>
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**NORTH CAROLINA BOARD OF TRANSPORTATION MEETING**

- **Call to Order**
- **Invocation**
- **Ethics Declaration**
- **Approval of October Board Meeting Minutes**

Chairman Curran  
 Jeff Sheehan  
 Chairman Curran  
 Chairman Curran

**INFORMATION AND DELEGATED AUTHORITY**

**Secretary's Remarks**

Secretary Tata

- (Item C)** Award of Highway Construction Contracts
- (Item D)** Award of Contracts to Private Firms for Engineering Services
- (Item E)** Approval of Funds for Secondary Road Improvement Projects – Highway Fund and Highway Trust Fund
- (Item H)** Approval of Funds for Division-wide Small Construction, Statewide Contingency, Economic Development, Public Access and Senate Bill 1005 Discretionary
- (Item L)** Approval of Funds for Specific Spot Safety Improvement Projects

- 4.0 Timeline
- Legislative Update
- Chief Financial Officer Update
- DMV Update

Don Voelker  
 Keith Weatherly  
 David Tyeryar  
 Kelly Thomas/Randy Dishong

**ACTION**

Chairman Curran

**Fees/Privatization/Sponsorship Opportunities**

**Approval of Projects**

- (Item G)** Additions and Abandonments to State Secondary Road System
- (Item I)** Public Transportation Program
  - (Item I-1) Public Transportation
  - (Item I-2) Rail Program
  - (Item I-4) Aviation
- (Item J)** Specific State Funds for Construction Projects
- (Item K)** Strategic Transportation Investments Funding and Specific North Carolina Trust Funds
- (Item M)** Funds for Specific Federal-Aid Projects
- (Item N)** TIP Amendments
- (Item O)** Municipal and Special Agreements
- (Item R)** Right of Way Resolutions and Ordinances
- (Item S)** Maintenance Allocations
- (Item V)** Mobility Funds for Construction Projects

**Committee Reports**

Chairman Curran

**Other Business**

**Adjourn**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

# A Study of Fees, Sponsorship, Privatization

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2014

North Carolina Board of Transportation

11/6/2014

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# Fees, Sponsorship and Privatization

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## Executive Summary

Pursuant to Section 34.17(a) of S.L. 2014-100, the Board of Transportation shall study how fees, sponsorship and privatization might be used to reduce the use of public funds for services provided by the Department of Transportation.

As directed, this report provides information relative to the study of fees, sponsorship, and privatization. It details the current state and offers potential considerations that could reduce the use of public funds for such services.

To implement the cost savings/avoidance measures outlined in the report, legislative changes would be required to authorize and set the fees. Rule changes may be required to align the rules to legislative changes.

The Board of Transportation approved this report on **(INSERT DATE)** as the final stage in completing the study requirement for submittal to the Joint Legislative Transportation Oversight Committee and the Fiscal Research Division no later than December 1, 2014.

## Fees

### Development Fees

When a commercial development connects to the State highway system or a residential development, streets are proposed to be added to the State system. This involves several different touch points with NCDOT. The Department performs various reviews, inspections, permits and approvals. The Department charges minimal to none for the activities, which include:

- Traffic Impact Analysis Reviews
- Commercial Driveway Permits
- Encroachment Reviews
- Subdivisions: Plan Reviews, Plat Reviews, and On-Site Inspection of Roads, Bridges, and Large Pipes
- Inspection of Streets for Addition to the State System

The review time by staff on the aforementioned activities vary. Time is largely driven by size, complexity, and impact of the development or encroachment, and the number of changes the development or encroachment undergoes before construction is complete.

### Traffic Impact Analysis

Larger commercial developments conduct Traffic Impact Analyses (TIA) for NCDOT review. The TIA predicts the development impact on traffic flow and identifies road improvements the developer must provide to mitigate traffic increase. Currently, NCDOT does not charge for these reviews. In State Fiscal Year (SFY) 2014, the Department reviewed over 400 TIAs at no charge.

### Driveway Permit

NCDOT charges a flat fee per driveway (usually waived for single family residential). This fee covers driveway pipe construction inspection after permit approval. It does not cover administrative costs for processing the permit. In SFY 2014, the Department issued 1650 permits. **A fee structure for consideration could be based on the number of vehicle-trips the associated development will generate. Surcharges would apply if the permit requires a control of access break or median break.**

### Encroachments

NCDOT charges an administrative fee for every Grading on Control of Access Encroachment. There is an additional charge for removing dirt from NCDOT right of way if the work requires it. In SFY 2014, the Department processed over 10,000 encroachments, most of these without charge. **A fee structure for consideration should revise the Grading on Control of Access fee by charging more for larger grading jobs and increases the price of dirt per cubic yard. In addition, the proposed fee structure should add fees based on encroachment type, and in some cases, length.**

### Subdivision Reviews and Inspections

When a developer wants NCDOT to add subdivision streets into the State highway system, the Department must review subdivision plans and plats and conduct on-site inspections. The Department does not charge for these reviews and inspections. In SFY 2014, the Department processed over 1,700 subdivision reviews and inspections. **A fee structure for consideration should be based on linear feet of roadway. Petitions to add rural roads not part of a subdivision should be a flat fee.**

## Fee Structure for System Access or Encroachment

<b>TRAFFIC IMPACT ANALYSIS FEE SCHEDULE</b>	
Description/Projected Average Vehicle Trips Per Day of Site	Processing Fee
<b>Category A</b> – Uses with 10 - 3000 VTPD	\$250
<b>Category B</b> - Uses with 3000- 10000 VTPD	\$1,000
<b>Category C</b> - Uses with 10,000-15,000 VTPD	\$3,000
<b>Category D</b> - Uses with above 15,000 VTPD	\$4,000

<b>DRIVEWAY PERMIT APPLICATION FEE SCHEDULE</b>				
Driveway Permit application fee (Includes inspection)	Trip Generation (Trips per day)			
	<1500	1500-3000	3000 - 15,000	> 15,000
	\$150	500	\$1,000	\$2,000
C/A Break	\$2,000			
Median Break	\$1,000			

<b>FEE STRUCTURE FOR ENCROACHMENTS*</b>				
Encroachment Type	Agreement	Project Scope		
Utility	16.1	Small	Medium	Large
		0-1000'	1000'-2 miles	>2 miles
		\$250	\$500	\$750
Non-Utility	16.1A	\$200		
Widening, Curb & Gutter, Storm Drainage, etc.	16.1B	\$500		
Piping Treated Effluent	16.1C	\$200		
Interstate & Other C/A Highways	16.2	0-1000'	1000'-2 miles	>2 miles
		\$250	\$500	\$1,000
Original Blanket Agreements	16.3, 16.4,16.5	\$100		
Blanket Encroachment Authorization Letters	NA	\$100		
Three-Party Agreements (Primary & Secondary Roadways)	16.6	0-500'	500'-1000'	>1000'
		\$250	\$500	\$750
Three-Party Agreements (Interstate & Other C/A Highways)	16.6A	\$250	\$500	\$1,000
Grading on R/W on Interstates & Other C/A Highways	16.7	0-1000 CY Disturbed		\$500
		>1000 CY Disturbed		\$1,000
		Material Removed From Right of Way		\$1/CY

\* Encroachment Fees do not apply to encroachments for single family dwellings.

<b>SUBDIVISION REVIEWS FEE SCHEDULE</b>			
Activity	Processing Fee		
	Total Linear Feet of Roadway		
	< 5000	5000' - 15,000'	> 15,000'
Plan Review (Construction or As-Built)	\$2,000	\$3,500	\$5,000
Inspection for Built to Standards (basic letter issue)	\$500	\$1,000	\$1,500
Plat Review (Signed plat for Recordation)	\$200	\$275	\$350
Petition fee for Road Addition	\$150 flat fee		

## Residential Driveways and Driveway Pipe Installation

It is not uncommon for NCDOT to waive driveway permit fees for single family dwelling driveways and, where applicable, may also install driveway pipe without charge. The potential does exist to recover costs by imposing fees for both single family dwelling driveway permits and driveway pipe installations. **It is advisable to not charge fees for processing driveway permits or for the installation of driveway pipe for single family homes because:**

- Single family dwelling driveway permits are not overly time consuming for staff.
- It is in the Department's best interest to ensure driveway pipes are properly installed.

## Surplus Right of Way Disposal, Control of Access Revision

A request to dispose of surplus right of way or revise its control of access incurs administrative expenses. There is no fee imposed to recover administrative costs. In SFY 2014, the Department evaluated 21 requests for control of access revisions and 24 surplus right of way disposals. If the request is approved, appraisal expenses are also incurred. NCDOT recoups the appraisal fee. The requesting party pays the actual appraisal cost, which averages about \$3,500. **A fee structure for consideration includes a \$1,600 administrative fee on all requests for control of access revisions and surplus right of way disposals while leaving the current appraisal fee to remain in its current state.**

## Courses Offered to Private Sector

NCDOT provides training courses in various disciplines (for instance, construction and construction materials) for both its employees and its private sector partners. NCDOT currently charges the private sector companies for the seats they occupy in these courses. The Department undercharges relative to our actual cost for the seats and thereby subsidizes private sector participation. In 2014, 2,993 seats were filled by private sector participants, and NCDOT undercharged approximately \$30 per seat on average. **A fee structure for consideration includes increasing fees to cover the actual cost per student for each course.**

## Selective Vegetation Removal

NCDOT charges a permit fee for selective vegetation removal. In SFY 2014, this program had 196 customers. **A fee structure for consideration includes an increase to \$600.**

## Outdoor Advertising

NCDOT currently charges for a new outdoor advertising permit and for an annual renewal. The fees collected do not cover the administrative costs; rather, the program is subsidized by maintenance funds. In SFY 2014, this program had 7,854 customers. **A fee structure for consideration includes:**

- **\$240 new permit fee**
- **\$120 annual renewal**

## Oversize/Overweight Loads

The NCDOT Oversize/Overweight (OSOW) section of the Mobility and Safety Unit charge for loads that exceed legal limits. This is critical since oversize/overweight loads

take a disproportionate toll on facilities. The program is currently revenue-generating, but fees are low in comparison to other states. **In an effort to generate additional revenue to put towards the maintenance and preservation of our highways and bridges, a fee for consideration includes increasing the OSOW fees as follows:**

- **Oversize: increase by \$5 per dimension (from \$12 to \$17)**
- **Overweight: Superload is a load over 350,000 lbs. Currently, the fee is a \$3 for every 1000 lbs. over 350,000 lbs. A future fee consideration is an increase of \$1, making the new fee \$4 per 1000 lbs. over 350,000lbs.**
- **Consider applying revenues collected to specific improvements of routes used by the permitted loads.**

### **House Moves**

NCDOT currently charges an annual fee of \$100 to a house-moving entity and a \$20 permit fee per individual move. There are additional costs that commonly are not recaptured when the house move takes place. These include, but are not limited to: sign removal and replacement and signal removal and replacement. **In an effort to recoup the administrative cost and actual field work of reviewing and inspecting these moves, a fee structure for consideration includes increasing the permit fee as follows:**

- **\$100 when no signals are involved**
- **Actual cost when signals are involved**

### **Crash Analysis Reports**

NCDOT's Traffic Safety Section in Transportation Mobility & Safety Division receives thousands of requests/year for reports. These reports do not already exist, so staff spends substantial time compiling. It is estimated that approximately 1,500 of the requests come from outside entities such as law firms, media, local governments, and the general public. **In an effort to recoup the cost of preparing these reports, a fee structure for consideration includes imposing a flat fee of \$200 per crash analysis report. A fee waiver could be considered for local governments.**

### **Fees Not Recommended (at this time)**

Section 34.17(a) 6 of S.L. 2014-100 required the Board's study to include review, engineering, or consultation regarding drainage issues, improvements, or maintenance adjacent to components of the State highway system. Imposing fees on these kinds of reviews and consultations is not practical. This is because when a citizen has a concern or complaint about a drainage or maintenance issue on or adjacent to his/her property, it is in the best interest of the Department to investigate to protect infrastructure and ensure longevity. **Therefore, no consideration for imposing fees on reviews or consultations in response to citizen concerns is recommended at this time.**

## Sponsorship Opportunities

### Sponsor-A-Highway Expansion (Litter Pickup)

NCDOT currently has a successful pilot Sponsor-a-Highway Program for litter pickup. Under this program, NCDOT enters into an agreement with a service provider. The sponsor pays for the sign and for litter removal along the sponsored segment up to 13 times per year. NCDOT's responsibility is to approve the signs and specify sign locations. This pilot program started in May 2011 for 7 Divisions. NCDOT is in the process of expanding this program to all 14 Divisions.

**Based on the success of the pilot, consideration includes expanding this program to include all interstate and primary roadways.**

### Expand Sponsorship Program to Include Interchange Landscaping & Mowing

There are opportunities to generate sponsorship revenues to fund the maintenance of landscape plantings and grass mowing at interchanges.

**In accordance with the authority provided by state and federal regulations, a proposed solution includes pursuing sponsorship opportunities for the generation of revenues to support mowing and landscape maintenance of interchanges.**

This program could be structured similarly to the "Sponsor A Highway" litter removal program. **For this program, an interchange maintenance service provider would market the program, enter into an agreement with sponsors, and manufacture and install signs. The sponsorship revenues would be used to mow and maintain the landscape plantings at the interchange.** In addition to mowing and landscape maintenance, the local business may have interest in enhancing aesthetics of an interchange by funding the installation of landscape plantings.

### Rest Area Sponsorship

Over the years, DOTs explored means to offset operational costs at rest areas through revenue generation utilizing commercial sales and sponsorship activities. However, these efforts have been limited due to state and federal laws that restrict commercial use of rest areas. The Federal Randolph-Sheppard Act regulates state and federal vending sales and requires state DOT's to either allow persons who are blind to conduct vending or to share proceeds of vending with the blind. In N.C, the NC Division Services for the Blind operates all rest area vending activities utilizing blind contractors. Federal regulations are very clear that commercial sales of non-food items are limited although the sale of some travel related items are allowed such as books, DVDs, and other media; tickets for events or attractions in the State of a historical or tourism-related nature; travel-related information, including maps, travel booklets, and hotel coupon booklets; and lottery ticket sales, provided that priority is afforded to blind vendors. Due to these restrictions, commercialization efforts at rest areas have not resulted in significant revenue generation in any state except for those states with toll road facilities constructed prior to 1960 or in states such as Virginia where the DOT operates the vending operations at rest areas and only partially shares revenues generated from vending with blind services entities. Sponsorship activities provide

opportunities for highway agencies to pursue innovative sources for revenue generation at rest areas as the Federal Highway Administration and NC statutes do allow sponsorship activities to occur. While regulated closely, state agencies can place signs or plaques as acknowledgement of an entity's sponsorship for a service at a rest area or along the right of way. Monetary contributions received as a part of sponsorship program must be spent for highway purposes or to support the operation of the facility. For sponsorship of rest areas, one acknowledgment sign for each direction of travel may be installed on the highway mainline. Additional acknowledgment signs may be placed within the rest area, provided that these sign legends are not visible to highway mainline traffic and do not pose safety risks to rest area users.

**A consideration that is in accordance with state and federal regulation is to pursue sponsorship opportunities for the generation of revenues to support the operation of statewide rest areas.**

## Privatization

### Rest Areas

#### Current Rest Area Privatization Efforts

The NCDOT began privatizing the operation of its rest areas facilities in 1985. Currently, 59 of the 60 rest areas are maintained by 21 janitorial and grounds maintenance contractors for a total of 69 contracts statewide. Of these contracts, 50 are Small Business Contracts, 15 are Purchase Order Contracts, and four are Community Rehabilitation Program contracts. Such privatization efforts have resulted in substantial costs efficiencies for the Department. Rest area maintenance contracts are low bid projects in which the contractor typically includes only an average of 3% of the total contract bid amount for administrative, profit and overhead.

Employing an asset management firm to oversee the operation of the rest areas on a corridor or statewide basis has not always proven to be cost effective in other states that have pursued this management strategy. When assuming maintenance responsibilities, asset management firms typically hire existing contractors or current janitorial and grounds maintenance staff at rest area facilities resulting in additional administrative, profit and overhead costs that must be added to the overall cost of the operation of the facilities. **No potential changes in rest area program management strategies are suggested at this time.**

#### Logo/TODS

These programs provide signs that provide road users with business identification and directional information for eligible motorist services and attractions. Logo signs are primarily along freeways and are for gas, food, lodging, camping, and attractions, while Tourist-Oriented Destination Signs (TODS) are along roads other than freeways and expressways in rural areas or small urban areas. Both of these are currently revenue-neutral. Currently, a business pays \$300 per sign per year to be on a logo sign and \$200 per sign per year to be on a TOD sign. In SFY 2014, 14,438 customers participated in these programs, and NCDOT collected from them \$4,331,625. Privatizing these programs as it is currently structured would likely not generate revenue, but rather may require increasing fees to cover the additional

cost. Privatization would provide dedicated resources to help market the sign to local businesses. With a proper legislative change, the fees could be set to allow these programs to generate revenue above the cost to run them. Many states have taken this approach and have developed an additional revenue source. Based upon states of similar size there is potential for \$1 million to \$3 million (or more) in revenue each year depending upon the fees charged and the structure of the program. The state could continue to manage the program as a revenue-generating one, or privatize it by selecting a statewide vendor to operate and manage the program and maintain the signs. Under a privatized scenario, NCDOT likely would not keep all the revenues. However, because the private manager would actively market the program and seek out potential customers, the State may stand to gain more by privatizing it than by managing a revenue-generating program internally. **A potential consideration includes an implementing legislative that would allow for revenue-generation in the Logo and TODS program and to consider outsourcing the management of that program to a private entity.**

## Other Cost Avoidance/Cost Recovery Opportunities

### Subdivision Bridge Inspections

When a subdivision includes a bridge, culvert, or large pipe (greater than 48 inches in diameter), the initial safety inspection must be conducted once it is accepted to the State system. Currently, NCDOT conducts the inspection and does not charge for it. In SFY 2014, the Department inspected over 40 bridges, culverts, or large pipes on streets proposed for addition. **In order to avoid these costs, a change for consideration includes requiring the applicant to hire a private engineering firm that is prequalified with the Department to perform the initial inspection and submit it during the request for addition to the State highway system.**

### Signals Required by Development

When a commercial development requires the installation or modification of a traffic signal, NCDOT reviews signal plans. NCDOT uses an existing agreement to recover exact expenses. The developer pays up front a set amount (e.g., \$5,000), and at the completion of the work, any over payment is refunded, and any underpayment is remitted to the Department. This process works well and allows the Department to recover its costs. **It is recommended that the existing cost recovery process remain in its current state.**

### Lease ROW for Encroachments

Georgia is currently leasing right of way for utility encroachments, and it appears successful. Georgia charges utility companies once or twice a year based on what the company has located in the DOT right of way. The price is negotiated with each utility type, and municipalities are exempt. There is potential to generate revenue by charging utility companies to use NCDOT right of way (i.e., leasing right of way). This would be a significant change from current practice and require legislative change. **A consideration is to engage in further study that includes an evaluation of the applicability of the Georgia model.**

### Lease ROW for Telecommunications

Telecommunications revenue can be generated from cell site and fiber optic lease and licensing. The current demand for broadband due to smart phone technology has forced carriers to make plans to significantly upgrade infrastructure. This infrastructure can be placed on NCDOT real property and could be aggressively marketed for that purpose. The Cell Tower Deployment Act (Session Law 2013-185 HB 664) was enacted to facilitate the Deployment of Mobile Broadband and other Enhanced Wireless Communications Services by Streamlining the Process used by State Agencies and Local Governments to Approve the Placement of Wireless Facilities in their Jurisdictions. **A change for consideration is to request a legislation modification that would enable marketing/commercialization of the right of way to capture a significantly greater value from the telecommunications market. This legislation could authorize the Department to collect revenue for this use and retain 100% of that revenue within the Department's budget.** An example includes South Carolina and Georgia DOT. Both have non-exclusive agreements with Verizon to place bread-box sized mini-cells on existing sign/signal poles or other DOT property. Hundreds of locations have been identified in the initial rollout with each providing approximately \$1500 in annual lease fees.

DRAFT

## **RESOLUTION FOR OFFICER JEREMIAH M. GOODSON, JR.**

**WHEREAS**, Lumberton in Robeson County is the home of fallen Master Police Officer Jeremiah Montgomery Goodson, Jr.; and

**WHEREAS**, this community was left with a deep feeling of sorrow for the loss of such an honored and respected citizen and law enforcement officer who served his community well in the first line of defense to fight against crime, risking his own life to save the lives of others, while distinguishing himself with exceptional meritorious service; and

**WHEREAS**, the City of Lumberton and the community as a whole would like to honor Master Police Officer Jeremiah Montgomery Goodson, Jr. by naming a bridge in Robeson County which is a short distance from where Officer Goodson lost his life and a shorter distance to where he is laid to rest; and

**WHEREAS**, the City Council of the City of Lumberton requests naming the bridges on U.S. 301 over I-95 (Exit 22) in Robeson County in honor of Master Police Officer Jeremiah Montgomery Goodson, Jr. for his service to his community.

**NOW, THEREFORE, BE IT RESOLVED:**

That the North Carolina Board of Transportation name the bridges carrying U.S. 301 over I-95 in Lumberton, Robeson County as the *Officer Jeremiah M. Goodson, Jr. Bridge*.

That appropriate signs be erected at a suitable time.

Adopted, this the sixth day of November 2014 by the North Carolina Board of Transportation.

  
Chairman

  
Secretary of Transportation

## **RESOLUTION FOR REPRESENTATIVE W. EUGENE MCCOMBS**

**WHEREAS**, North Carolina House Representative W. Eugene McCombs was a resident of Rowan County and served as a member of the Town of Faith Board of Alderman and then mayor, as well as a Rowan County Commissioner; and

**WHEREAS**, W. Eugene McCombs is remembered as a successful business owner and active member in his local community; and

**WHEREAS**, it is the wish of many to memorialize W. Eugene McCombs for his outstanding career as a representative in North Carolina's 76<sup>th</sup> House district and his dedicated service to the State of North Carolina; and

**WHEREAS**, the Rowan County Board of Commissioners, the Salisbury City Council, and the Town of Faith Board of Aldermen recommend naming a portion of highway located in Rowan County in memory of W. Eugene McCombs.

### **NOW, THEREFORE, BE IT RESOLVED:**

That the North Carolina Board of Transportation names the portion of Faith Road (SR 1006) from Jake Alexander Boulevard to Crescent Road (SR 2319) as the *Representative W. Eugene McCombs Highway*.

That appropriate signs be erected at a suitable time.

Adopted, this the sixth day of November 2014 by the North Carolina Board of Transportation.

  
Chairman

  
Secretary of Transportation

## Summary of Fees, Sponsorship and Privatization

Pursuant to Section 34.17(a) of the 2014 Budget Bill, the Board of Transportation shall study how fees, sponsorship and privatization might be used to reduce the use of public funds for services provided by the Department of Transportation.

Type of Service	Current NCDOT Fee	Actual Cost to Complete Service	Difference between Current Fee and Actual Cost	Potential Fee for Consideration
<b>Fees</b>				
<b>Development Fee</b>				
Traffic Impact Analysis	\$0	\$250-\$4000	\$250-\$4000	\$250-\$4000
Driveway Permit	\$50	\$150-\$5,000	\$100-\$4950	\$150-\$5,000
Encroachments	\$0	\$100-\$1000+	\$100-\$1000+	\$100-\$1000+
Subdivision Reviews and Inspections	\$0	\$200-\$5000	\$200-\$5000	\$200-\$5000
Residential Driveways and Driveway Pipe Installation	\$0	\$1,200	\$1,200	\$0
Surplus Right of Way Disposal, Control of Access Revision	\$0 - Admin Actual Cost - Appraisal	\$1600 - Admin Actual Cost - Appraisal	\$1600 - Admin \$0 - Appraisal	\$1600 - Admin Actual Cost - Appraisal
Courses Offered to Private Sector	varies per class	varies per class	\$30 per seat per class on avg	actual cost
Selective Vegetation Removal	\$200	\$600	\$400	\$600
Outdoor Advertising	\$120 Permit \$60 annual renewal \$12/dimension	\$240 Permit \$120 annual renewal \$17/dimension	\$120 Permit \$60 annual renewal \$5/dimension	\$240 Permit \$120 annual renewal \$17/dimension
Oversize/Overweight Loads	\$3 per every 1K#>250K#	\$4 per every 1K#>250K#	\$1 per every 1K#>250K#	\$4 per every 1K#>250K#
House Moves	\$20 individual permit \$100 annual fee	\$100 (no signals) Variable when signals involved	\$80 no signals variable for signals	\$100 individual permit (no signals) Actual Cost (signals) \$100 annual fee
Crash Analysis Reports	\$0	\$200	\$200	\$200
Review, engineering or consultation - drainage issues, improvements, or maintenance adjacent to State Highway System	\$0	\$100-\$1000	\$100-\$1000	No fee recommended
<b>Other Cost Avoidance/Cost Recovery Opportunities</b>				
Subdivision Bridge Inspections	\$0	\$2,000	\$2,000	Actual cost (others pay)
Signals Required by Development	Actual Cost	Varies (approx. \$5000)	\$0	Actual cost
Permanent Easement Resolution	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
Lease ROW for Encroachments	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
Lease ROW for Telecommunications	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>
<b>Sponsorships</b>				
Sponsor-A-Highway Expansion (Litter Pickup)	N/A <sup>3</sup>	\$70-\$200/shoulder mile	N/A <sup>3</sup>	N/A <sup>3</sup>
Expand Sponsorship Program to Include Interchange Landscaping and Mowing	N/A <sup>3</sup>	\$5000-\$50,000 per interchange per year	N/A <sup>3</sup>	N/A <sup>3</sup>
Rest Area Sponsorship	N/A <sup>2</sup>	\$318,000/site/year on avg <sup>4</sup>	N/A <sup>5</sup>	RFP under development; revenues generated (determined by selected proposal) will go back into the Rest Area O&M <sup>5</sup>
<b>Privatization</b>				
Rest Areas <sup>6</sup>	N/A	\$318,000/site/year on avg	N/A	no change recommended <sup>6</sup>
Logo/TODS <sup>7</sup>	\$300 (logo) \$200 (TODS)	\$300 (logo) \$200 (TODS)	\$0	Fees TBD

<sup>1</sup>Cost recovery opportunity, but not fee-based; costs to be recovered are not administrative costs, but easement purchase price

<sup>2</sup>Revenue generating opportunity

<sup>3</sup>Cost avoidance opportunity

<sup>4</sup>this avg is for all rest areas. However, sponsors may be more interested in interstate rest areas; there are 25 interstate sites averaging \$453k each to operate annually.

<sup>5</sup>offsets some costs of providing this service; no attempt made to recover all; revenues generated depend on proposals by sponsors

<sup>6</sup>already privatized; recommend maintaining current program

<sup>7</sup>currently revenue neutral; to be converted to revenue-generating program



## **Financial Update**

David Tyeryar, Chief Financial Officer  
November 5, 2014

## Financial Update

### SFYTD 2015 as compared SFYTD 2014

Dollars in Millions	Sept 14	Sept 13	Year to Date		
			Sept 14	Sept 13	% Change
Revenue Collections	\$ 361	\$ 389	\$ 1,087	\$ 1,150	-5.4%
Expenditures	<u>427</u>	<u>402</u>	<u>1,132</u>	<u>1,120</u>	1.0%
Net Change	\$ (66)	\$ (12)	\$ (45)	\$ 29	
Cash Balances:	Sept 14	Sept 13			
Trust Fund	\$ 914	\$ 682			
Highway Fund*	<u>207</u>	<u>419</u>			
Totals	<u>\$ 1,120</u>	<u>\$ 1,101</u>			

\*Excludes bond proceeds held by Trustee

# Revenue Summary September 2014

## (\$ in Millions)

	Sept 2014	Sept 2013	Year Over Year				SFY to Budget		
			2014-2015 Actual	2013-2014 Actual	\$	%	Budget to Date	\$	%
<b>State &amp; Federal Receipts:</b>									
Highway Fund *	\$ 151.6	\$ 165.6	\$ 497.0	\$ 519.1	\$ (22.1)	-4%	\$ 504.2	\$ (7.2)	-1%
Highway Trust Fund *	105.0	97.1	309.0	299.4	9.6	3%	297.1	11.9	4%
Total State Funds	256.6	262.7	806.0	818.5	(12.5)	-2%	801.3	4.7	1%
Federal Funds/Participation	104.4	126.7	281.2	331.2	(50.0)	-15%	292.3	(11.1)	-4%
<b>Total</b>	<b>\$ 361.0</b>	<b>\$ 389.4</b>	<b>\$ 1,087.2</b>	<b>\$ 1,149.7</b>	<b>\$ (62.5)</b>	<b>-5%</b>	<b>\$ 1,093.7</b>	<b>\$ (6.4)</b>	<b>-0.6%</b>

* Memo	Sept 2014	Sept 2013	Year Over Year				SFY to Budget		
			2014-2015 Actual	2013-2014 Actual	\$	%	Budget to Date	\$	%
<b>Highway Fund &amp; Trust Fund Details</b>									
Motor Fuel Taxes	\$ 160.3	\$ 167.8	\$ 483.4	\$ 488.8	\$ (5.4)	-1%	\$ 479.3	\$ 4.1	1%
Highway Use Tax	55.3	47.1	160.8	151.5	9.3	6%	151.2	9.6	6%
DMV/Other Revenue	40.6	47.4	160.9	177.4	(16.5)	-9%	170.2	(9.3)	-5%
Investment Income	0.4	0.4	0.9	0.8	0.1	16%	0.6	0.3	56%
<b>Total</b>	<b>\$ 256.6</b>	<b>\$ 262.7</b>	<b>\$ 806.0</b>	<b>\$ 818.5</b>	<b>\$ (12.5)</b>	<b>-1.5%</b>	<b>\$ 801.3</b>	<b>\$ 4.7</b>	<b>1%</b>

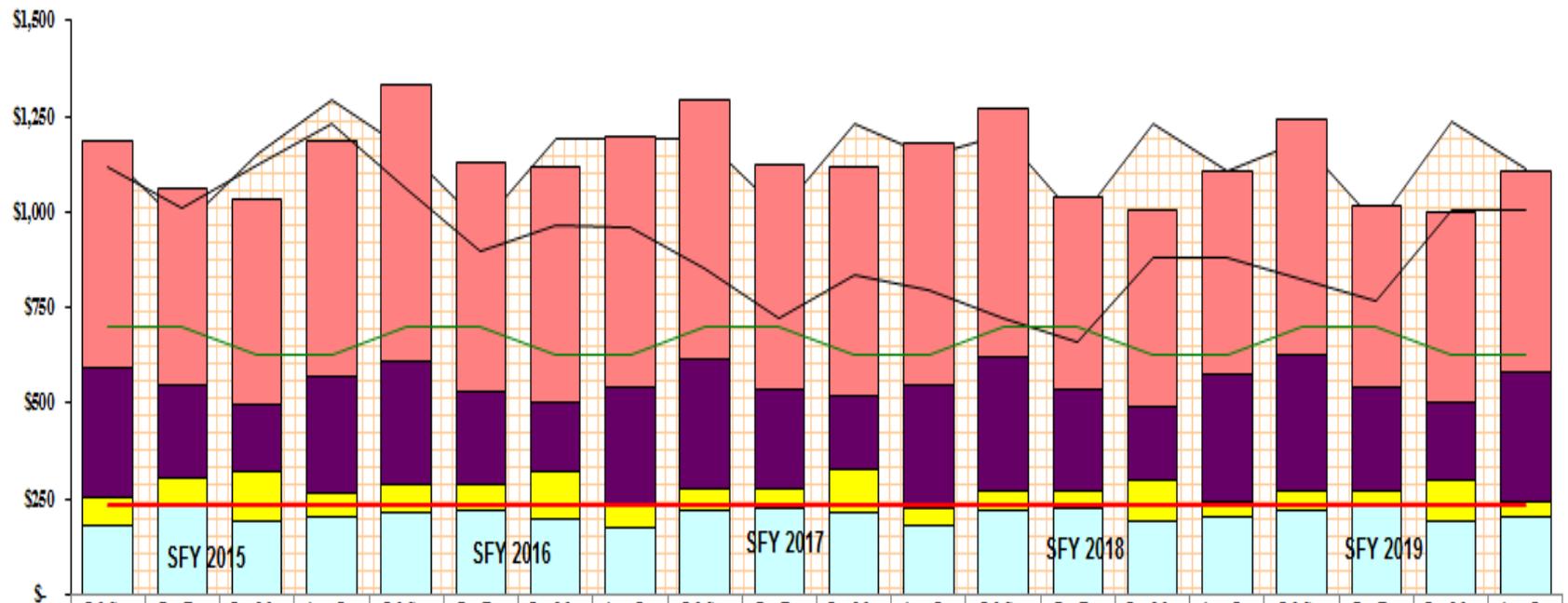
# Expenditure Summary September 2014

(\$ in millions)

			Year Over Year				SFY to Budget		
	Sept 2014	Sept 2013	2014-2015	2013-2014			2014-2015		
			Actual	Actual	\$	%	Budget	\$	%
<b>State &amp; Federal Funded Programs:</b>									
Construction	\$ 190.8	\$ 166.1	\$ 570.1	\$ 504.1	\$ 66.0	13%	\$ 479.1	\$ 91.0	19%
Maintenance	119.0	120.4	340.2	358.6	(18.4)	-5%	324.3	15.9	5%
Public Transportation	6.9	7.0	14.7	36.4	(21.7)	-60%	30.0	(15.3)	-51%
Other Modal/Other Programs	14.3	12.7	39.2	34.6	4.6	13%	31.5	7.7	24%
Administration	20.2	20.1	35.0	53.7	(18.7)	-35%	61.0	(26.0)	-43%
Municipal Aid	73.4	72.8	73.4	72.8	0.6	0%	73.2	0.2	0%
Transfers to Other Agencies	2.6	2.6	59.1	60.1	(1.0)	-2%	60.0	(0.9)	-2%
<b>Total Expenditures</b>	<b>\$ 427.1</b>	<b>\$ 401.7</b>	<b>\$ 1,131.8</b>	<b>\$ 1,120.3</b>	<b>\$ 11.5</b>	<b>1%</b>	<b>\$ 1,059.1</b>	<b>\$ 72.7</b>	<b>7%</b>

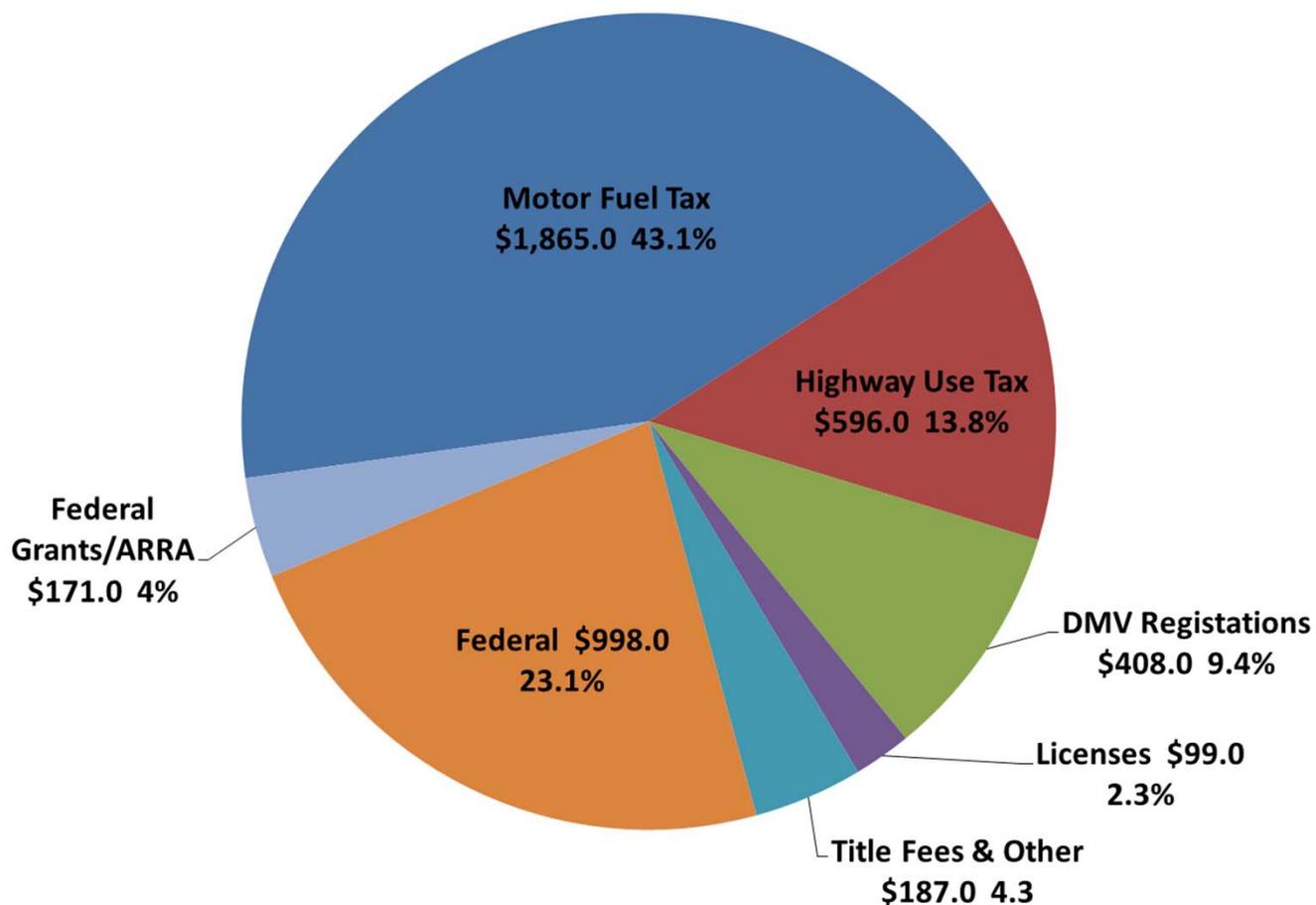
# 60 Month Cash Model

## Projections as of September 2014

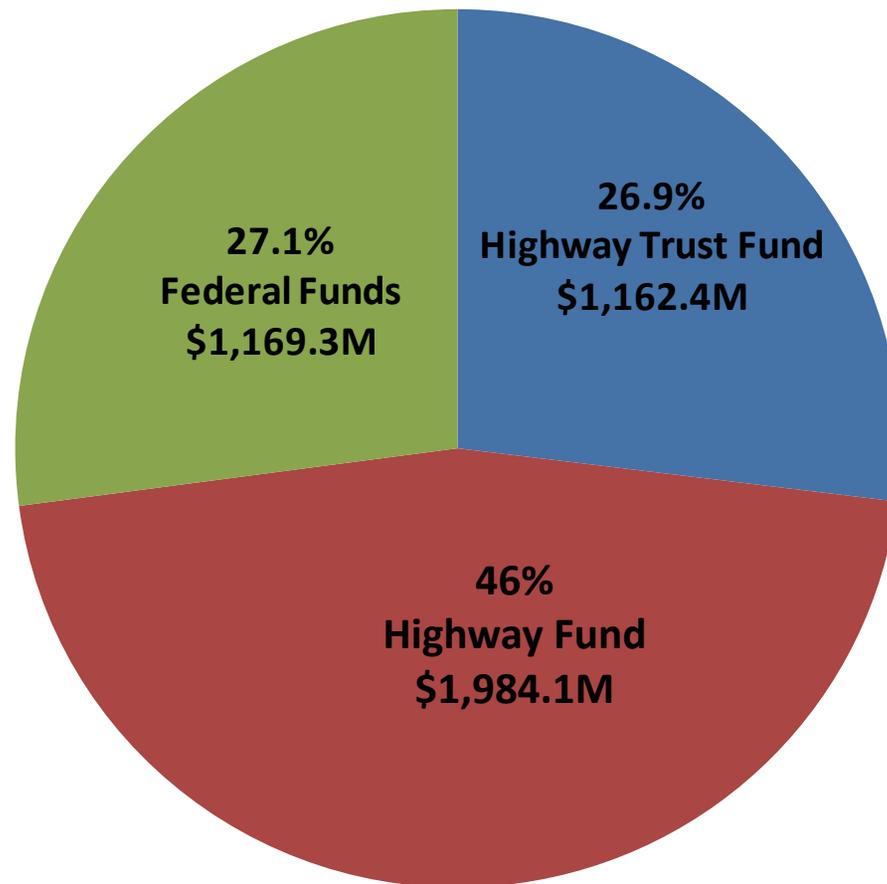


	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun																
Revenues	\$1,147	\$957	\$1,150	\$1,294	\$1,162	\$963	\$1,187	\$1,188	\$1,187	\$996	\$1,227	\$1,143	\$1,202	\$977	\$1,229	\$1,105	\$1,183	\$962	\$1,235	\$1,110
Construction Expenditures	593	516	537	615	724	595	620	655	675	589	602	634	663	501	514	532	612	476	501	524
Maintenance Expenditures	344	246	178	307	324	247	181	309	337	257	188	322	350	267	195	334	356	272	199	340
Other Modes	70	73	130	60	69	64	122	54	60	52	116	46	50	40	109	38	51	40	110	38
Other Expenditures	181	230	191	204	217	223	197	177	219	226	214	181	221	229	190	203	221	230	191	204
Closing Cash Balance	1,120	1,013	1,127	1,234	1,062	897	964	957	853	726	833	794	722	663	884	883	825	769	1,004	1,008
Cash Balance Target	702	702	629	629	702	702	629	629	702	702	629	629	702	702	629	629	702	702	629	629
Cash Balance Floor	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236

# NCDOT Revenue Sources SFY2015 - \$4.3 Billion



# NCDOT Sources of Funds 2014-15 by Major Funding Source Total Funding = \$4.3 Billion

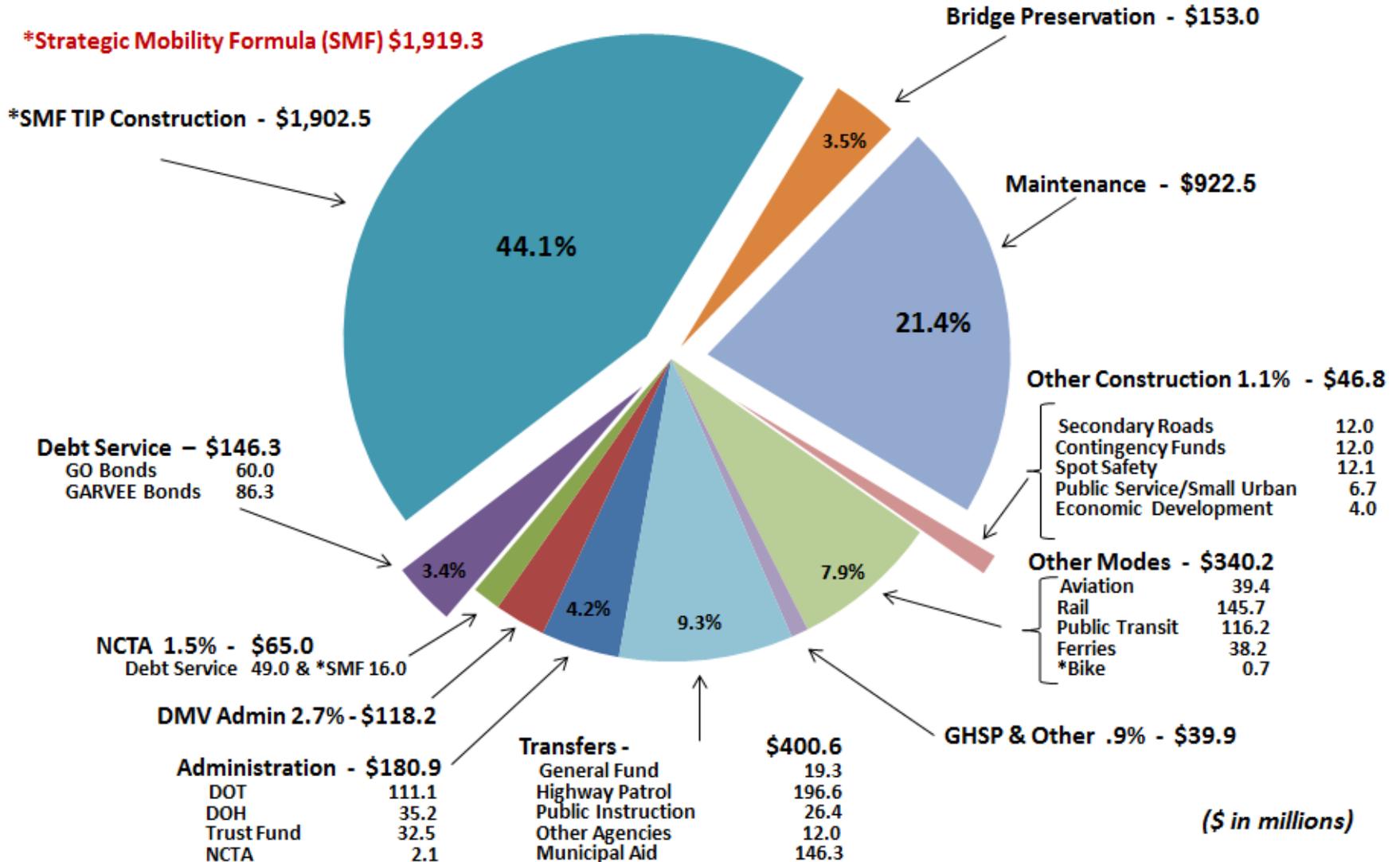


(Excludes Receipt Supported Funding of \$0.1B)

## Uses of 2014-15 NCDOT Appropriations

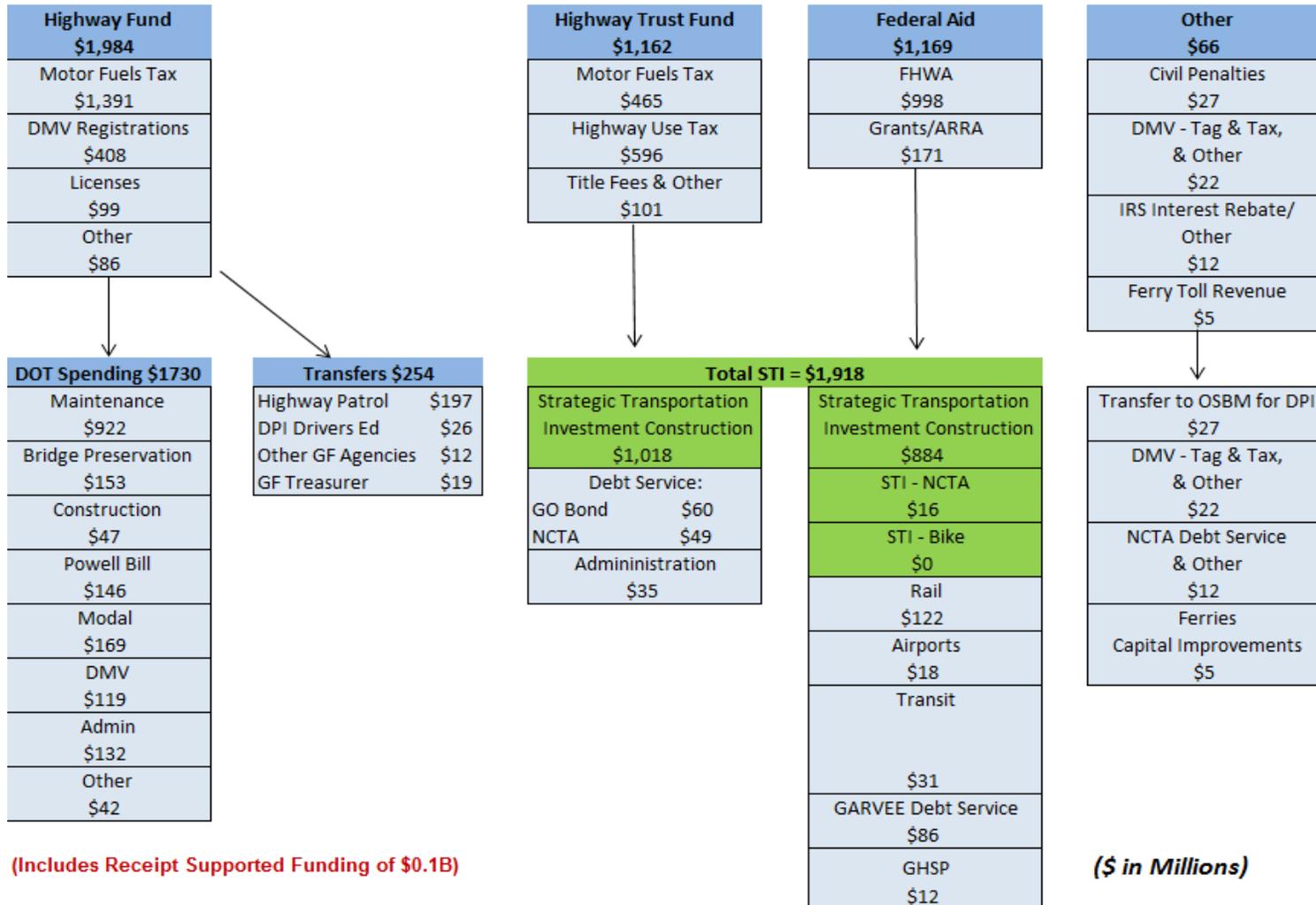
### Total Funding = \$4.3 Billion

(Excludes Receipt Supported Funding of \$0.1B)



# 2014-15 NCDOT Sources and Uses

## Total Funding = \$4.4 Billion



(Includes Receipt Supported Funding of \$0.1B)

(\$ in Millions)

## Right of Way & Preliminary Engineering Expenditures

### SFY 2015 Period Ending September 2014

	1st Quarter SFY	2nd Quarter SFY	3rd Quarter SFY	4th Quarter SFY	SFY Totals	SFY Target	% of Target
<b>Right of Way:</b>							
TIP Projects (excluding GV)	\$ 60.1				\$ 60.1	\$ 290.0 <span style="color: red;">▼</span>	21%
Garvee Projects (GV)	2.5				2.5	101.9 <span style="color: red;">▼</span>	2%
<b>Total TIP Projects</b>	<b>\$ 62.6</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 62.6</b>	<b>\$ 391.9</b>	
<b>Preliminary Engineering:</b>							
TIP Projects (excluding TA)	\$ 40.6				\$ 40.6	\$ 165.0 <span style="color: red;">▼</span>	25%
Toll Authority (TA) Projects	1.2				1.2	4.4 <span style="color: red;">▼</span>	27%
<b>Total TIP Projects</b>	<b>\$ 41.8</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 41.8</b>	<b>\$ 169.4</b>	

**MEMO: State Fiscal YTD Totals Exclude Specific Allocations**

(\$ in Millions)

# FFY 2014 Federal Rail Scorecard

## As of September 30, 2014

### ARRA Rail Grant Awards (Inception to Date)

GRANT DESCRIPTION	GRANT AWARD - BUDGET	PROJECT ALLOTMENTS	EXPENDITURES	FEDERAL REIMBURSEMENTS	PENDING BILL AMOUNTS	AVAILABLE TO BILL	EXCEPTIONS
NCDOT Piedmont Third & Fourth Frequency Equipment Procurement & Rehabilitation Period of Performance End Date 9-30-2017	\$ 520,000,000	\$ 512,781,680	\$ 179,823,241	\$ 167,993,652	\$ -	\$ 11,829,589	
SE High Speed Rail Corridor PE/NEPA - Richmond, Va to Raleigh, NC Period of Performance End Date 9-01-2015	\$ 4,000,000	\$ 4,000,000	\$ 3,652,301	\$ 3,619,294	\$ -	\$ 33,007	
NCDOT Intercity Passenger Rail Congestion Mitigation Period of Performance End Date 8-30-2014	\$ 26,560,839	\$ 26,560,839	\$ 724,932	\$ 721,816	\$ -	\$ 3,116	
<b>TOTAL ARRA</b>	<b>\$ 550,560,839</b>	<b>\$ 543,342,519</b>	<b>\$ 184,200,474</b>	<b>\$ 172,334,762</b>	<b>\$ -</b>	<b>\$ 11,865,712</b>	<b>\$ 7,216,283</b>

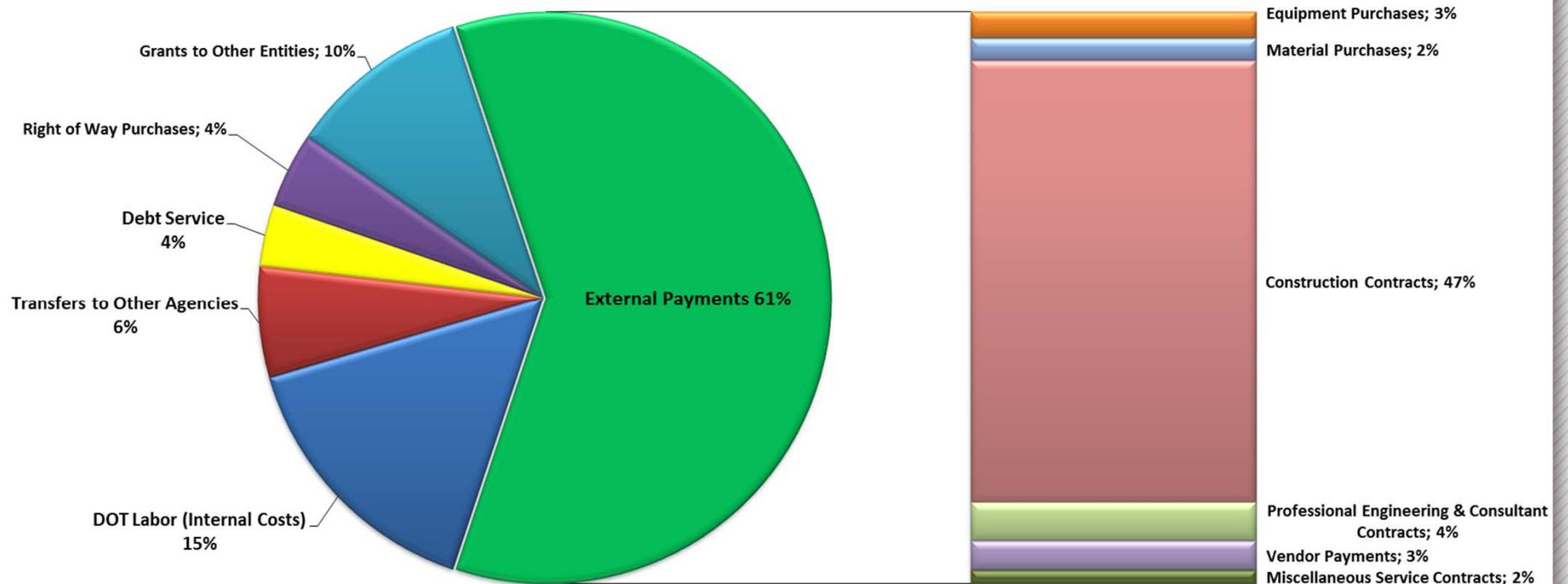
### FEDERAL Rail Grant Awards (NON-ARRA)

GRANT DESCRIPTION	GRANT AWARD - BUDGET	PROJECT ALLOTMENTS	EXPENDITURES	FEDERAL REIMBURSEMENTS	PENDING BILL AMOUNTS	AVAILABLE TO BILL	EXCEPTIONS
Traditional Rail Projects - Various	\$ 22,967,375	\$ 3,860,263	\$ 742,218	\$ 589,708	\$ 51,364	\$ 101,146	\$ (924,959)

\*The large credit in exceptions is due to a refund check applied to a WBS  
The \$101,146 will be available to bill when state match is added

# NCDOT Expenditures

## SFYTD as of September 30, 2014



**NCDOT NOVEMBER 2014 BOARD OF TRANSPORTATION AGENDA  
Funds Request  
Division-wide Small Construction, Statewide Contingency,  
Public Access, Economic Development**

**According to Executive Order No. 2 and G.S. 143B-350(g), the Board is requested to concur with staff recommendation and delegate authority to the Secretary to approve funds for specific Division-wide Small Construction / Statewide Contingency projects.**

<b>County</b>	<b>Description</b>	<b>Type</b>	<b>Amount</b>
Div 1 Tyrrell	Town of Columbia – Installation of pedestrian delineation to enhance the access to the Veterans Park WBS 44340	Contingency	\$140,000.00
		<u>TOTAL</u>	<u>\$140,000.00</u>

*These items are for informational purposes only and subject to future NC Board of Transportation approval. It is anticipated that these items will be considered for NC Board of Transportation approval in 30 days.*

**ADDITIONS to the Transit 2012-2018 STIP**

STIP #	Transit Partner	DESCRIPTION	match	FUND	FY13 (000)	FY14 (000)	FY15 (000)	FY16 (000)	FY17 (000)	FY18 (000)	FY19 (000)
TA-4726A	Chapel Hill Transit	3 Replacement Buses	STPDA	STPDA			973	720			
			Local	L			362	180			
TQ-6808	Catawba County Department of Social Services	Capital – Purchase of Service	FEPD	5310				120			
			Local	L				30			
TQ-7003	Western Piedmont Regional Transportation Authority	Section 5310 Program Administration	FEPD	5310				22			

**MODIFICATIONS to the Transit 2012-2018 STIP**

STIP #	Transit Partner	DESCRIPTION	match	FUND	FY13 (000)	FY14 (000)	FY15 (000)	FY16 (000)	FY17 (000)	FY18 (000)	FY19 (000)
TM-6144	Asheville Transit	FTA 5307 Asheville Urbanized Area Allocation set aside for Job Access Reverse Commute Projects	FUZ	5307		209	344				
			Local	L		209	344				
TA-4923	Durham Area Transit Authority	Replacement Buses	STPDA	STPDA			3,218	720			
			Local	L			805	180			
TA-5019A	Durham Area Transit Authority	Replacement Paratransit Vehicles	STPDA	STPDA		266	260	287			
			Local	L		67	67	71			
TG-5224C	Fayetteville Area System of Transit	Routine Capital	FUZ	5307	88	216	272	176	112	144	72
			State	S	19	42	49	32	22	24	15
			Local	L	3	12	19	12	6	12	3
TA-4743	Fayetteville Area System of Transit	Replacement Light Transit Vehicles (<30 ft)	FBUS	5339		166			176		187
			State	S		16			17		18
			Local	L		18			19		21
TA-4990	Fayetteville Area System of Transit	Expansion Buses (35 FT)	FUZ	5307	597		515	747			
			State	S	58		50	72			
			Local	L	65		56	81			
TD-4708	Fayetteville Area	Facility – MultiModal Transit	FBUS	5309	8015						

*These items are for informational purposes only and subject to future NC Board of Transportation approval. It is anticipated that these items will be considered for NC Board of Transportation approval in 30 days.*

	System of Transit	Center – Final Design and Construction		Bus Livability Grant							
			State	S	1002						
			Local	L	1002						
			FUZ	5307			1710				
			Local	L			437				
TG-5224E	Fayetteville Area System of Transit	Routine Capital – ADA Services	FUZ	5307	293	332	290	290	290	290	290
			Local	L	74	83	73	73	73	73	73
		(continued)			<b>FY 20</b>						
			FUZ	5307	290						
			Local	L	73						
TO-5144	Fayetteville Area System of Transit	Operating Assistance (>75 Buses) Map 21	FUZ	5307		330	500	600	600	600	600
			Local	L		330	500	600	600	600	600
		(continued)			<b>FY 20</b>						
			FUZ	5307	600						
			Local	L	600						

Item I-1B, 12 Projects, Total Federal/State/Local funds \$36,469,000

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP ADDITIONS

**DIVISION 7**

* U-5549	VARIOUS, DOWNTOWN ACCESS IMPROVEMENTS IN	CONSTRUCTION	FY 2016 -	\$125,000	(STPDA)
ORANGE	HILLSBOROUGH. CONSTRUCT CURB RELOCATIONS		FY 2016 -	<u>\$31,000</u>	(L)
PROJ.CATEGORY	AND ADA-COMPLIANT INTERSECTION IMPROVEMENTS,			\$156,000	
DIVISION	AND REMOVE ON-STREET PARKING.				
	<u>PROJECT ADDED AT REQUEST OF MPO.</u>				

* U-5550	US 15 / US 501 (FORDHAM BOULEVARD), SR 1742	CONSTRUCTION	FY 2018 -	<u>\$2,170,000</u>	(NHP)
ORANGE	(EPHESUS CHURCH ROAD) IN CHAPEL HILL.			\$2,170,000	
PROJ.CATEGORY	INTERSECTION IMPROVEMENTS.				
STATEWIDE	<u>PROJECT ADDED TO SCHEDULE STI STATEWIDE</u>				
	<u>MOBILITY FUNDS PER PRIORITIZATION, TO REFLECT</u>				
	<u>REIMBURSEMENT FOR PROPOSED ACCELERATED</u>				
	<u>DELIVERY BY TOWN.</u>				

**DIVISION 13**

* B-5869	US 64 US 70, REPLACE BRIDGE NO. 99 OVER	RIGHT-OF-WAY	FY 2020 -	\$300,000	(NHPB)
BURKE	SOUTHERN RAILROAD.	CONSTRUCTION	FY 2021 -	\$3,350,000	(NHPB)
PROJ.CATEGORY	<u>PROJECT ADDED TO STIP.</u>		FY 2022 -	<u>\$3,350,000</u>	(NHPB)
REGIONAL				\$7,000,000	

* EB-5547	NEW ROUTE, CONSTRUCT NEW MULTI-USE PATH	ENGINEERING	FY 2016 -	\$40,000	(STPDA)
BUNCOMBE	FROM EXISTING FLAT CREEK GREENWAY TRAILHEAD		FY 2016 -	\$10,000	(L)
PROJ.CATEGORY	NEAR STATE STREET AND CHARLOTTE STREET TO	RIGHT-OF-WAY	FY 2016 -	\$80,000	(STPDA)
DIVISION	EXISTING RIVERSIDE GREENWAY NEAR RIVERSIDE		FY 2016 -	<u>\$20,000</u>	(L)
	PARK AND EXTENSION WEST OF NC 9 NEAR EXISTING			\$150,000	
	CULVERT.				
	<u>PROJECT ADDED TO STIP AT THE REQUEST OF THE</u>				
	<u>MPO.</u>				

* U-5547	LYMAN STREET AND PORTIONS OF RIVERSIDE DRIVE,	RIGHT-OF-WAY	FY 2016 -	\$2,440,000	(STPDA)
BUNCOMBE	HILL STREET/I-240 INTERCHANGE TO AMBOY ROAD		FY 2016 -	\$653,000	(TAP)
PROJ.CATEGORY	WITH PORTIONS OF THE ROAD TO BE RE-LOCATED.		FY 2016 -	\$798,000	(L)
DIVISION	CONSTRUCT ON-STREET PARKING, INTERSECTION		FY 2017 -	\$2,440,000	(STPDA)
	AND SIGNAL UPGRADES, RAILROAD CROSSING		FY 2017 -	\$653,000	(TAP)
	IMPROVEMENTS, BRIDGE RE-CONSTRUCTION,		FY 2017 -	\$798,000	(L)
	SIDEWALKS, STREETScape ELEMENTS, TRANSIT			\$7,782,000	
	AMENITIES, AND PARALLEL GREENWAY FACILITIES.				
	<u>PROJECT ADDED TO STIP AT THE REQUEST OF THE</u>				
	<u>MPO.</u>				

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP ADDITIONS

**DIVISION 14**

* R-5524C HENDERSON PROJ.CATEGORY DIVISION	SR 3526 AND SR 1419, CONSTRUCT ROUNDABOUT. <u>ADD RIGHT-OF-WAY IN FY 15 NOT PREVIOUSLY PROGRAMMED.</u>	RIGHT-OF-WAY	FY 2015 - \$40,000 (T) \$40,000
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* U-5548 HAYWOOD PROJ.CATEGORY DIVISION	BROWN AVENUE, REALIGNMENT OF BROWN AVENUE FROM BOYD AVENUE TO APPROXIMATELY 1200 FEET SOUTH OF THE INTERSECTION. PROJECT INCLUDES CONSTRUCTION OF NEW ROADWAY (SCHOOL STREET), RAISED CROSSWALK, PAINTED CROSSWALKS, REFUGE ISLAND, BULBOUT AND SIGNAGE. <u>PROJECT ADDED TO STIP AT THE REQUEST OF THE MPO.</u>	ENGINEERING CONSTRUCTION	FY 2016 - \$40,000 (STPDA) FY 2016 - \$10,000 (L) FY 2016 - \$400,000 (STPDA) FY 2016 - \$100,000 (L) \$550,000
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**STATEWIDE**

* C-5571 STATEWIDE PROJ.CATEGORY EXEMPT	NORTH CAROLINA RAILROAD, NCDOT PIEDMONT AND CAROLINIAN PASSENGER RAIL SERVICES. PUBLIC OUTREACH AND AWARENESS PROGRAM. <u>PROJECT ADDED AT REQUEST OF TRANSPORTATION PLANNING BRANCH.</u>	IMPLEMENTATION	FY 2015 - \$819,000 (CMAQ) FY 2016 - \$818,000 (CMAQ) \$1,637,000
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STIP MODIFICATIONS

**DIVISION 1**

F-5501 CURRITUCK PROJ.CATEGORY DIVISION	SR 1242 (COURTHOUSE ROAD), CURRITUCK WELCOME CENTER. REPLACEMENT. <u>DELAY CONSTRUCTION FROM FY 14 TO FY 15 TO ALLOW ADDITIONAL TIME TO COORDINATE WITH FACILITIES DESIGN.</u>	CONSTRUCTION	FY 2015 - \$1,400,000 (DP) FY 2015 - \$350,000 (T) \$1,750,000
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**DIVISION 2**

EB-5501 CRAVEN PROJ.CATEGORY DIVISION	SR 1309 (GLENBURNIE ROAD), ELIZABETH AVENUE TO NC 55 (NEUSE BOULEVARD) IN NEW BERN. CONSTRUCT MULTI-USE PATH. <u>DELAY RIGHT-OF-WAY FROM FY 14 TO FY 15 TO ALLOW ADDITIONAL TIME FOR MUNICIPALITY.</u>	RIGHT-OF-WAY CONSTRUCTION	FY 2015 - \$5,000 (STPEB) FY 2015 - \$455,000 (STPEB) \$460,000
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\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP MODIFICATIONS

**DIVISION 2**

EB-5502	NC 55 (NEUSE BOULEVARD), NC 55 (1ST STREET) TO	RIGHT-OF-WAY	FY 2015 -	\$5,000	(STPEB)
CRAVEN	SR 1309/SR 1402 (GLENBURNIE ROAD) IN NEW BERN.	CONSTRUCTION	FY 2015 -	\$425,000	(STPEB)
PROJ.CATEGORY	CONSTRUCT SIDEWALK.			\$430,000	
REGIONAL	<u>DELAY RIGHT-OF-WAY FROM FY 14 TO FY 15 TO ALLOW ADDITIONAL TIME FOR MUNICIPALITY.</u>				

**DIVISION 4**

B-4681	SR 1531 (EAGLE'S CROSS ROAD), REPLACE BRIDGE	RIGHT-OF-WAY	FY 2015 -	\$50,000	(HFB)
WILSON	NO. 119 OVER LITTLE CONTENTNEA CREEK.	CONSTRUCTION	FY 2015 -	\$500,000	(HFB)
PROJ.CATEGORY	<u>ACCELERATE CONSTRUCTION FROM FY 16 TO FY 15</u>			\$550,000	
DIVISION	<u>DUE TO COMPLETION OF PLANS AHEAD OF SCHEDULE.</u>				

C-5548	ROCKY MOUNT, BENVENUE STREET, TARBORO	CONSTRUCTION	FY 2015 -	\$338,000	(CMAQ)
NASH	STREET, FALLS ROAD, FRANKLIN STREET, LEGETT		FY 2015 -	\$84,000	(L)
PROJ.CATEGORY	ROAD, AND CHURCH STREET. CONSTRUCT			\$422,000	
EXEMPT	SIDEWALKS.				
	<u>DELAY CONSTRUCTION FROM FY 14 TO FY 15 TO ALLOW MUNICIPALITY ADDITIONAL TIME TO COMPLETE DESIGN.</u>				

W-5331	NC 58, SOUTH OF SR 1626 (FAIRFIELD DAIRY ROAD)	CONSTRUCTION	FY 2015 -	\$320,000	(HSIP)
WILSON	NORTHWARD ONE MILE. CONSTRUCT LEFT TURN			\$320,000	
PROJ.CATEGORY	LANE AT SR 1626, OVERLAY WITH FRICTION COURSE,				
REGIONAL	RE-STRIPE WITH THERMOPLASTIC MARKINGS AND				
	INSTALL CENTERLINE PAVEMENT MARKINGS.				
	<u>DELAY CONSTRUCTION FROM FY 14 TO FY 15 TO ALLOW ADDITIONAL TIME TO REEVALUATE SCOPE.</u>				

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP MODIFICATIONS

**DIVISION 5**

* I-0914BA	I-85, SOUTH OF US 158 IN VANCE COUNTY TO NORTH	CONSTRUCTION	FY 2015 -	\$3,258,000	(NHP)
WARREN	OF SR 1237 (MANSON ROAD) IN WARREN COUNTY		FY 2015 -	\$4,167,000	(S(M))
VANCE	<u>CONSTRUCTION TO BE FUNDED USING GARVEE</u>		FY 2016 -	\$3,258,000	(NHP)
PROJ.CATEGORY	<u>BONDS (NO CHANGE IN SCHEDULE).</u>		FY 2016 -	\$4,167,000	(S(M))
STATEWIDE			FY 2017 -	\$3,258,000	(NHP)
			FY 2017 -	\$4,167,000	(S(M))
			FY 2018 -	\$3,258,000	(NHP)
			FY 2018 -	\$4,166,000	(S(M))
		GARVEE CONSTR	FY 2015 -	\$5,125,000	(NHP)
			FY 2016 -	\$5,125,000	(NHP)
			FY 2017 -	\$5,125,000	(NHP)
			FY 2018 -	\$5,125,000	(NHP)
			FY 2019 -	\$5,125,000	(NHP)
			FY 2020 -	\$5,125,000	(NHP)
			FY 2021 -	\$5,125,000	(NHP)
			FY 2022 -	\$5,125,000	(NHP)
			FY 2023 -	\$5,125,000	(NHP)
			FY 2024 -	\$5,125,000	(NHP)
			FY 2025 -	\$5,125,000	(NHP)
			POST YR-	\$5,125,000	(NHP)
				\$91,199,000	

* I-0914BB	I-85, NORTH OF SR 1237 (MANSON ROAD) TO VIRGINIA	CONSTRUCTION	FY 2015 -	\$5,792,000	(NHP)
WARREN	STATE LINE		FY 2015 -	\$2,083,000	(S(M))
PROJ.CATEGORY	<u>CONSTRUCTION TO BE FUNDED USING GARVEE</u>		FY 2016 -	\$5,792,000	(NHP)
STATEWIDE	<u>BONDS (NO CHANGE IN SCHEDULE).</u>		FY 2016 -	\$2,083,000	(S(M))
			FY 2017 -	\$5,792,000	(NHP)
			FY 2017 -	\$2,083,000	(S(M))
			FY 2018 -	\$5,792,000	(NHP)
			FY 2018 -	\$2,083,000	(S(M))
		GARVEE CONSTR	FY 2015 -	\$2,562,000	(NHP)
			FY 2016 -	\$2,562,000	(NHP)
			FY 2017 -	\$2,562,000	(NHP)
			FY 2018 -	\$2,562,000	(NHP)
			FY 2019 -	\$2,562,000	(NHP)
			FY 2020 -	\$2,562,000	(NHP)
			FY 2021 -	\$2,562,000	(NHP)
			FY 2022 -	\$2,562,000	(NHP)
			FY 2023 -	\$2,562,000	(NHP)
			FY 2024 -	\$2,562,000	(NHP)
			FY 2025 -	\$2,562,000	(NHP)
			POST YR-	\$2,562,000	(NHP)
				\$62,244,000	

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP MODIFICATIONS

**DIVISION 5**

* U-4726	DCHC URBAN AREA BICYCLE AND PEDESTRIAN	ENGINEERING	FY 2015 -	\$204,000	(STPDA)
CHATHAM	ALLOCATION.		FY 2015 -	\$51,000	(L)
ORANGE	<u>ADD ENGINEERING IN FY 15 AND CONSTRUCTION IN</u> <u>FY 15 AND FY 16 NOT PREVIOUSLY PROGRAMMED, AT</u> <u>REQUEST OF MPO.</u>	CONSTRUCTION	FY 2015 -	\$1,624,000	(STPDA)
DURHAM			FY 2015 -	\$406,000	(L)
PROJ.CATEGORY			FY 2016 -	\$353,000	(STPDA)
DIVISION			FY 2016 -	\$88,000	(L)
					\$2,726,000

U-5501	SR 1650 (REEDY CREEK ROAD), NC 54 (NE MAYNARD	RIGHT-OF-WAY	FY 2018 -	\$500,000	(L)
WAKE	ROAD) TO SR 1652 (HARRISON AVENUE) IN CARY.	CONSTRUCTION	FY 2019 -	\$6,000,000	(L)
PROJ.CATEGORY	WIDEN TO MULTI-LANES, TO INCLUDE PEDESTRIAN			\$6,500,000	
DIVISION	AND SAFETY ENHANCEMENTS.				
	<u>ADD RIGHT-OF-WAY IN FY 18 AND CONSTRUCTION IN</u> <u>FY 19 NOT PREVIOUSLY PROGRAMMED, AT REQUEST</u> <u>OF MPO.</u>				

**DIVISION 6**

* U-2519CA	I-295 FAYETTEVILLE OUTER LOOP, SOUTH OF US 401	RIGHT-OF-WAY	FY 2016 -	\$8,300,000	(NHP)	
CUMBERLAND	TO SOUTH OF SR 1400 (CLIFFDALE ROAD)	CONSTRUCTION	FY 2016 -	\$5,858,000	(S(M))	
PROJ.CATEGORY	<u>ACCELERATE RIGHT-OF-WAY FROM FY 19 TO FY 16</u> <u>AND CONSTRUCTION FROM UNFUNDED TO FY 16 AS A</u> <u>DESIGN BUILD GARVEE PROJECT. PROJECT FUNDED</u> <u>IN THE STI STATEWIDE CATEGORY.</u>		FY 2017 -	\$5,858,000	(S(M))	
STATEWIDE			FY 2018 -	\$5,859,000	(S(M))	
			GARVEE CONSTR	FY 2016 -	\$5,404,000	(NHP)
				FY 2017 -	\$5,404,000	(NHP)
				FY 2018 -	\$5,404,000	(NHP)
				FY 2019 -	\$5,404,000	(NHP)
				FY 2020 -	\$5,404,000	(NHP)
				FY 2021 -	\$5,404,000	(NHP)
				FY 2022 -	\$5,404,000	(NHP)
				FY 2023 -	\$5,404,000	(NHP)
			FY 2024 -	\$5,404,000	(NHP)	
			FY 2025 -	\$5,404,000	(NHP)	
			POST YR-	\$10,808,000	(NHP)	
				\$90,723,000		

**DIVISION 7**

EL-4828	MORGAN CREEK GREENWAY, WESTERN SECTION, SR
ORANGE	1919 (SMITH LEVEL ROAD) TO UNIVERSITY LAKE IN
PROJ.CATEGORY	CARRBORO. CONSTRUCT GREENWAY AND
DIVISION	CONNECTIONS.
	<u>PROJECT BROKEN INTO SEGMENTS AS SHOW</u> <u>BELOW, TO REFLECT SEPARATE FUND SOURCES AS</u> <u>ALLOCATED BY MPO</u>

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP MODIFICATIONS

**DIVISION 7**

EL-4828A ORANGE PROJ.CATEGORY DIVISION	MORGAN CREEK GREENWAY, PHASE 1 <u>DELAY CONSTRUCTION FROM FY 13 TO FY 15 TO ALLOW TOWN ADDITIONAL TIME FOR PLANNING AND DESIGN.</u>	CONSTRUCTION	FY 2015 - \$298,000 (STPDA) FY 2015 - \$74,000 (L) \$372,000
EL-4828B ORANGE PROJ.CATEGORY DIVISION	MORGAN CREEK GREENWAY, PHASE 2 <u>DELAY CONSTRUCTION FROM FY 13 TO FY 15 TO ALLOW TOWN ADDITIONAL TIME FOR PLANNING AND DESIGN.</u>	CONSTRUCTION	FY 2015 - \$730,000 (TAP) FY 2015 - \$182,000 (L) \$912,000
* EL-5101 GUILFORD PROJ.CATEGORY DIVISION	VARIOUS, PEDESTRIAN AND BICYCLE PROJECTS IN THE GREENSBORO URBAN AREA METROPOLITAN PLANNING ORGANIZATION (GUAMPO). <u>ADD RIGHT-OF-WAY IN FY 15 AND CONSTRUCTION IN FY 16 AND FY 17 NOT PREVIOUSLY PROGRAMMED, AT REQUEST OF MPO.</u>	RIGHT-OF-WAY CONSTRUCTION	FY 2015 - \$268,000 (STPDA) FY 2015 - \$67,000 (L) FY 2015 - \$3,949,000 (STPDA) FY 2015 - \$987,000 (L) FY 2016 - \$1,027,000 (STPDA) FY 2016 - \$257,000 (L) FY 2017 - \$3,518,000 (STPDA) FY 2017 - \$880,000 (L) \$10,953,000
U-5532 GUILFORD PROJ.CATEGORY DIVISION	VARIOUS, GREENSBORO URBAN AREA MPO: BICYCLE, PEDESTRIAN, AND TRANSPORTATION ALTERNATIVES PROGRAM (TAP) – ELIGIBLE PROJECTS <u>ADD NEW FUND SOURCE (STPDA) AND UPDATE PROGRAMMED AMOUNTS AT REQUEST OF MPO.</u>	RIGHT-OF-WAY CONSTRUCTION	FY 2015 - \$64,000 (TAP) FY 2015 - \$16,000 (L) FY 2016 - \$20,000 (TAP) FY 2016 - \$6,000 (L) FY 2017 - \$10,000 (TAP) FY 2017 - \$3,000 (L) FY 2018 - \$10,000 (TAP) FY 2018 - \$3,000 (L) CONSTRUCTION FY 2015 - \$359,000 (STPDA) FY 2015 - \$540,000 (TAP) FY 2015 - \$225,000 (L) FY 2016 - \$1,203,000 (STPDA) FY 2016 - \$608,000 (TAP) FY 2016 - \$453,000 (L) FY 2017 - \$356,000 (STPDA) FY 2017 - \$305,000 (TAP) FY 2017 - \$165,000 (L) FY 2018 - \$3,169,000 (STPDA) FY 2018 - \$305,000 (TAP) FY 2018 - \$868,000 (L) \$8,688,000

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP MODIFICATIONS

**DIVISION 9**

U-5541	NEW ROUTE, ACCESS ROAD OFF SR 2528 (HEILIG ROAD). CONSTRUCT ROADWAY TO SERVE NEW MANUFACTURING SITE NEAR SALISBURY.	CONSTRUCTION	FY 2015 -	\$583,000	(T)
ROWAN			FY 2015 -	<u>\$777,000</u>	(O)
PROJ.CATEGORY				\$1,360,000	
DIVISION	<u>DELAY CONSTRUCTION FROM FY 14 TO FY 15 PENDING RECEIPT OF PERMITS.</u>				

W-5510	SR 4315 (SOUTH MAIN STREET); SR 2648 (OLD WINSTON ROAD), SR 4315 (SOUTH MAIN STREET), BUSINESS 40 / US 421 / NC 150 TO NORTH OF SR 4278 (SOUTH CHERRY STREET), AND SR 2648 (OLD WINSTON ROAD), WEST OF SOUTH CHERRY STREET TO SOUTH MAIN STREET IN KERNERSVILLE. SAFETY IMPROVEMENTS, INCLUDING RAISED MEDIAN, TURN LANES, ADDITIONAL LANE, ROUNDABOUT, AND INTERSECTION RELOCATION.	RIGHT-OF-WAY	FY 2015 -	\$500,000	(HSIP)
FORSYTH		UTILITIES	FY 2015 -	\$361,000	(HSIP)
PROJ.CATEGORY		CONSTRUCTION	FY 2016 -	<u>\$2,000,000</u>	(HSIP)
DIVISION	<u>DELAY RIGHT OF WAY FROM FY 14 TO FY 15 PENDING RESOLUTION OF LOCAL FUNDING COMMITMENT.</u>			\$2,861,000	

**DIVISION 10**

* C-5157	HARRISBURG, CONSTRUCT SIDEWALKS ON TOM QUERY ROAD, ROBINSON CHURCH ROAD AND STALLINGS ROAD IN HARRISBURG.	ENGINEERING	FY 2015 -	\$73,000	(CMAQ)
CABARRUS			FY 2015 -	\$18,000	(L)
PROJ.CATEGORY		CONSTRUCTION	FY 2016 -	\$378,000	(CMAQ)
EXEMPT	<u>DELAY CONSTRUCTION FROM FY 15 TO FY 16 TO ALLOW ADDITIONAL TIME FOR PLANNING AND DESIGN.</u>		FY 2016 -	\$95,000	(L)
				\$564,000	

* C-5159	KANNAPOLIS, ROXIE STREET, NC 3 AND DALE EARNHARDT BOULEVARD IN KANNAPOLIS. STREET IMPROVEMENTS.	ENGINEERING	FY 2017 -	\$108,000	(CMAQ)
CABARRUS			FY 2017 -	\$27,000	(L)
PROJ.CATEGORY		CONSTRUCTION	FY 2017 -	\$432,000	(CMAQ)
EXEMPT	<u>DELAY PRELIMINARY ENGINEERING AND CONSTRUCTION FROM FY 15 TO FY 17 TO BETTER COORDINATE SCHEDULE WITH WORK ON PROJECT I-3802A</u>		FY 2017 -	<u>\$108,000</u>	(L)
				\$675,000	

**DIVISION 11**

EB-5529	YADKINVILLE, NORTH LEE AVENUE, MAIN STREET TO US 601 IN YADKINVILLE. CONSTRUCT SIDEWALK ON NORTH SIDE OF ROAD.	CONSTRUCTION	FY 2015 -	<u>\$495,000</u>	(STPEB)
YADKIN				\$495,000	
PROJ.CATEGORY	<u>INCREASE FUNDING TO ACCOMMODATE ADDITIONAL UNANTICIPATED DRAINAGE WORK.</u>				
DIVISION					

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP MODIFICATIONS

**DIVISION 12**

B-5549	HICKORY, FALLING CREEK ROAD OVER FALLING	RIGHT-OF-WAY	FY 2015 -	\$120,000	(STPOFF)
CATAWBA	CREEK. REPLACE BRIDGE NO. 327.		FY 2015 -	\$30,000	(L)
PROJ.CATEGORY	<u>DELAY RIGHT-OF-WAY FROM FY 14 TO FY 15 TO</u>	CONSTRUCTION	FY 2015 -	\$680,000	(STPOFF)
DIVISION	<u>ALLOW ADDITIONAL TIME FOR DESIGN.</u>		FY 2015 -	\$170,000	(L)
				\$1,000,000	

STIP DELETIONS

**DIVISION 3**

B-5539	SR 1102 (MORGAN ROAD), COLLY CREEK. REPLACE	RIGHT-OF-WAY	FY 2019 -	\$200,000	(STPOFF)
PENDER	BRIDGE NO. 144.	CONSTRUCTION	FY 2020 -	\$2,050,000	(STPOFF)
PROJ.CATEGORY	<u>DELETE, WORK TO BE ACCOMPLISHED BY DIVISION.</u>			\$2,250,000	
DIVISION					

**DIVISION 5**

* U-5517	NC 54, SR 1110 (FARRINGTON ROAD) TO I-40	RIGHT-OF-WAY	FY 2016 -	\$300,000	(NHP)
DURHAM	EASTBOUND ENTRANCE RAMP IN DURHAM.	CONSTRUCTION	FY 2017 -	\$1,300,000	(NHP)
PROJ.CATEGORY	CONSTRUCT SLIP RAMP.			\$1,600,000	
REGIONAL	<u>DELETE AT REQUEST OF PRECONSTRUCTION; SCOPE</u>				
	<u>TO BE REVISITED IN CONTEXT OF OTHER CANDIDATE</u>				
	<u>IMPROVEMENTS IN VICINITY.</u>				

**DIVISION 6**

B-5695	SR 1550 (LOWE ROAD), REPLACE BRIDGE NO. 174	RIGHT-OF-WAY	FY 2016 -	\$52,000	(STPOFF)
ROBESON	OVER LUMBER RIVER OVERFLOW.	CONSTRUCTION	FY 2017 -	\$1,032,000	(STPOFF)
PROJ.CATEGORY	<u>DELETE, WORK TO BE ACCOMPLISHED BY DIVISION.</u>			\$1,084,000	
DIVISION					

B-5710	SR 1379 (HINSON'S CROSSROADS), REPLACE BRIDGE	RIGHT-OF-WAY	FY 2022 -	\$185,000	(HFB)
COLUMBUS	NO. 167 OVER GAPWAY SWAMP.	CONSTRUCTION	FY 2023 -	\$1,825,000	(HFB)
PROJ.CATEGORY	<u>DELETE, WORK TO BE ACCOMPLISHED BY DIVISION.</u>			\$2,010,000	
DIVISION					

\* INDICATES FEDERAL AMENDMENT

REVISIONS TO THE 2012-2020 STIP

HIGHWAY PROGRAM  
STIP DELETIONS

**DIVISION 7**

\* U-5523

GUILFORD

PROJ.CATEGORY

DIVISION

NEW ROUTE, FLORIDA STREET EXTENSION, SR 4240  
(EAST LEE STREET) TO MCCONNELL ROAD IN  
GREENSBORO. CONSTRUCT TWO-LANE DIVIDED  
ROADWAY WITH BICYCLE / PEDESTRIAN  
ACCOMMODATIONS.

CONSTRUCTION

FY 2014 - \$2,560,000 (STPDA)

FY 2014 - \$640,000 (C)

\$3,200,000

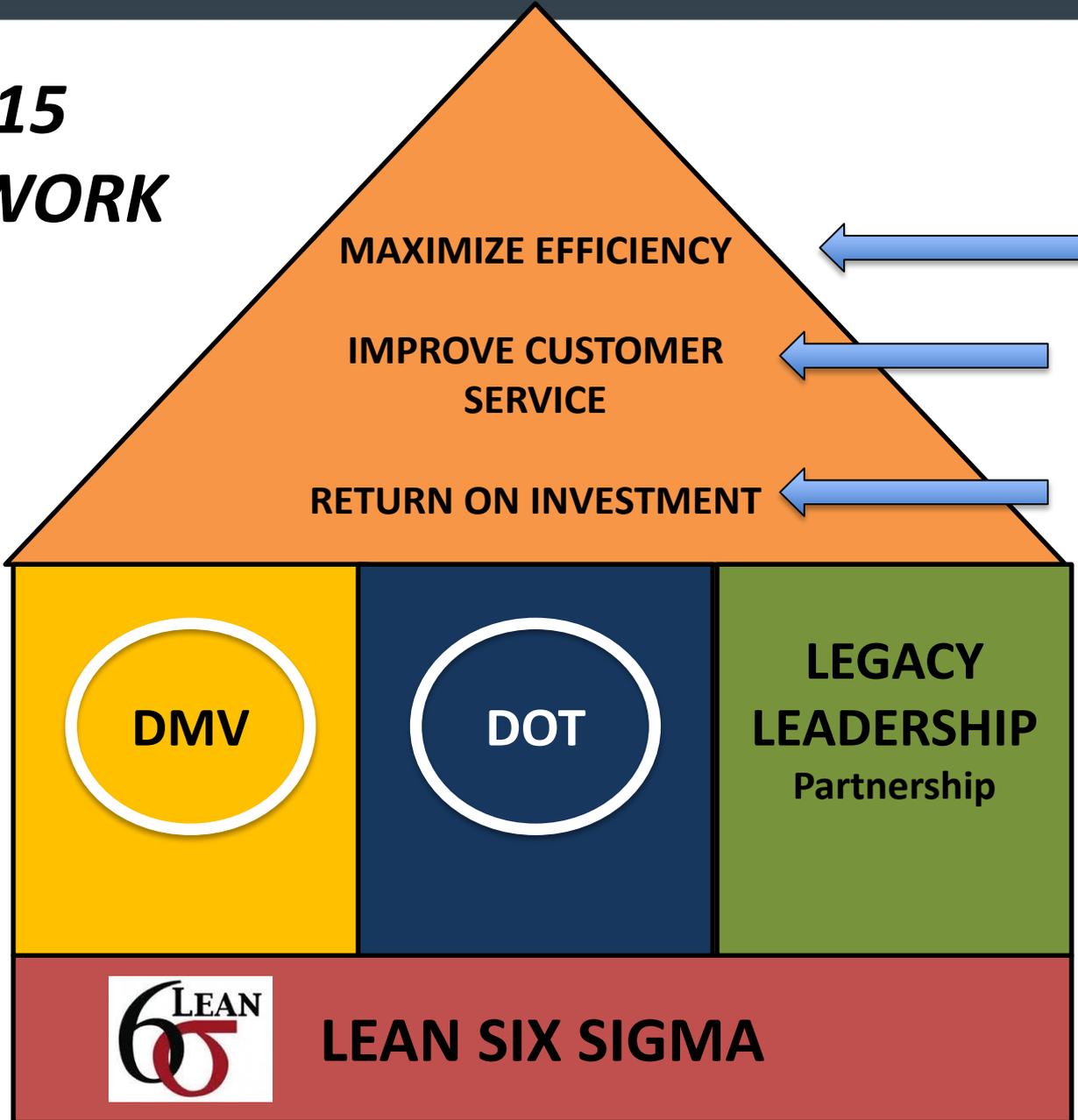
DELETE AT REQUEST OF MPO.

\* INDICATES FEDERAL AMENDMENT



*Improving Efficiency & Customer Service  
across the Department*

# 2014-2015 FRAMEWORK



# *Improving Efficiency & Customer Service across the Department*

## DMV Examples

# Current DMV Projects

DMV Executive Staff / Champion	Project Name	Purpose
Kelly Thomas Randy Dishong  In Progress	Driver License Office Optimization (15)	Reduce Cycle Time
	Vehicle Registration Office Optimization (3)	Reduce Cycle Time
	Help Desk-SADLS	Reduce Abandoned Calls
	Help Desk-STARS	Reduce Abandoned Calls
	Quality Assurance	Reduce Cycle Time
	RTP Processing	Reduce Cycle Time Reduce Errors

# Example: DMV Reform Effort

- **14 Week Period Cycle Time Analysis**

15 Driver License Offices
3 Vehicle Registration Offices

- **Anticipated data collection**
  - **10,000+ customer experiences**  
(approximately 8500 DL only)

## HOW?

Lean Six Sigma (LSS)  
Academy - 40 DMV  
staff trained

Governance Staff (5)  
in DMV Offices - LSS  
efforts

10 NCSU interns

All DMV staff in  
select offices trained  
and implementing  
data collection  
efforts

# Cycle Time Analysis - Example

Arrival 2:24 PM



19 minute wait



24 minutes  
2:43 PM – 3:07 PM



15 minute wait



3:22 PM



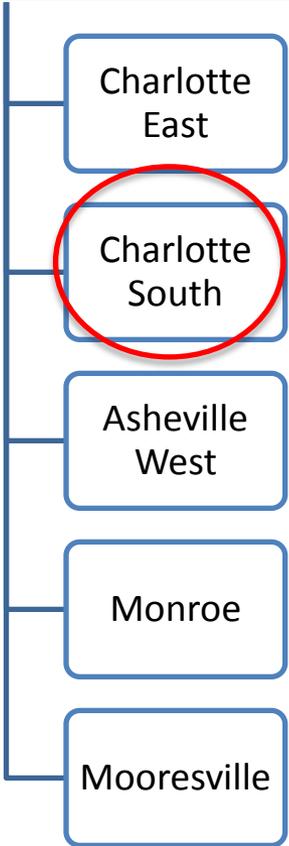
Departure 3:23 PM



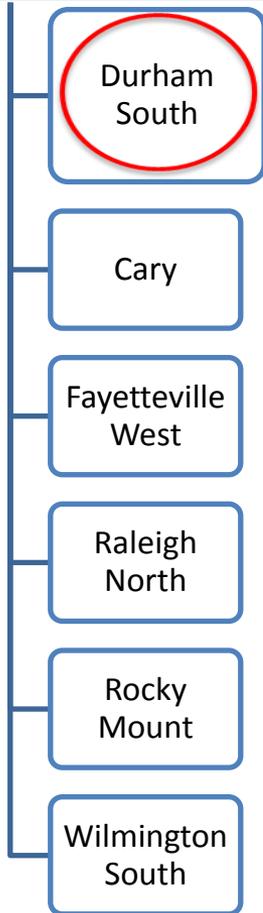
# 15 Driver License Offices

3-D  
Computer  
Simulation

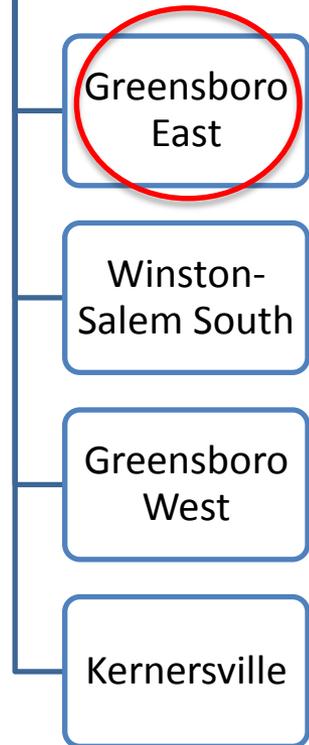
## Team 1: Charlotte & West Area



## Team 2: Raleigh/Durham & East Area



## Team 3: Triad Area



2  
0  
1  
4



2  
0  
1  
5



Approx. 10,000 data points

- *Office Optimization*
  - *Driver's License*
  - *Vehicle Registration*
- *Help Desk*
- *Quality Assurance*
- *RTP Processing*

# *Improving Efficiency & Customer Service across the Department*

## DOT Examples

# DOT Examples

DOT Executive Staff / Champion	Project	Project Description
<p><b>Mike Holder</b></p> <p>In Progress</p>	<ul style="list-style-type: none"> <li>• Project Delivery Improvement</li> </ul>	<p>Reduce the overall cycle time from project scoping to project letting for widening and new location projects by 25%.</p>
<p><b>Mike Holder</b></p> <p>Anticipated Start Date: December 2014</p>	<ul style="list-style-type: none"> <li>• Warehouse Operations and Review of Process of Equipment Management</li> <li>• Preparation from Equipment Request to Delivery</li> </ul>	<p>Reduce cycle time for improvement in accuracy, time savings and cost savings.</p> <p>Reduce cycle time for improvement in accuracy, time savings and cost savings.</p>

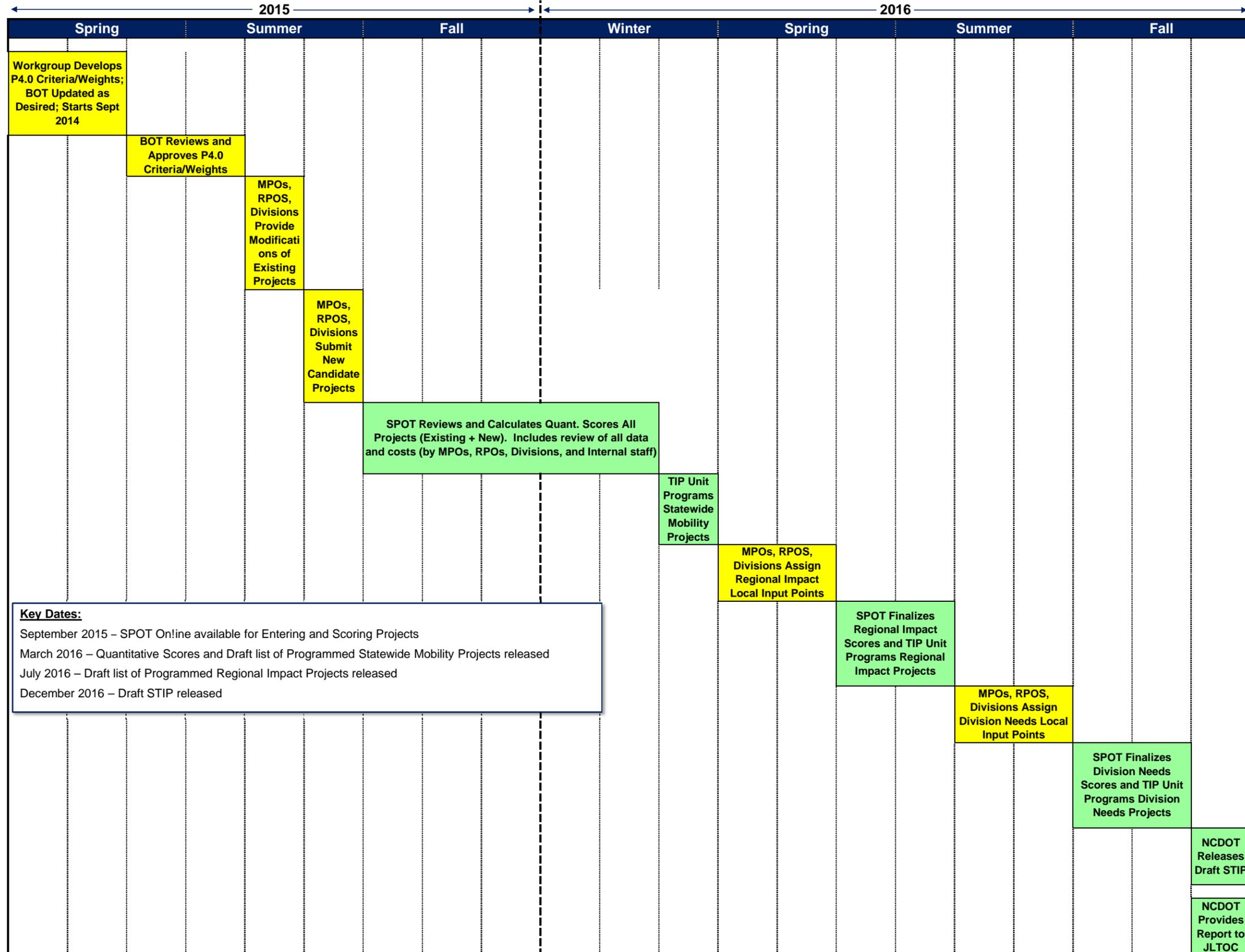
# DOT Examples

DOT Executive Staff / Champion	Project	Project Description
<p><b>David Tyeryar</b></p> <p>Complete/On-going</p>	<ul style="list-style-type: none"> <li>Purchasing Cycle Time and Strategic Sourcing Requisitions</li> </ul>	<p>Reduce cycle time of requisitions less than \$5K and seek to determine strategic sourcing opportunities.</p>
<p><b>David Tyeryar</b></p> <p>In Progress</p>	<ul style="list-style-type: none"> <li>Purchasing P-Card Project</li> <li>Purchasing Greater than \$25K- Cycle Time Improvement</li> </ul>	<p>Reduce cycle time</p> <p>Reduce cycle time</p>
<p><b>David Tyeryar</b></p> <p>Anticipated Start Date: January 2015</p>	<ul style="list-style-type: none"> <li>Purchasing \$5K-\$10K</li> <li>Purchasing \$10K-\$25K</li> </ul>	<p>Reduce cycle time</p> <p>Reduce cycle time</p>

**QUESTIONS?**

# Prioritization 4.0 Tentative Schedule (Two 60 Day Local Input Periods)

**DRAFT - SUBJECT TO CHANGE**



Notes:  
Green Box = Decisions / Approvals  
Yellow Box = NCDOT Work Tasks



# North Carolina Scenic Byways

Annual Report

**Jeff Lackey**

Program Manager-North Carolina Scenic Byways

November 5, 2014

# North Carolina Scenic Byways

annual report

## 2013 Annual Report

North Carolina Scenic Byways Annual Report  
Roadside Environmental Unit



**EDENTON-WINDSOR LOOP** - The Edenton-Windsor Loop is a figure-eight loop that begins and ends in Edenton, the Chowan County seat. Beginning at the intersection of N.C. 32 (North Broad Street) and U.S. 17 Business (West Queen Street), follow U.S. 17 Business South across Pembroke Creek, one of the two creeks that forms Edenton Bay. Settled around 1685, Edenton was laid out in 1712 and incorporated in 1722. It was named for provincial Gov. Charles Eden. Visitors will notice numerous historical markers identifying the town's Revolutionary War leaders, as well as signers of the Declaration of Independence.



# North Carolina Scenic Byways

annual report

## Table of Contents

- Byway Purpose
- Byway Highlighted
- 2013 Annual Report
- Byway Designations-(Action Items)

## Table of

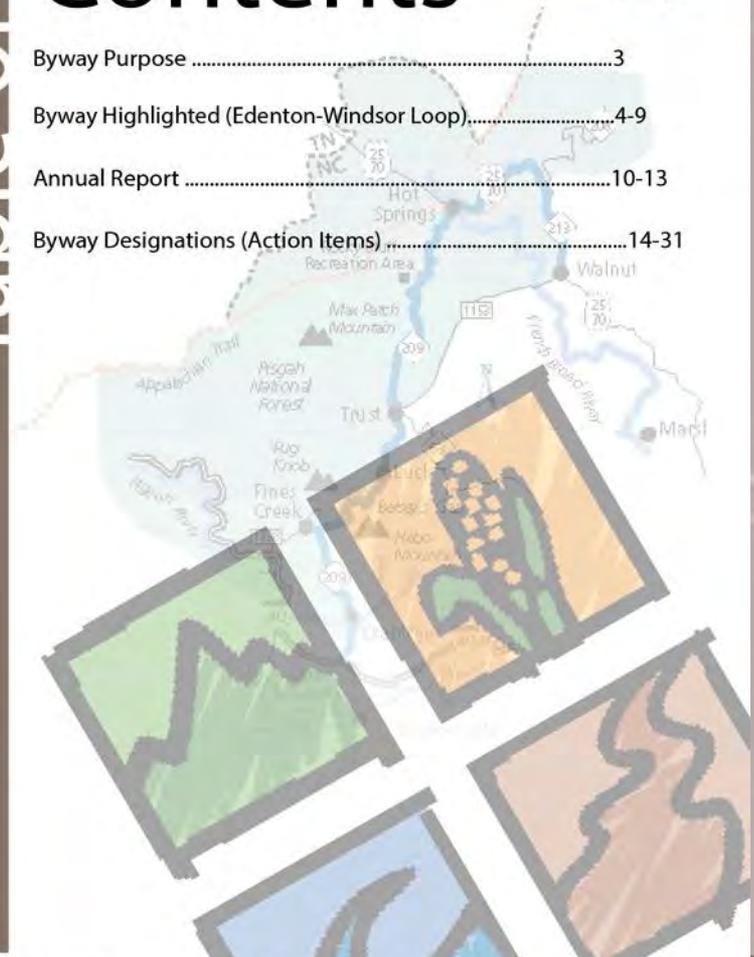
### North Carolina Scenic Byways

"Our Goal is to identify and highlight scenic roads with unusual, exceptional, or unique qualities for public viewing and enjoyment."

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# North Carolina Scenic Byways

annual report

## Byway Purpose :

*“Our Goal is to identify and highlight scenic roads with unusual , exceptional, or unique qualities for public viewing and enjoyment.”*

### Scenic Byway Purpose

Overview of the Intent of the Program:

“Our Goal is to identify and highlight scenic roads with unusual , exceptional, or unique qualities for public viewing and enjoyment.”



The North Carolina Department of Transportation (NCDOT) has designated 57 Scenic Byways to give visitors and residents a chance to experience a bit of North Carolina history, geography and culture while raising awareness for the protection and preservation of these treasures. Routes are carefully selected to embody the diverse beauty and culture of the Tar Heel State and provide travelers with a safe and interesting alternate route.

These byways are intended as an option to the faster-paced traffic and commercial areas found along our major highways and interstates. Following the byways, you will see some of the most breathtaking scenery from the Blue Ridge Mountains to fertile plains and the crystal blue coastline.

The routes are clearly marked with highway signs and the Scenic Byways logo. North Carolina Scenic Byways are selected based on natural, cultural and historic features along the route. They vary in length from three to 173 miles and in character from curvy mountain roads to ferry rides across coastal sounds. You will see little or no development along the routes which detracts from the natural character and quality of the byway.



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

annual report

## Highlighted Byway :

### State Designated **EDENTON-WINDSOR LOOP**

North Carolina's earliest settlements may be found along its shores.

One mile after crossing the bridge, turn left onto N.C. 94 (Soundside Road). This six-mile road follows a route built by early settlers along old American Indian trails that ran along the shores of the sound. Called Soundside Road for more than 200 years, early plantations were found along its path. Follow this road until it intersects back with N.C. 32.

Turn left onto N.C. 32. One mile later, cross Queen Anne Creek, the second of two creeks that form Edenton Bay. Enter Edenton on East Church Street, North Carolina's first provincial capital, one mile after crossing the creek.

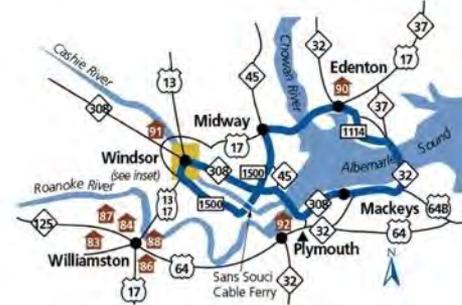
The byway ends where it began at the intersection of N.C. 32 (North Broad Street) and U.S. 17 Business (West Queen Street).



Length: 87 miles  
Drive Time: Two hours  
Counties: Bertie, Chowan and Washington



Note: Recreational vehicles are not permitted on the cable ferry and will need to follow an alternate route.



Highlighted Byway

**Edenton-Windsor Loop**

Bertie, Chowan, and Washington County(s)

Length: 87 miles  
Drive Time: 2 Hours

# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

annual report

## 2013 Annual Report:

- Misc. Management Duties
- Scenic Byway Grants

### 2013 Annual Report

Overview of the Program:

**2013 Management Duties** – From project management to grant oversight NC Scenic Byways continues to operate at a variety of capacities to advocate and manage the "Road Less Travelled". During 2012/23 some of these responsibilities included the following:



**1) Administration of Grants from Agencies**- Continue to work with FHWA at administering procedures. Contract management of these proposals via SAP. Manage and coordinate invoicing, project task and federal policy(s) with different byway grant recipients.

**2) Scenic Byway Study List Proposals** – Continued review of applications submitted for the year. Currently there are four proposals on the Study List:

*Mt. Carmel Scenic Byway Proposal*(Orange County)

*Highway 194 North* (Greater Lansing Area Development)

**3) Project Planning** – Coordination with PDEA and the monitoring of T. I. P. projects for roadway development on byways. Consultation with roadway project engineers for context sensitive solutions for byway impacts. Continued Consultation with traffic engineers on byway signage and outdoor advertising.

**Scenic Byway Grants** – Annually the Federal Highway Administration offers an opportunity to apply for monies to improve, enhance or promote our state scenic byway program. Many government and non-profit organizations have taken advantage of these opportunities. In 2012 the department was awarded the following grants:

**1.)Yadkin Valley Scenic Byway Wayfinding and Interpretive Signage (\$67,600.00)**This project will implement a comprehensive signage and wayfinding program throughout the 65-mile Yadkin Valley Scenic Byway. The project will fabricate and install gateway , wayfinding, and interpretive signs along the byway at the North Carolina Welcome Center on I-77, and in the towns of Dobson, Elkin, Jonesville, and Yadkinville, North Carolina.

**2.)Upper Yadkin Way Wayfinding Signage (\$57,360.00)**- This project will install byway gateway information and wayshowing signs for the Upper Yadkin Way Scenic Byway, including the design, fabrication, and installation of wayshowing directional signs. This project benefits the byway traveler by providing directional wayfinding signage to points of interest along the byway.



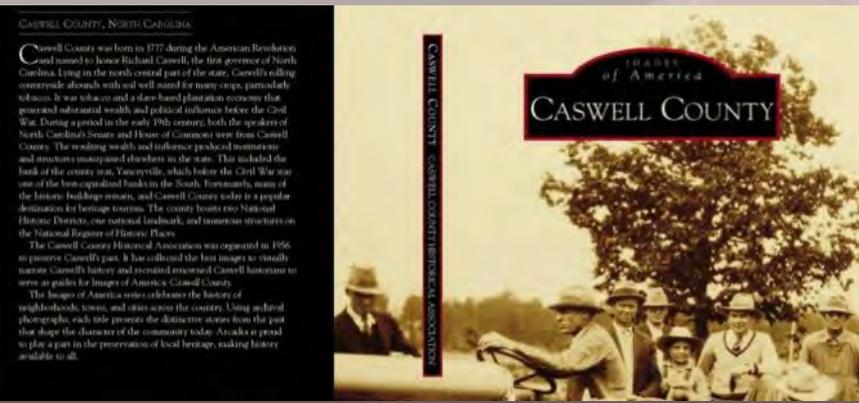
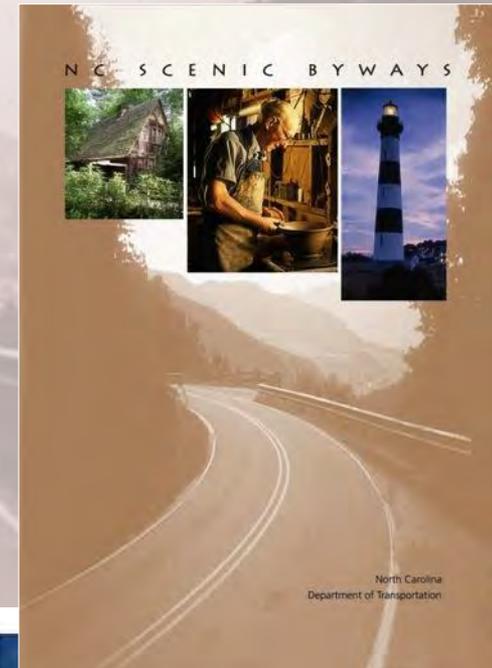
Edenton Winsor Loop

# North Carolina Scenic Byways

## annual report

### Byway Day to Day (Misc. Management Duties)

- Project Planning
- Byway Field Reviews
- Scenic Byway Study List Proposals
- Inter-Agency Involvement & Presentations
- National Resource Center & FHWA Training
- Scenic Byway Book and Publications
- Manage Scenic Byway Grant Projects
- Web, GIS and Multimedia Development



» Environmental Excellence
<input type="checkbox"/> Facts & Highlights
<input type="checkbox"/> TEA-21 Lab
<input type="checkbox"/> Showcase
<input type="checkbox"/> Partnerships
<input type="checkbox"/> Education & Events
<input type="checkbox"/> Program Development



### HOME » PROGRAM DEVELOPMENT » CSS

#### Program Development: Context Sensitive Solutions

NCDOT has embarked on a major change in its approach in dealing with human and natural environment issues during the planning, designing, building, and maintaining the State's transportation systems. The concept, called "Context Sensitive Solutions" (CSS) is currently being presented to a wide range of the Department's employees through a unique training seminar called "Context Sensitive Solutions: A Better Way."

# North Carolina Scenic Byways

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### Current Byway Grants:

- 1) **Yadkin Valley Scenic Byway Wayfinding and Interpretive Signage (2012 Award)-\$67,600 .00**
- 2) **Upper Yadkin Way Wayfinding Signage (2012 Award) \$57,360.00**
- 3) **Outer Banks Scenic Byway Waysides and Interpretive Signs (2012 Award) - \$212,000.00**
- 4) **Graveyard Fields Overlook Improvements - Blue Ridge Parkway (2010 Award)-\$261,336.00**
- 5) **Outer Banks Scenic Byway Hatteras Island Pathways (2010 Award)-\$1,959,999.00**
- 6) **Phase II of the North Carolina Scenic Byways Land Conservation Initiative (2010 Award)-\$2,743,500.00**
- 7) **Outer Banks National Scenic Byway (NC): Wayshowing and Visitor Orientation Signs (2011 Award)-\$201,120.00**
- 8) **Blue Ridge Parkway (NC): Inventory and Assessment of Historic Structures, Bridges, and Tunnels (2011 Award)-\$240,000.00**

3.) **Outer Banks Scenic Byway Waysides and Interpretive Signs (\$212,000.00)** This project will plan, design, and install 6 gateways and 21 waysides with accompanying signs along the Outer Banks Scenic Byway, significantly improving the byway traveler's understanding of the unique cultural heritage of the communities along the corridor.

4.) **Graveyard Fields Overlook Improvements - Blue Ridge Parkway (2010 Award)-\$261,336.00** This project will enhance an existing overlook and trail system at milepost 418 of the Blue Ridge Parkway All-American Road known as Graveyard Fields. This popular site has significant scenic, historic and recreational intrinsic qualities, and byway traveler use exceeds parking capacity every day of the week throughout the summer and fall seasons. Parking will be expanded from 17 to 40 spaces. A three-unit convenience station will be constructed that has been sited and designed to minimize the impact on this unique landscape vista. New interpretive signs will educate visitors, and trail improvements will be made to make the site more accessible for byway travelers. This project benefits the byway traveler by: - Reducing congestion and improving vehicular and pedestrian safety at and adjacent to this important site - Providing a restroom facility for byway travelers who stop briefly at the overlook as well as those who decide to take advantage of the opportunity to hike - Making improvements to trails that offer the byway traveler the opportunity to experience this unique landscape up close and enjoy hiking, bird watching, berry picking, water falls, and scenic vistas - Providing interpretive information about the history, landscape, and recreational opportunities of the site

5.) **Outer Banks Scenic Byway Hatteras Island Pathways (2010 Award)-\$1,959,999.00** This project will build off-the-road paved pathways along 7.9 miles in four Hatteras Island villages. It will implement a portion of an officially-supported pathway plan and a recommendation in the Byways 2009 Corridor Management Plan. The pathways will be built along the Byways NC 12, Hatteras Islands' Main Street. As the only connecting route, NC 12 carries all local and through traffic and annually brings over 2 million visitors to Cape Hatteras National Seashore. These pathways will provide safe corridors for walkers and casual cyclists, increase mobility for children, elderly and those without vehicles, promote healthful living, reduce traffic trips and enhance economic activity. This pathway project benefits the byway traveler by building safe walking and casual cycling venues "Inviting the traveler to come closer to village heritage and businesses without using a motor vehicle. Creating opportunities to tell village stories and interpret the historic and cultural landscape to enhance the visitor experience.

6.) **Phase II of the North Carolina Scenic Byways Land Conservation Initiative (2010 Award)-\$2,743,500.00** This project funds the identification and acquisition of high

# North Carolina Scenic Byways

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## Byway Nominations

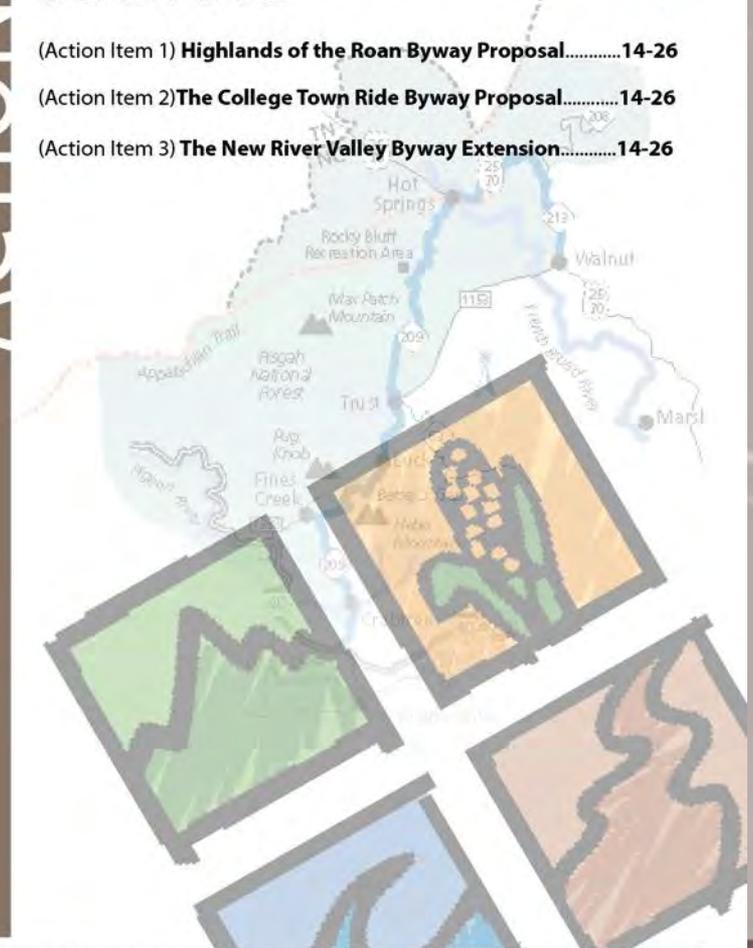
Action Items:

ACTION

## Items



- (Action Item 1) **Highlands of the Roan Byway Proposal**.....14-26
- (Action Item 2) **The College Town Ride Byway Proposal**.....14-26
- (Action Item 3) **The New River Valley Byway Extension**.....14-26



# North Carolina Scenic Byways

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## Action Item # 1

### Highlands of the Roan

### Corridor Statistics

#### Sponsor

Mitchell County Historic  
Courthouse Foundation

#### County

Mitchell County

#### Length

30 Miles

#### Existing Zoning

Pisgah National Forest



### Highlands of the Roan Proposal (General Byway Description)

**ACTION ITEM #1-Highlands of the Roan Byway Proposal:** The proposal begins at the junction of Highway 19E and 80N in Yancey County just before crossing the South Toe River. The route travels along 80N for 13 miles and provides a backdrop of small farms, churches and cemeteries. The road merges into Highway 226 at Loafers Glory, home to Masterson Grist Mill, one of the most photographed sites in the region. The route continues along Highway 226 to Bakersville, the county seat. From Bakersville, the corridor connects with the final leg of the proposal, Highway 261N, roughly 14 miles, and serves as the scenic "Rhododendron Ramble". This ramble passes open pastures, red barns, traditional farmhouses, and acres of Christmas tree farms. The last three miles of the route are embedded in the Pisgah National Forest, concluding the 30 mile scenic drive at Carvers Gap.



Three large grassy balds east of Carvers Gap lure hikers with the Grassy Ridge Bald at 6,189 feet as the highest point of the entire Appalachian Trail and an unobstructed 360 degree view. At the Carvers Gap fee station is the once famous Cloudland Hotel site that now provides a starting point for moderate hike to the Roan High Bluff overlook. The conclusion of the proposal is at the 600 acre Catawba Rhododendron gardens with the spectacular display of magenta blooms during June.



**APPLICATION SPONSOR:**  
Mitchell County Historic Courthouse Foundation

**CORRIDOR STATISTICS:**  
LENGTH: 30 Miles

COUNTY: Mitchell County

ROUTE: 80N, Highway 226 and Highway 261N

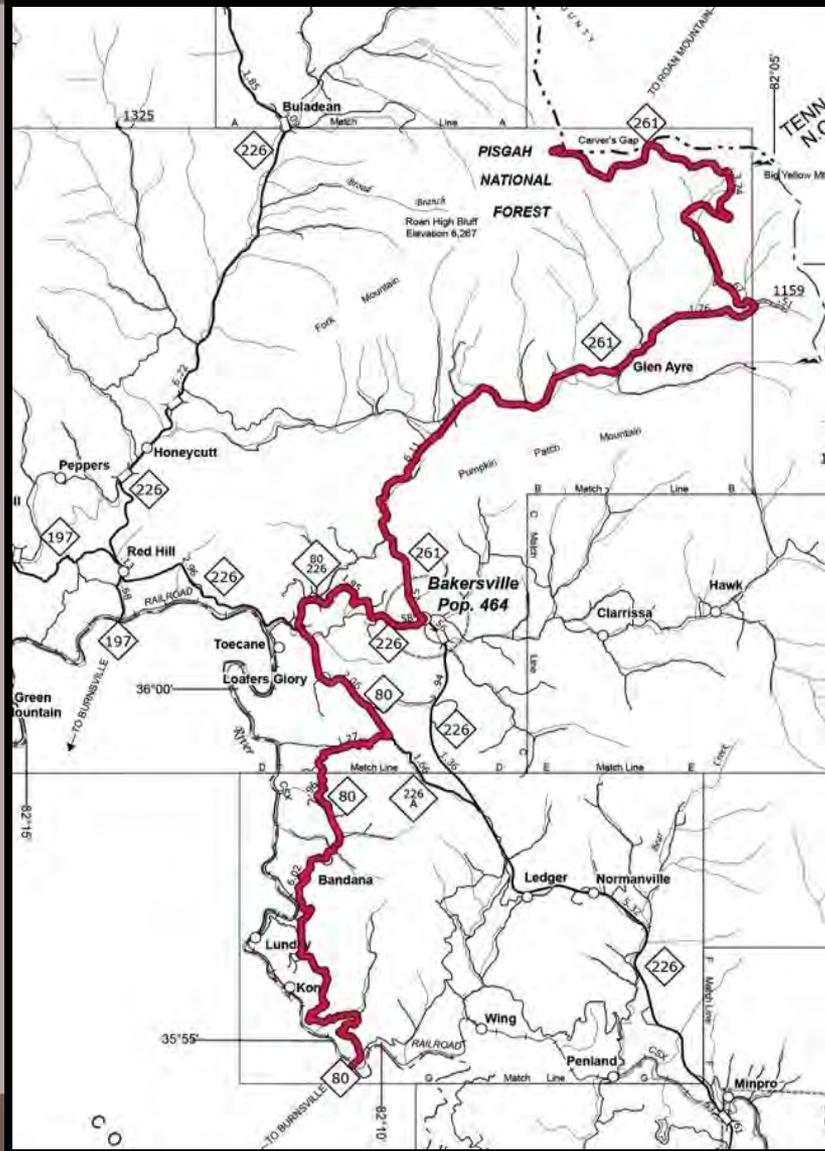
EXISTING ZONING: Pisgah National Forest

#### RECOMMENDATION:

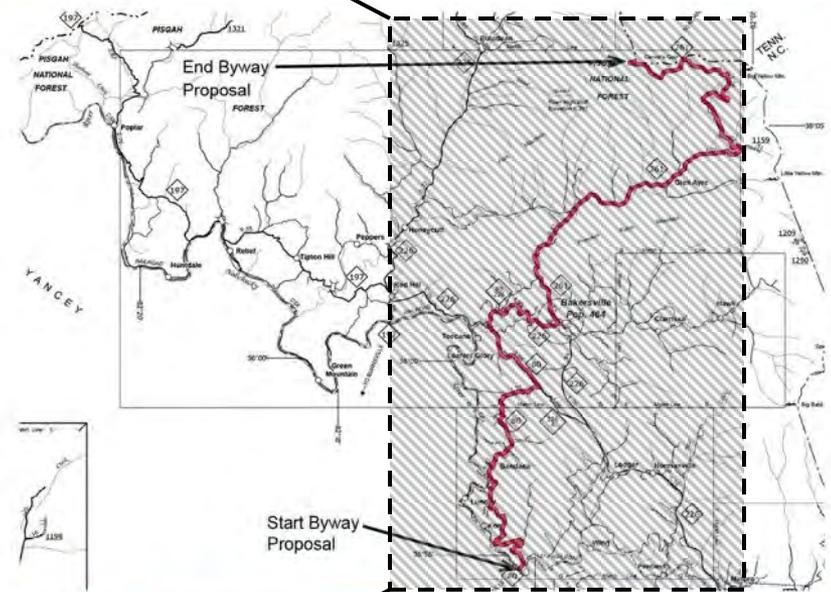
Designate and integrate 30 miles of the Highlands of the Roan from the intersection of 19E and 80N, along Highway 226 into Bakersville, to the Highway 261N portion to Roan Mountain.

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### Highlands of the Roan Proposal (Mapping)



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Carvers Gap  
ELEVATION 5512 FT.  
PISGAH-CHEROKEE  
*National Forest*

Welcome  
To  
NORTH CAROLINA

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**CLOUDLAND TRAIL**  
ROAN GARDENS 0.2 MI.  
ROAN HIGH BLUFF 1.2 MI.

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## Action Item # 1

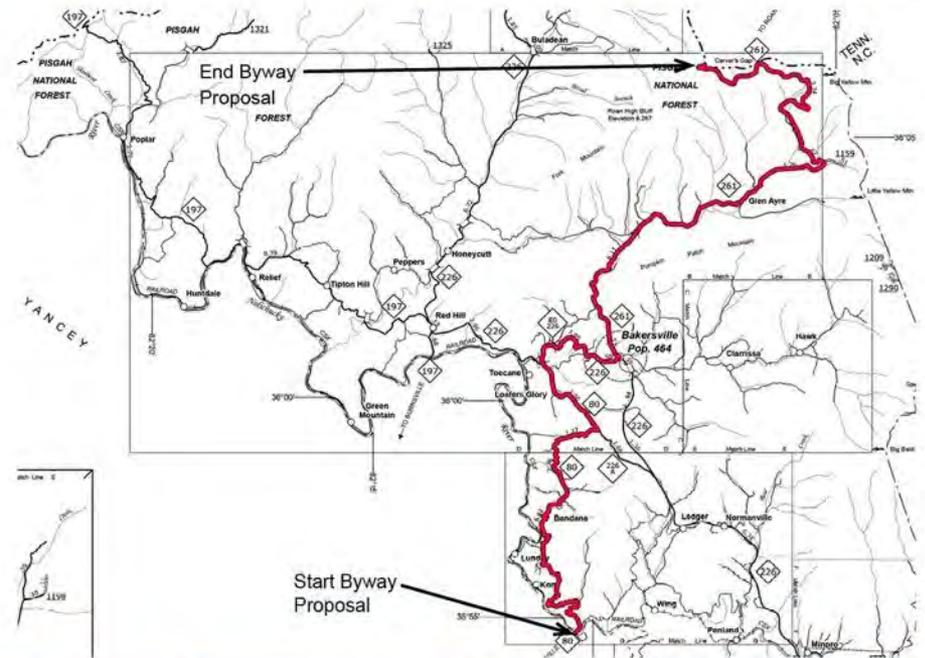
### Highlands of the Roan Byway Proposal

#### Recommendation:

Designate and integrate 30 miles of the Highlands of the Roan from the intersection of 19E and 80N, along Highway 226 into Bakersville, to the Highway 261N portion to Roan Mountain.



#### Highlands of the Roan Proposal (Mapping)



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## Action Item # 2

### The College Town Ride

## Corridor Statistics

### Sponsor

Davidson Land Conservancy

### County

Mecklenburg and Iredell County(s)

### Length

6 Miles

### Existing Zoning

Town of Davidson



## The College Town Ride Proposal (General Byway Description)

**ACTION ITEM #2-The College Town Ride Proposal:** The proposal begins at the Iredell/Mecklenburg County line along NC 115. The route travels south towards the Town of Davidson, where NC 115 becomes Main Street. Continuing on Main Street approximately 1 mile, the route turns east onto Concord Road. In just under 1 mile, the route turns northeast from Concord Road onto Grey Road. After 2 miles on Grey Road, the route passes quickly from Mecklenburg County into Iredell County and back again. The route continues from Grey Road southeast onto Shearer Road for approximately 1 mile, then turns onto Fisher Road. The route ends at the terminus of Fisher Road, which is the entrance to Fisher Farm Park.



The proposed route follows NC 115 as it turns into Main Street, a historic trade route between Charlotte and Statesville. Main Street evolved from a dirt road to a woodplanked road before it was finally paved by the state in the 1920's. At that time, the state highway commissioner telegraphed Davidson College president, William J. Martin, to proclaim that the new road (now NC 115) was to be called the Davidson College Highway. Davidson College (1837), named for Revolutionary War hero General William Lee Davidson, was sited at the junction of this north/south trade route between Charlotte and Statesville and the north/east route to Salisbury.



**APPLICATION SPONSOR:**  
Davidson Lands Conservancy

**CORRIDOR STATISTICS:**  
LENGTH: 6 Miles

COUNTY: Mecklenburg and Iredell County(s)

ROUTE: NC 115, SR 2693, SR 2419

EXISTING ZONING: Town of Davidson

### **RECOMMENDATION:**

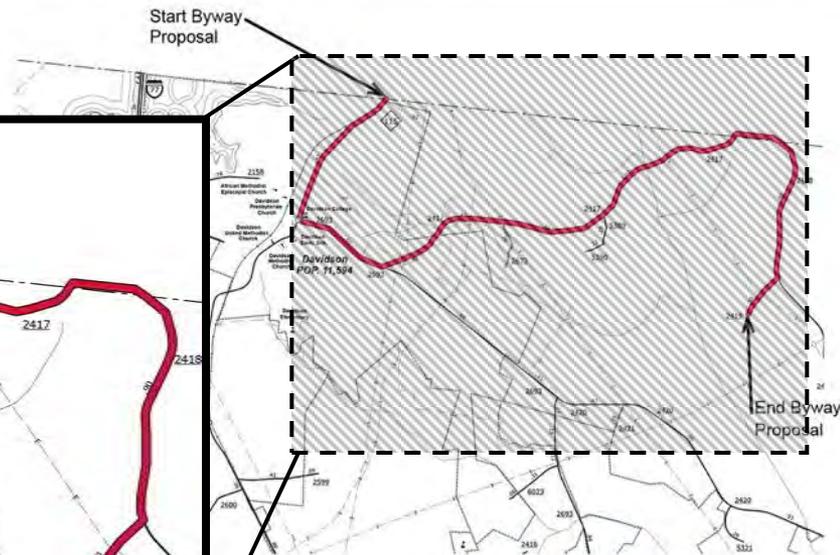
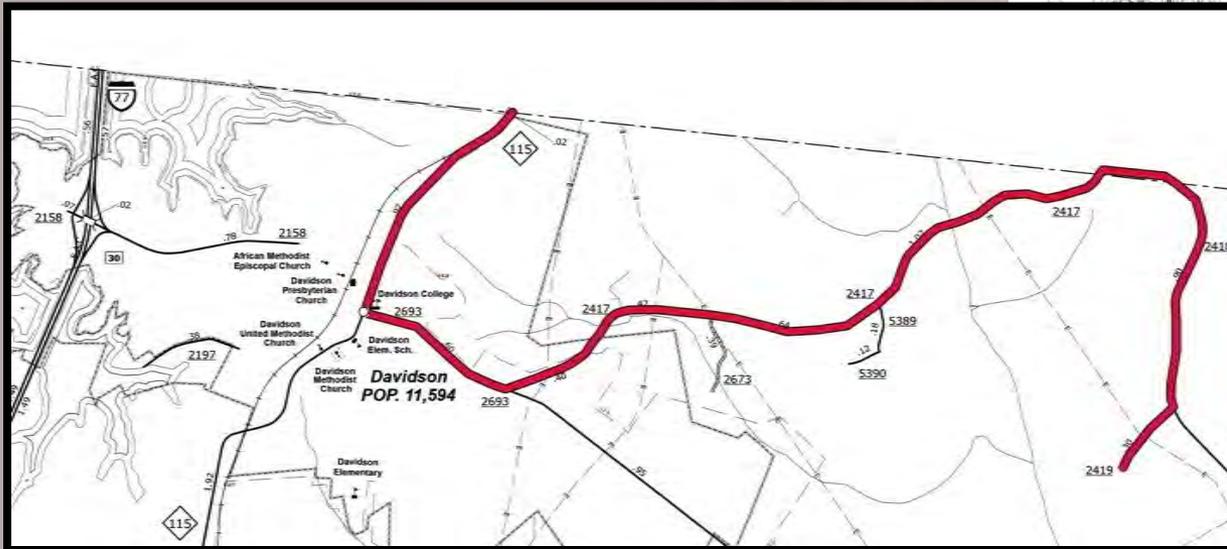
Designate and integrate the 6 miles of the College Town Ride as part of the NC Scenic Byways.

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## The College Town Ride Proposal (Mapping)



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# North Carolina Scenic Byways

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## Action Item # 2

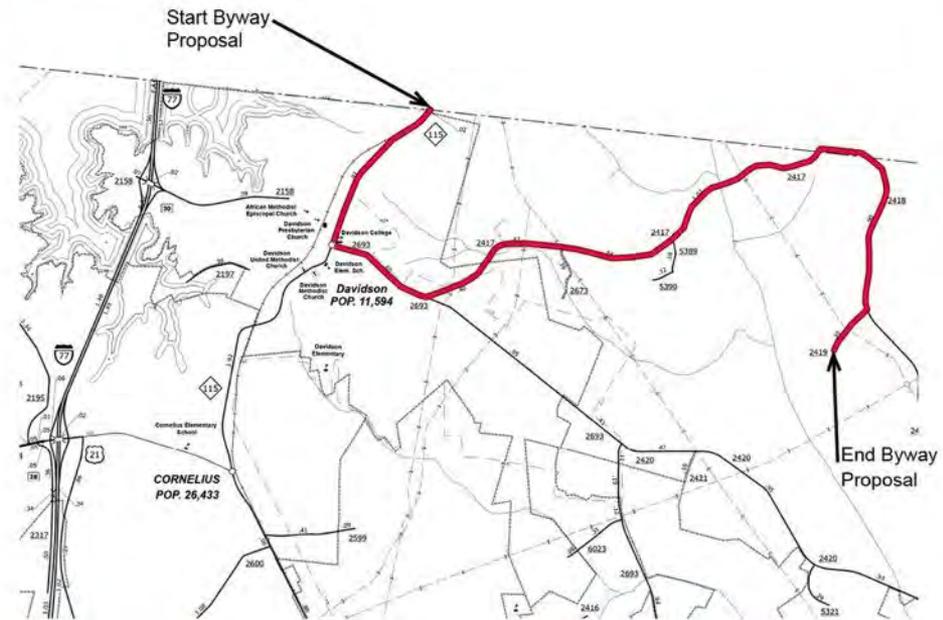
### College Town Ride Byway Proposal

### Recommendation:

Designate and integrate the 6 miles of the College Town Ride as part of the NC Scenic Byways.



### The College Town Ride Proposal (Mapping)



# North Carolina Scenic Byways

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## Action Item # 3

### New River Valley Scenic Byway Extension

## Corridor Statistics

### Sponsor

Ashe County

### County

Ashe County

### Length

12.25 Miles

### Existing Zoning

Town of West Jefferson



## New River Valley Scenic Byway Extension (General Byway Description)

**ACTION ITEM #3-New River Valley Extension Proposal:** The extension of the New River Valley Scenic Byway follows US Hwy 221 and begins at the Ashe and Watauga County line in Deep Gap. The route travels north along US HWY 221 across the south fork of the New River, through the communities of Fleetwood and Baldwin. In Baldwin the route connects with NC Hwy 194 and the New River Valley Byway and continues to its end point at the edge of West Jefferson where US Hwy 221 intersects NC Hwy 163.



The New River and Mount Jefferson are both recreational draws to Ashe County for both day trippers and overnight visitors. Mount Jefferson and the New River State Park have a combined annual visitation of 319,308 visitors. Mount Jefferson State Recreational Area: At an elevation of 4,655 Mount Jefferson is one the highest peaks along the route. The recreation area offers hiking with the most popular trail the Summit Trail. There are also 19 picnic tables open to the public for day trips and groups. The New River State Park, is 2,220 acres which offers hiking, camping, picnicking and several locations along the New River to put in canoes and kayaks. Both these areas are in the



**APPLICATION SPONSOR:**  
Ashe County

**CORRIDOR STATISTICS:**  
LENGTH: 12.25 Miles

COUNTY: Ashe County

ROUTE: US Highway 221

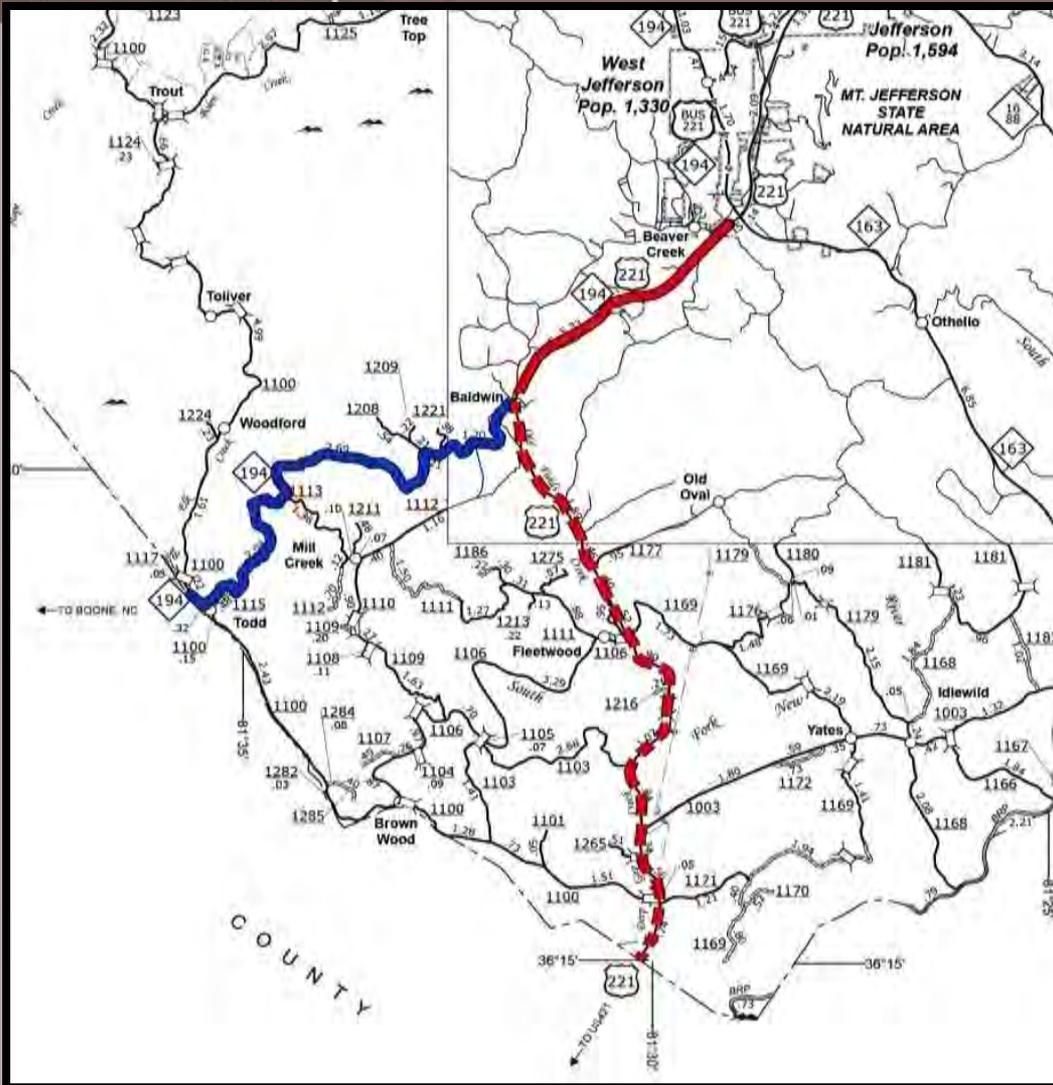
EXISTING ZONING: Town of West Jefferson

### **RECOMMENDATION:**

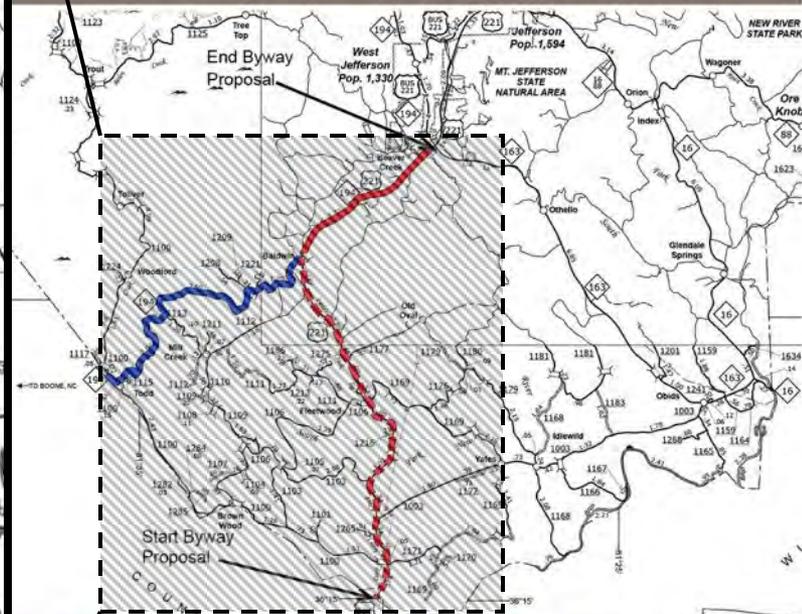
Designate and integrate the 5.5 miles from the intersection of Highway 194 and US 221 to the town limits of West Jefferson as part of the NC Scenic Byways.

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### New River Valley Scenic Byway Extension (Mapping)



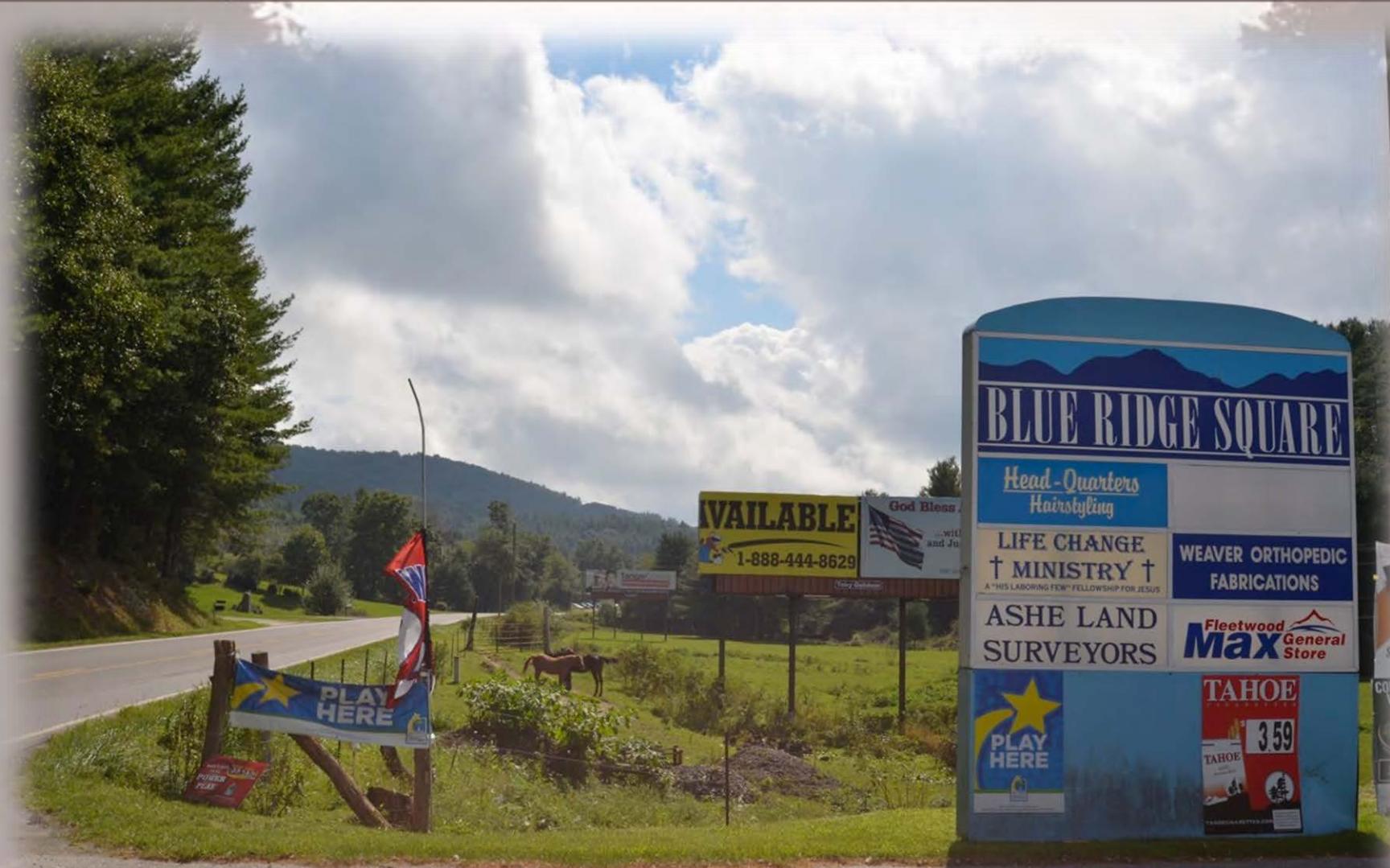
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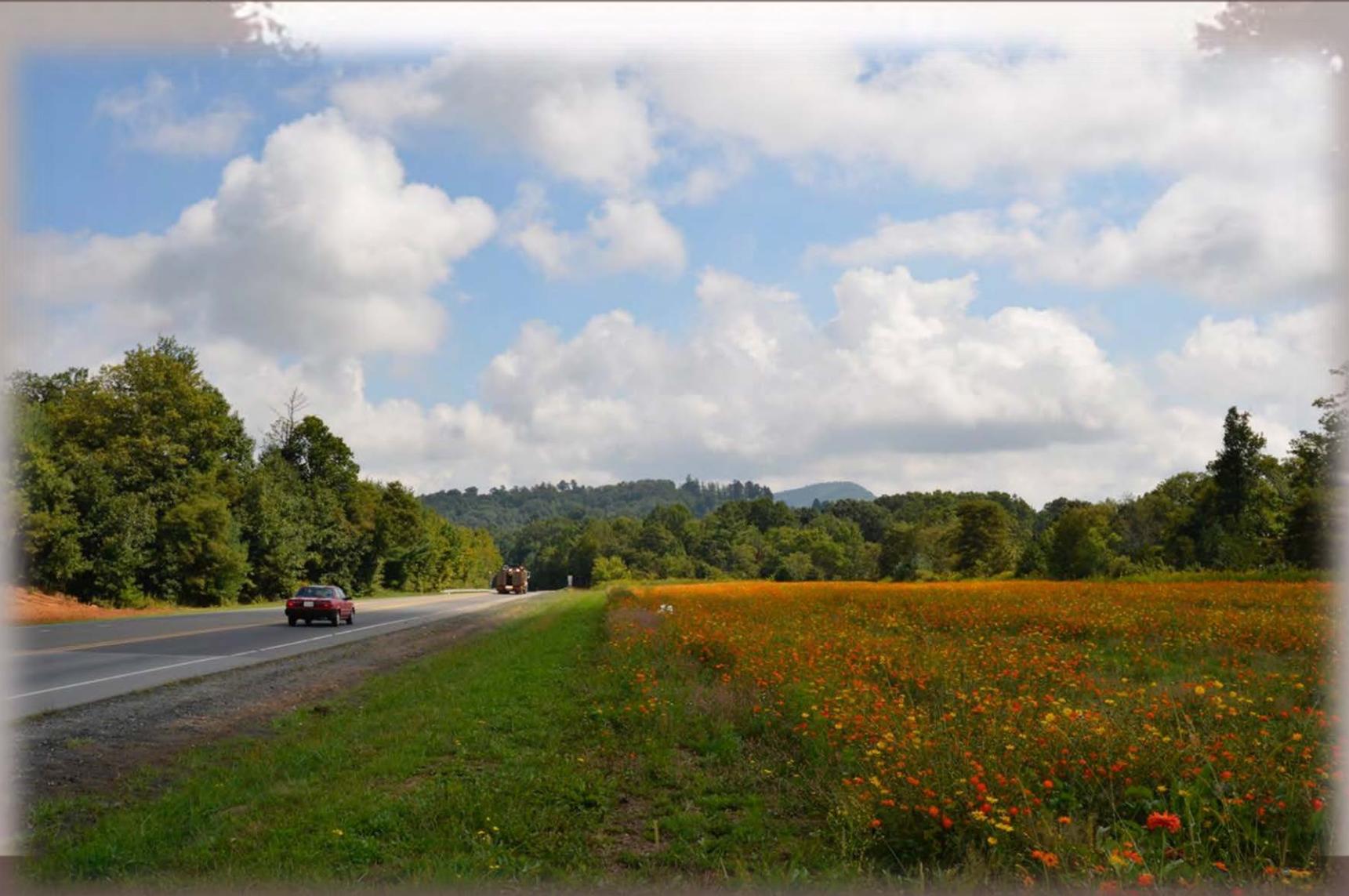
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## Action Item # 3

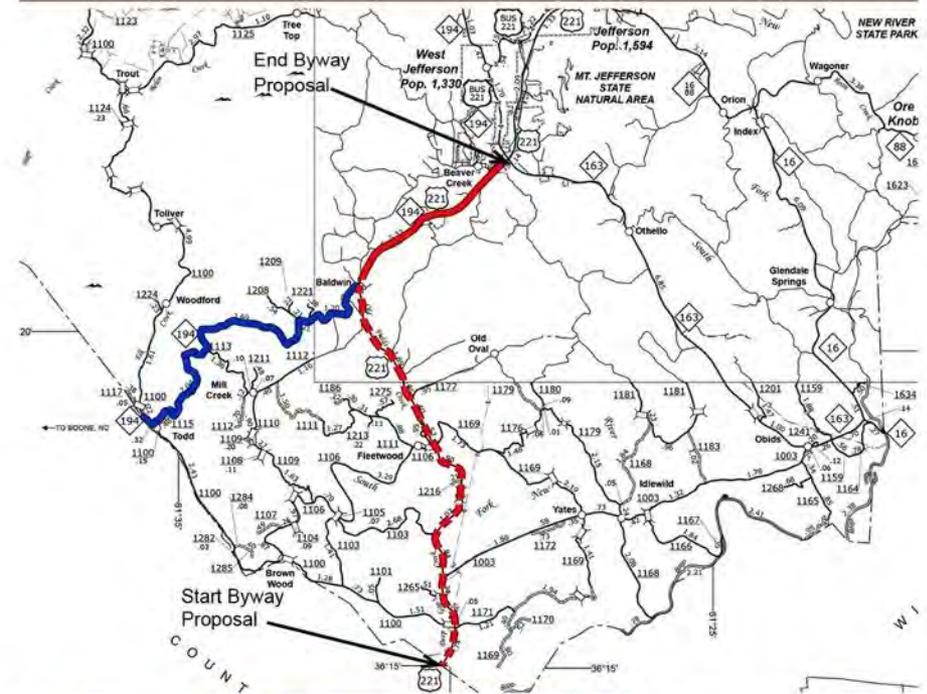
### New River Valley Scenic Byway Extension

#### Recommendation:

Designate and integrate the 5.5 miles from the intersection of Highway 194 and US 221 to the town limits of West Jefferson as part of the NC Scenic Byways.



#### New River Valley Scenic Byway Extension (Mapping)





# AUDIT COMMITTEE AGENDA

## BOARD OF TRANSPORTATION NOVEMBER 5, 2014

**TIME: 11:30 AM**

**LOCATION: Conference Room 160**

<b>TOPIC</b>	<b>PRESENTER</b>	<b>TIME</b>
Call to Order	Ned Curran	5 minutes
Approval of October Meeting Minutes	Ned Curran	2 minutes
OIG Status	Mary Morton	20 minutes
Adjourn	Ned Curran	3 minutes



# ECONOMIC DEVELOPMENT & INTERGOVERNMENTAL RELATIONS COMMITTEE MEETING MINUTES

**DATE:** 10-01-2014    **TIME:** 1:25 P.M.    **LOCATION:** Board Room

<b>MEETING CALLED BY</b>	Hugh Overholt, Vice Chair
<b>BOARD ATTENDEES</b>	Ferrell Blount, Larry Kernea, Lou Wetmore, Jeff Sheehan, Ed Grannis,

## AGENDA TOPICS

<b>1. AUGUST AND SEPTEMBER MEETING MINUTES – BOARD MEMBER HUGH OVERHOLT, VICE CHAIR</b>	
<b>DISCUSSION SUMMARY</b>	Approval of August and September ED&IR Committee Minutes
<b>ACTIONS TAKEN</b>	Minutes approved without objection

<b>2. UPDATE OF THE 25 YEAR VISION – SUSAN PULLIUM, DIRECTOR OF STRATEGIC PLANNING</b>	
<b>DISCUSSION SUMMARY</b>	Susan delivered a brief update of the 25 Year Vision kicked off by Governor McCrory on September 17, 2014. Susan addresses the vision and its purpose to better connect people and economic developments and create jobs for the citizens of our state. The 25 Year Vision is to show how to strategically invest in the future. Great discussion with group, Board Members were engaged. Board Member Grannis asked to have copies of the vision for distribution at public hearings. Board Member Blount recommended a one page with the link for review on the web.
<b>ACTIONS TAKEN</b>	If applicable, enter actions taken here. Otherwise leave this area blank.

<b>3. STRATEGIC TRANSPORTATION CORRIDORS (STC) – BOARD MEMBER FERRELL BLOUNT</b>	
<b>DISCUSSION SUMMARY</b>	<ul style="list-style-type: none"> <li>○ Board Member Blount introduced the subcommittee for STC and gave a brief overview of the purpose of the new North Carolina Transportation Network system created to support regional planning, project development and asset management. To identify long-term high-priority investment needs to achieve Strategic Transportation Corridors. Continuing efforts to provide a more descriptive planning tool for the MPO's, RPO's and General Assembly.</li> </ul>
<b>ACTIONS TAKEN</b>	If applicable, enter actions taken here. Otherwise leave this area blank.



# ECONOMIC DEVELOPMENT & INTERGOVERNMENTAL RELATIONS COMMITTEE AGENDA

## BOARD OF TRANSPORTATION NOVEMBER 5, 2014

**TIME: 1:00**

**LOCATION: Board Room**

TOPIC	PRESENTER	TIME
Welcome and Approval of October Committee Minutes	Hugh Overholt, Vice Chair	1:00 – 1:05
Brief Update on Status of Military In North Carolina	Major General Cornell Wilson, Governor's Advisor on Military Affairs	1:05 – 2:05
Next Steps Announcements/Closure	Hugh Overholt, Vice Chair	2:05 – 2:30




# FUNDING & APPROPRIATION STRATEGIES COMMITTEE MEETING MINUTES

DATE: 10/01/2014    TIME: 1:41 PM    LOCATION: EIC

MEETING CALLED BY	Ms. Cheryl McQueary, Chair
BOARD ATTENDEES	Ms. Cheryl McQueary, Chair, Mr. Jim Crawford, Vice-Chair, Mr. David Brown, Mr. David Burns, Mr. Malcolm Fearing, Mr. Jim Palermo, Mr. Andy Perkins, Mr. David Tyeryar (staff)

## AGENDA TOPICS

1. MEETING CALL TO ORDER AND APPROVAL OF SEPTEMBER MINUTES	
DISCUSSION SUMMARY	Moved by Mr. Brown and seconded by Mr. Perkins
ACTIONS TAKEN	Approval (unanimously)

2. SFY 2016 STATE BUDGET PROCESS – MR TYERYAR	
DISCUSSION SUMMARY	Provided handout and information on 2015-2017 budget instructions including: limiting items considered by governor in preparing baseline, net 2% reduction required, integrate and utilize strategic planning and program information, update goals, objectives and measures as well as fund purpose statements. Also discussed schedule for budget submissions through release in March 2015
ACTIONS TAKEN	None – received information

3. SFY 2015 STATE BUDGET SPECIAL PROVISIONS FINANCIAL IMPACTS – MR TYERYAR	
DISCUSSION SUMMARY	Provided handout and information on SFY 2015 special provisions: Participation with private developers; Out of state travel will not exceed amount from 2009-2010; DMV hearing fees can be implemented without going back to legislature, Highway maintenance schedule; DOT staffing review; Study fees, Sponsorship of IMAP and privatization; DOT cash management floor, target and ceiling percentages; Economic development Program Funds; and Outsourcing requirements increasing annually. Included chart breakdown of NCDOT expenditures as of June 30, 2014 and August 31, 2014.
ACTIONS TAKEN	None – received information



# FUNDING & APPROPRIATION STRATEGIES COMMITTEE (FAST) AGENDA

## BOARD OF TRANSPORTATION NOVEMBER 5, 2014

TIME: 1:00 – 3:00 p.m.

LOCATION: EIC

TOPIC	PRESENTER	TIME
Call to Order - Approval of October meeting notes	Cheryl L. McQueary, Chair	1:00 – 1:10
Lean 6 Sigma - Purchasing Project	Lisa Penny	1:10 -- 1:30
Cash Management - SAS Contract Report	David Tyeryar	1:30 – 2:00
Comments and Wrap-up	Cheryl L. McQueary, Chair	2:00 --

## SAS Construction Model Objectives

There are two main objectives:

- ✓ Create a model that produces a **more accurate prediction of the construction expenditures**.
- ✓ Create a model that **allows forecast predictions at project categories** (i.e. STI Categories) and **individual project levels**.

# SAS Construction Model Issues

## Future Projects

**Let Delay** When will this project be awarded?

**Construction Delay** When is the first invoice expected?

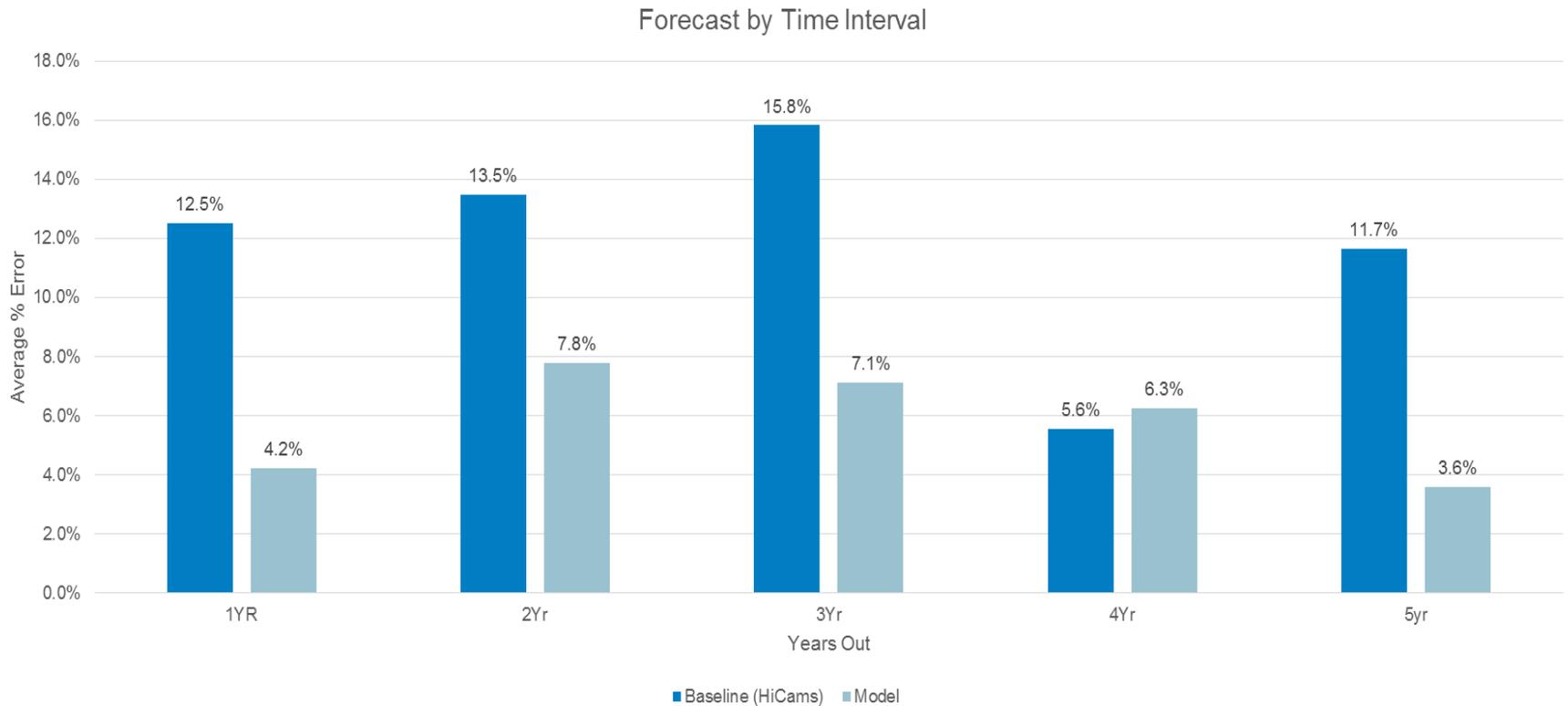
**Project Duration** What time period will this project be billed over?

**Construction Seasons** How will the invoices vary month to month?

## Awarded Projects

**Project Trends** What happens when a project is ahead or behind schedule?

# SAS Construction Model Comparative Performance



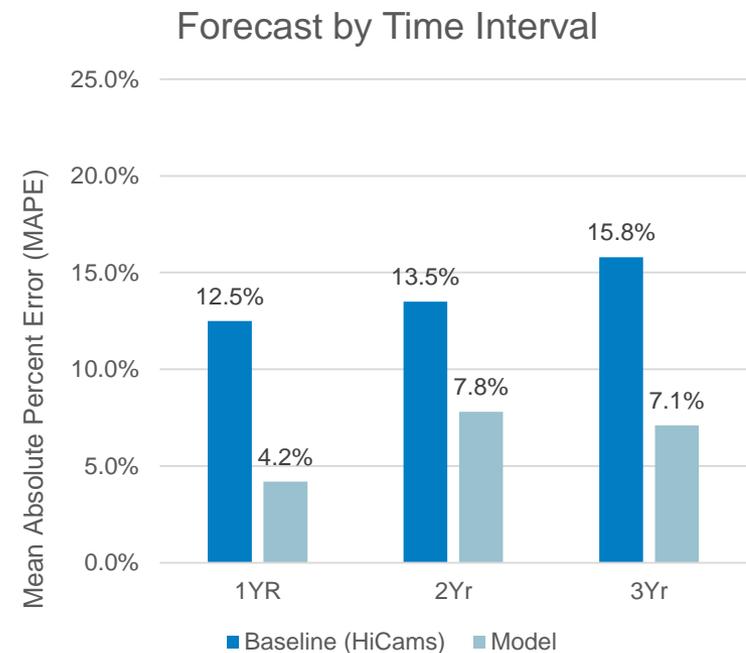
# SAS Construction Model Comparative Performance

For Forecasts 1,2 and 3 years into the future  
The model provides **improvement over the HiCAMS model** when looking at forecasts **1, 2 and 3 years into the future**

For Forecasts 1 year in the future  
(FY 2010-2013)

**SAS Model** had an **average yearly error rate of 4.2%** compared to the actual construction payments

The **HiCAMS model** had an **average yearly error rate of 12.5%** compared to actual construction payments



# SAS Construction Model Reports





## **Purchasing Lean Six Sigma Project Summary**

David Tyeryar, NCDOT CFO

Lisa Penny, Management Engineer, Governance Office

November 5, 2014

# Presentation Objectives

- Purpose
- Focus Areas, Goals, and Improvements
- Completed Project Results
- Next Steps

# Vision to Action

- Governor McCrory's vision of creating a efficient and effective state government that focuses on customer service led to;
- Secretary Tata's initiative to implement the Lean Six Sigma (LSS) methodology across DOT by;
- Training the Governance Office staff to lead process improvement projects to create an efficient and effective agency with a focus on customer service!

# Vision to Action

- North Carolina State University (NCSU) was identified as partner in LSS initiative.
- NCDOT business units such as Fiscal were asked:
  - Identify ideas for LSS project pursuit
  - Identify staff leadership for the project to attend NCSU LSS Green Belt training and certification in concert with Governance Office

# The Methodology

- Purchases Less Than \$5,000 was chosen as one of the initial LSS projects
- A team of Purchasing experts was assembled to study the Less Than \$5,000 procurement process and identify improvements
- Based on results, additional Purchasing Lean Six Sigma projects were identified for prioritization and pursuit

# Why Purchasing LSS Focus

- Purchasing impacts the full organization; so any opportunity to utilize tools such as LSS to improve business operations (maximizing efficiency & improving customer service to achieve ROI) is beneficial to the state
- Projects ongoing:
  - Purchases less than \$5,000
- Projects expected for CY 2014 completion:
  - Optimizing P-Card Usage less than \$2,500
  - Purchases greater than \$25,000
- Projects expected for CY 2015 completion:
  - Purchases \$5,000 to \$25,000

Task Name	% Complete	Duration	Start	Finish	2014												2015				
					4th Quarter			1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Qua	
					Aug	Sep	Oct	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Purchases Less Than \$5,000	100%	221 days	Fri 8/23/13	Fri 6/27/14																	
Purchases Greater Than \$25,000	80%	209 days	Tue 5/13/14	Fri 2/27/15																	
Optimizing P-Card Usage Less Than \$2,500	76%	181 days	Fri 6/20/14	Fri 2/27/15																	

# The Challenge

- Meet timeline set for each dollar range and reduce errors in the process.
  - Cycle Time
- Do this at the lowest cost and best value to the state.
  - Strategic Sourcing
- Follow all legislative requirements in the procurement process.
  - Compliance
- Provide quality purchasing support.
  - Customer Service

# Team Members

	PROJECT TEAM				SUPPORT AREAS						
	NCDOT Team Members				External Team Members		NCDOT Team Members				
	Purchasing Management	Purchasing Agents	Purchasing Assistant	Fiscal Accounts Payable	State Purchase & Contract	NC Information Technology Services	IT SAP (Systems, Applications, and Products in Data Processing)	IT Business Warehouse	Material Management	Unit Purchasing Card Coordinators	Purchasing Card Users
Purchases less than \$5,000	X	X			X	X	X	X	X		
Optimizing P-Card Usage	X		X	X	X	X	X	X	X	X	X
Purchases greater than \$25,000	X	X			X	X	X	X	X		
Purchases \$5,000 to \$25,000	X	X			X	X	X	X	X		

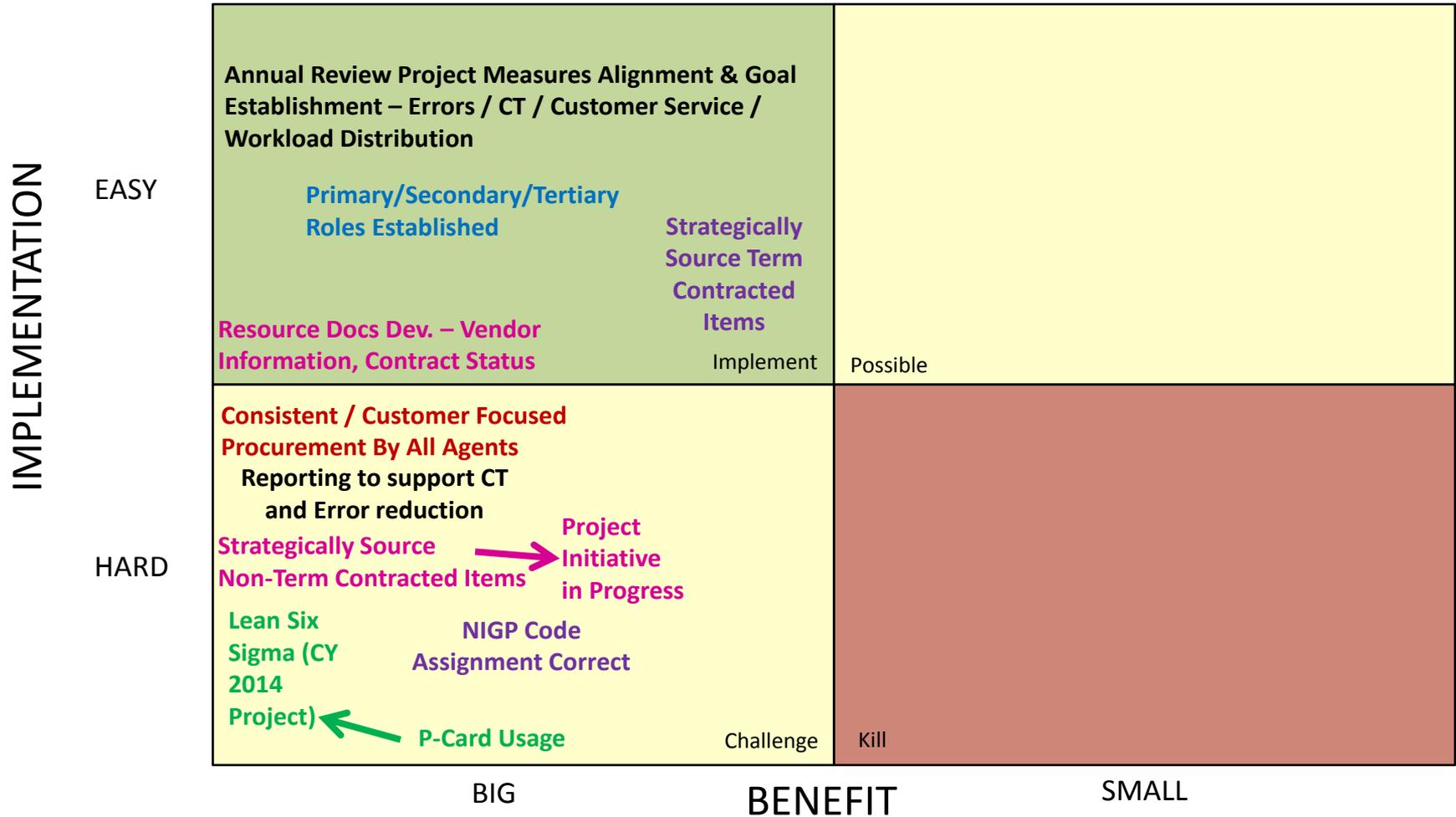
## Project Statement – Purchases Less Than \$5,000

- The current process, approved requisitions to purchase order (P.O.) was not as efficient or as cost effective as it could be.
- **In regard to cycle time**, the breakdown of cost ranges in 2013 included:
  - 82% were less than \$2,500
  - 8.5% were \$2,500 to \$5,000
  - 9.5% were greater than \$5,000
- The latest annual trends (FYE 2013) show:
  - 26,364 P.O.'s are processed (90% are less than \$5,000 or 23,730 P.O.'s)
- Based on annual trends (FYE 2011-2013):
  - It took 0 to 388 days to process requisitions less than \$2,500 (goal is 0-1 days)
  - It took 0 to 301 days to process requisitions \$2,500 to \$5,000 (goal is 0-3 days)
  - For less than \$2,500 requisitions, cycle time goals were met 80.44% of the time
  - For \$2,500 to \$5,000 requisitions, cycle time goals were met 75.90% of the time
- Conclusion, there is excessive variation in process time.

## Mission Statement – Purchases Less Than \$5,000

- To use Lean Six Sigma and SigmaXL tools to identify problems with procurement processes.
- To develop an efficient procurement process; limiting delays, limiting errors, maximizing resources, and establishing a procurement methodology for items less than \$5,000.
- **The goal for cycle time:**
  - Process requisitions less than \$2,500 within the expected range of 0 to 1 days
  - Process requisitions \$2,500 to \$5,000 within the expected range of 0 to 3 days
- By accomplishing this the department should obtain:
  - 19% process time reduction
  - 4,700 hours time savings
- The goal was to complete this project:
  - Within 5 months
  - Monitor trends for 60 to 90 days
- NCDOT Purchasing Officer will ensure controls are in place after the project team disbands.

# Pick Chart - Purchases Less Than \$5,000



## Queue Reduction Benefit – Purchases Less Than \$5,000

Cycle Time (3 yrs view)	Total Cost (3 yrs view)
1841	\$1,436,024
238556	\$1,131,239,856
0.8%	0.1%

Items Per PO (3 yrs view)	Total PO's (3 yrs view)
2684	1445
263892	85289
1.0%	1.7%

Reduction resulting from Outline Agreement Initiative.

## Employee Cost Savings Benefit –

### Completed LSS Project, Purchases Less Than \$5,000

- Positions not filled with attrition:
  - Two Purchasing Assistant positions
  - One Purchasing Agent
- Lead to achieving the project savings goal set.
  - 4,700 hours time savings

## NCDOT LSS Project Public Visibility

- The Purchases Less Than \$5,000 project was selected by NC State to be presented at NC State's 12<sup>th</sup> Annual LSS Forum
- Forum "Purchases Less Than \$5,000" Attendees were impressed by:
  - Project benefits obtained
  - State Government was investing in LSS training
  - State Government was actively pursuing projects utilizing LSS methodology

Questions?



# HIGHWAYS COMMITTEE MEETING MINUTES

DATE: 10-2-2014    TIME: 9:00 AM    LOCATION: 150

<b>MEETING CALLED BY</b>	Ferrell Blount
<b>BOARD ATTENDEES</b>	Committee: Palermo, Burns, Brown, Blount, Crawford, Grannis, Overholt, Kernea Other: McQueary

## AGENDA TOPICS

<b>1. NEW LEAF SOCIETY: COMMUNITY IMPROVEMENT AND ENHANCEMENT THROUGH PARTNERSHIPS - RETT DAVIS, PRESIDENT, NEW LEAF SOCIETY</b>
--

<b>DISCUSSION SUMMARY</b>	Presentation provided an overview of the private partnership in Alamance county to beautify Burlington. The program is the brainchild of Allen Gant of Glen Raven, Inc., and raises private funds to support landscaping efforts. Donors are eager to participate because the appearance of an area positively affects economic growth.
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<b>ACTIONS TAKEN</b>	
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<b>2. PAVEMENT PRESERVATION OUTSOURCING REPORT - EMILY MCGRAW, PE, STATE MAINTENANCE OPERATIONS ENGINEER</b>
--

<b>DISCUSSION SUMMARY</b>	Ms. McGraw summarized the report provided to the General Assembly on September 1, 2014 on pavement preservation outsourcing, and discussed the transition plan.
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<b>ACTIONS TAKEN</b>	
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<b>3. DIVERGING DIAMOND INTERCHANGES - JIM DUNLOP, PE, CONGESTION MANAGEMENT ENGINEER</b>
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<b>DISCUSSION SUMMARY</b>	Presentation gave an overview of Diverging Diamond Interchanges, which are designed to allow two directions of traffic to temporarily cross to the opposite side of the roadway to provide easier access on and off the freeway. Under the right circumstances, they are a great solution, because they are safer and operationally more efficient than a standard diamond interchange. They have fewer conflict points, better sight distance, more efficient signal phasing, increase left-turning capacity without adding lanes, and require less right of way. They can be easily retrofitted on an existing bridge.
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<b>ACTIONS TAKEN</b>	
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# HIGHWAYS COMMITTEE AGENDA

## BOARD OF TRANSPORTATION NOVEMBER 5, 2014

**TIME: 9:00 -11:00 AM**

**LOCATION: 150**

<b>TOPIC</b>	<b>PRESENTER</b>	<b>TIME</b>
Call to Order	Jake Alexander, Committee Chair	1 min
Approval of October Minutes	Jake Alexander, Committee Chair	1 min
Scenic Byway Additions	Jeff Lackey, Scenic Byway Coordinator Roadside Environmental Unit	15 min
Maintenance Allocation Updates	Jennifer Brandenburg, PE, State Asset Management Engineer	15 min
Project Delivery Improvement Initiative	Glenn Mumford, PE, State Roadway Design Engineer Jeff Roerden, MSOD, Management Engineer, Governance Office	15 min
Innovative Technology for Materials Tracking	Chris Peoples, PE, State Materials Engineer	10 min
Adjourn		

# North Carolina

DEPARTMENT OF TRANSPORTATION

## Maintenance Allocation Updates

Jennifer Brandenburg, PE

November 5, 2014

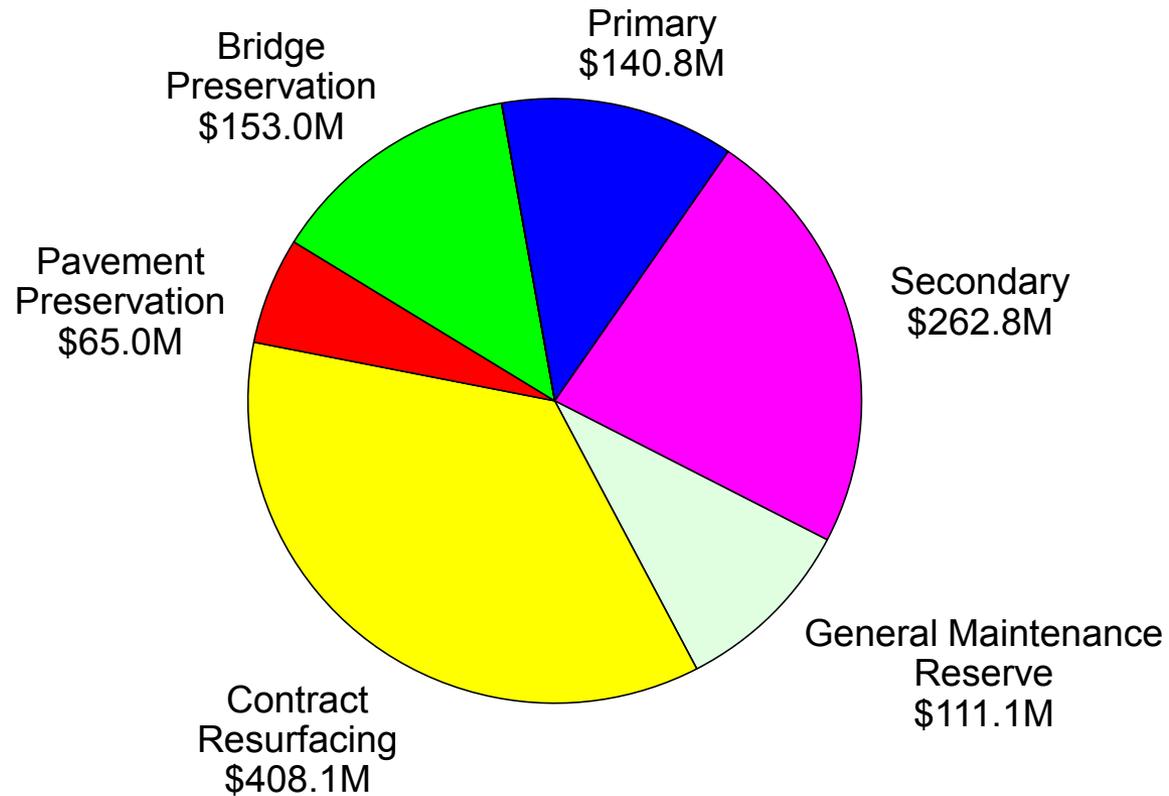
# Outline

- Funding History
- Final Allocations
- Challenges
- Next Steps

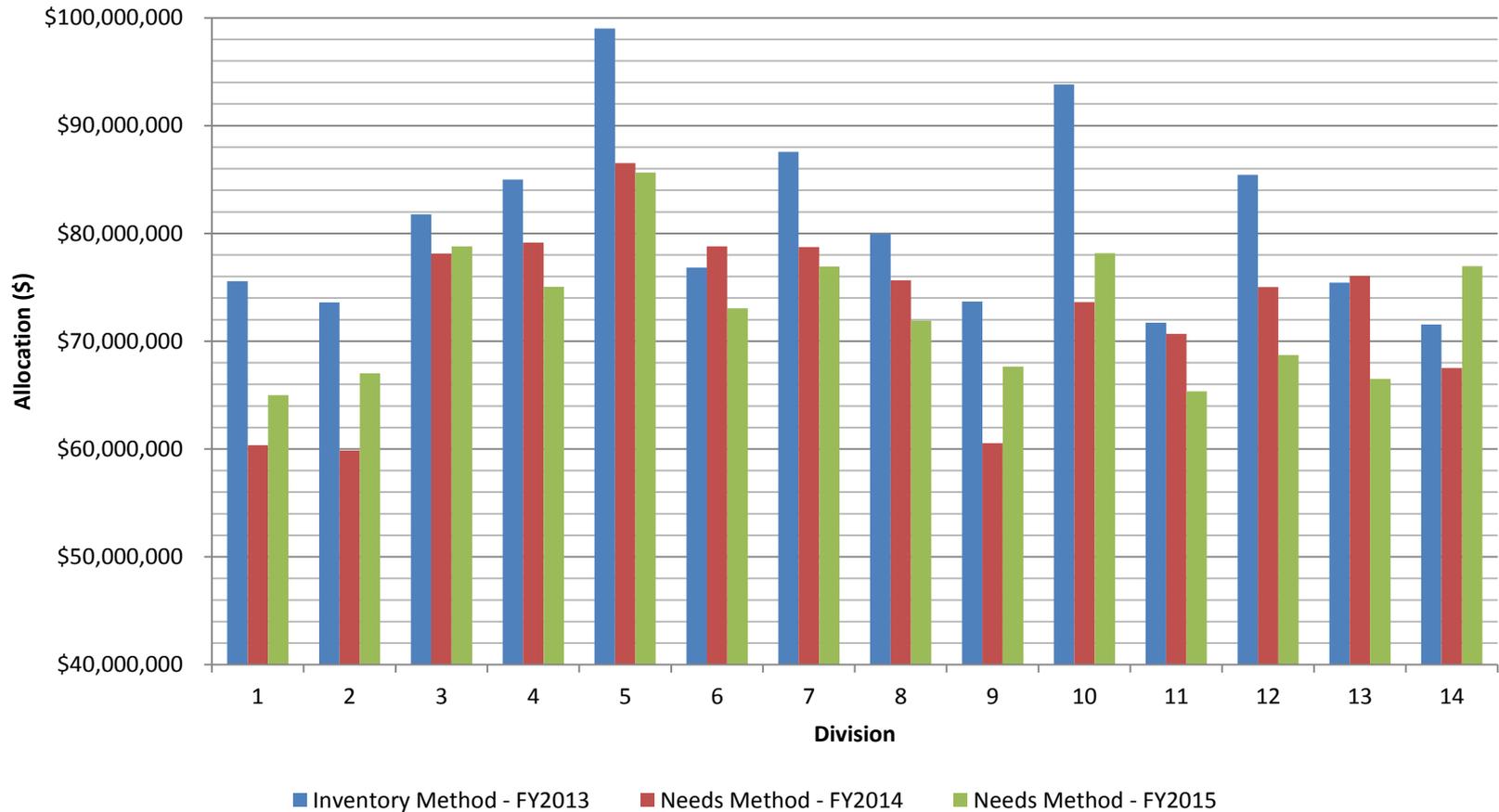
# FY 2015 Funding History

- Governor's budget numbers (\$1,048 M)
- Legislature appropriated(\$1,075 M)
  - Primary (\$140.8 M)
  - Secondary (\$262.9 M)
  - General Maintenance Reserve (\$45.6 M)
  - Bridge Program (\$153.0 M)
  - Contract resurfacing (\$408.2 M)
  - Pavement preservation (\$65.0 M)
- Additional General Maintenance Reserve allocation (\$65.5 M)
- Total FY 15 Maintenance Allocation (\$ 1,141 M)

# Final FY15 Funding By Category



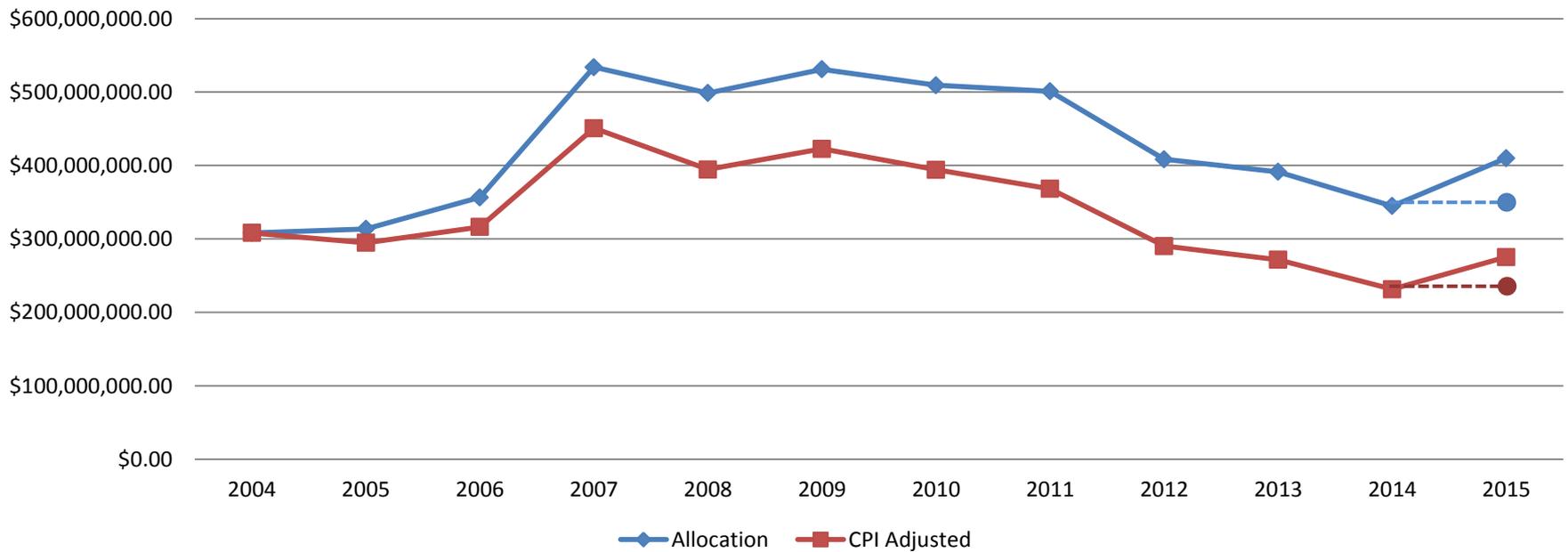
# Division Funding



# FY 2015 Maintenance Allocations

• Total Maintenance	\$ 1,141.0M
• Contract Resurfacing	\$ 408.2M
• Pymt. Preservation	\$ 65.0M
• Bridge Program	\$ 153.0M
• Statewide Emg. & Admin.	\$ 90.8M
• Division Emg. & Admin. (Includes Transfers from TF)	<u>\$ 53.3M</u>
• General Maintenance Alloc.	<b>\$ 370.7M</b>

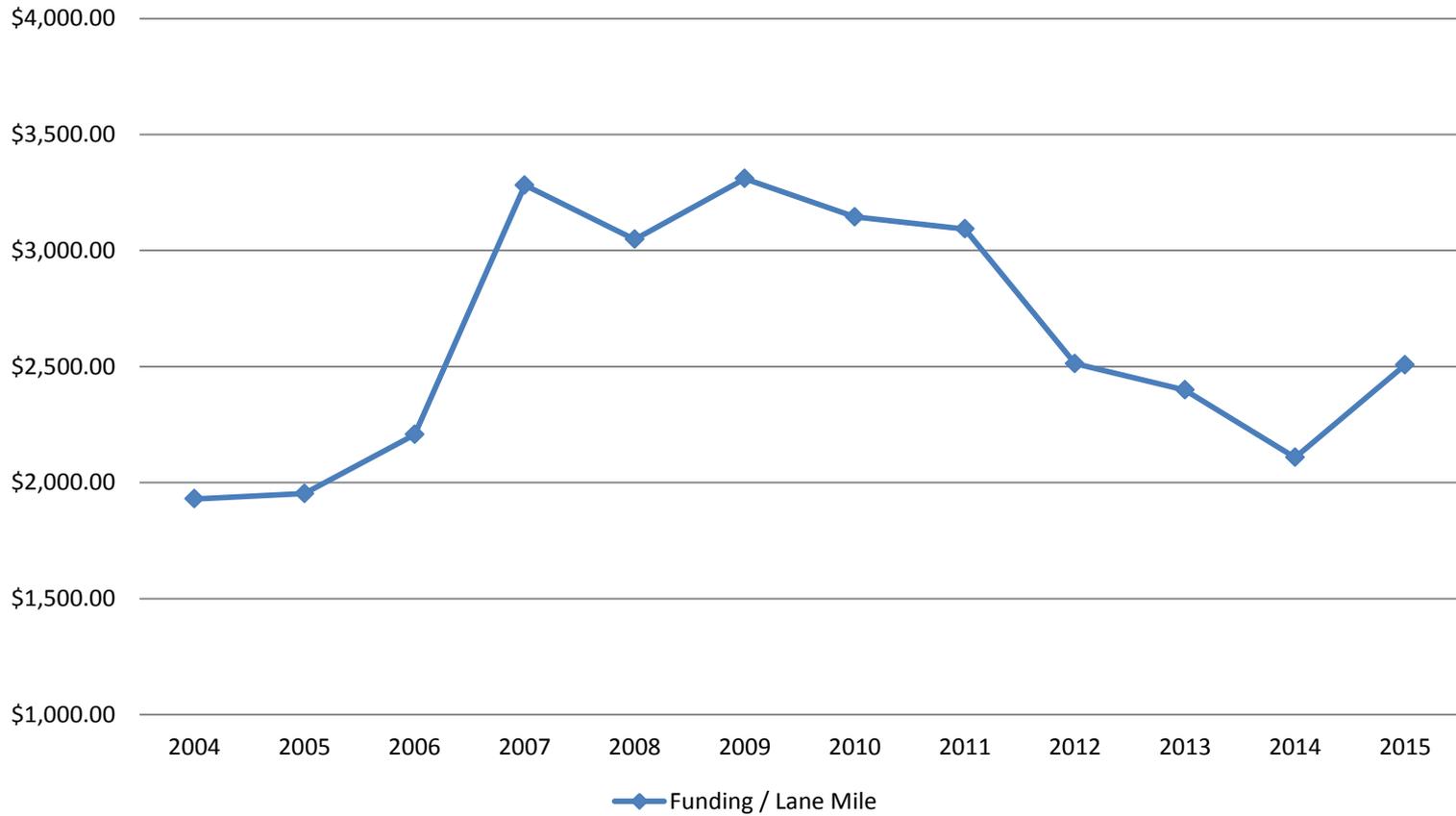
# General Maintenance Funding



# Challenges

- Material Costs
  - Asphalt (+133%)
  - Salt (+134%)
  - CRS2 (+162%)
- Unit Costs
  - Patching (-8%)
  - Pipe Installation (+35%)
  - Guardrail Installation (+114%)
  - Striping (+50%)

# Funding Per Lane Mile



# Next Steps

- Highway System Condition and Maintenance Needs Report
- Needs Based Budgeting
  - NCDOT identified revisions
  - KPMG recommendations
- Long Session initiatives
  - Reduced funding constraints
  - Increased funding

# Summary

- Maintenance funding slightly better than anticipated
- CPI adjusted funding is below 2004 levels
- Needs Based Budgeting revisions are coming
- Reducing funding constraints increases the opportunity for improving NC's infrastructure



# **Innovative Technology for Materials Tracking**

Chris Peoples, PE

State Materials Engineer

# Materials and Tests Unit

- Responsible for Quality Materials on NCDOT Projects
  - Project Produced Materials
    - Aggregate Base Course
    - Asphalt
    - Concrete
  - Manufactured Products
    - Precast Concrete
    - Pipe (Concrete, Corrugated Metal, Plastic)
    - Prestressed Concrete Beams, Piles, etc.
    - Structural Steel Beams
    - Reinforcing Steel

# Current Process

- **Manufactured Products**
- Fabricator performs QC
- Materials and Tests does Verification Testing
- Materials and Tests completes Field Inspection Report
- Enters Inspection information into HiCAMS
- Materials and Tests “stamps” NCDOT Approved on all pieces
- Materials delivered to project
- Project inspector must capture piece numbers and receive in HiCAMS

# Current Process

- **Project Produced Materials**
- NCDOT Project inspector takes sample
- Inspector fills out a Sample Card (Duplicate sometimes Triplicate)
- Takes copy of card to office where data is entered into HiCAMS
- Sample delivered to M&T Lab with Sample Card for ID
- Sample received by the Lab in HiCAMS
- Sample Card is filed once testing is completed

# Current Process Issues

- Filling out cards and entering info into HiCAMS is duplication of effort
- Approved stamp process is time consuming
- Sample Cards and Paint have costs and material is not reusable
- Stamps have been stolen and recreated (Fraud)

# Solution

- Implement tracking systems for both Manufactured Products and Project Produced Materials utilizing Radio Frequency Identification (RFID)/Barcode technology

# Background

- Trial use of barcode technology in 1998
  - Not cost effective
  - Technology was not ideal
  - Hardware needs (Laptops and Scanners) expensive
  - Hardware and Tags not durable
- New Trial in 2012 (Chief Engineer expressed interest in barcodes)
  - Re-evaluated technology
  - Durable tags (RFID and Barcode in one)
  - Cheaper scanners
  - Tablet and Smartphone technology better for field applications

# Pilot Projects/Field Offices

- Tablets introduced into field offices
- Timing good for trying Pilots
- Manufactured Product Pilot (Precast Concrete)

# Precast Concrete Pilot

- QC forms incorporated into software captures data
- Data transferred to NCDOT
- M&T inspector performs inspection accepts product
- Scans tags to approve
- Tags identify the product
- Project inspector scans product at job site
- Immediately knows if product has been approved
- Efficient and greatly reduces chance of fraud







NCDOT  
approved stamp

Producers unique  
piece number. In this  
case plant # PC9  
made this on  
February 8, 2013 and  
it was piece # 10

Here is the new  
method with a 25  
digit unique number  
that is human  
readable, a barcode  
and a RFID tag all in  
one.

10 years from now I can scan this tag and retrieve production data. I doubt the paint is readable in 10 months.

This shows the old method of marking and the new tag.

# Project Produced Pilot (Samples)

- Utilize the same type of tag
- Once used can be recycled/reused for new samples
- Project Inspectors are able to generate sample tracking with minimal entry into system and no longer need to fill out card
- Material is scanned at Lab and automatically received in HiCAMS

# Cost Analysis (Current Manufactured Product Process)

Type	Location	Description	Time Spent on task	No. of pieces/time task is performed (yearly)	Total Yearly Time Spent in the task	Total Yearly cost Spent in the task
Stamping (using Paint)	Plant	The time an M&T inspector spends in Stamp painting a pretested piece	1.5 min	145 pieces/wk X 52 weeks= 7540 pieces	1.5 min X 7540 pieces =11310 min =188.5 hours	188.5 hours X \$40.00/ hour= <b>\$7,540</b>
Return Trips for Stamping (using Paint) due to rain	Plant	In the event of Rain, an M&T inspector returns to the plant to stamp a pretested piece where the product items was too wet to paint in an earlier trip	1.0 day/ round trip	1.0 trip/month X 12 months = 12.0 trips	12 trips X 8.0 hours = 72 hours	72.0 hours X \$40.00/ hour= <b>\$2,800</b>
Validation of precast item on Job site	Project Site + Office (at the project)	Inspector cannot see the stamped NCDOT information on product; Inspector leaves job site and validates product information in the office.	30 minutes /piece	1 per week = 52 times	30 minutes x 52 weeks = 1560 minutes /60 minutes per hour = 26 Hours	78.0 hours x \$40.00/hour = <b>\$1,040</b>
Investigation	Project Site + Office (at the project) + Plant	In the event the validation process resulted in one or more pieces that cannot be recognized/reconciled with inspector forms/ paperwork, an Investigation is performed	1 hour/ week (Inspector and Office Clerk time)	1 Investigation /week	1.0 hours X 52 weeks =52 hours	52 hours X \$20.00/ hour= <b>\$1,040</b>
Data Capture and Entry (HiCAMS)	Plant + Office	Recording piece numbers on paper Field Inspection Report and then entering data into Hicams	90 minutes	2 per week X 90 minutes = 180 minutes / 60 minutes = 3 hours	3 hours per week x 52 weeks = 158 hours	158 hours X \$40/ hour = <b>\$6, 240</b>
Process				<b>Total Yearly Cost associated with Existing Product Process</b>		<b>\$7,540 + \$2,800 + \$1,040 + \$1,040 + \$6,240 = \$18,660 \$18,660 x 65 = <b>\$1,212,900</b></b>

# Cost Analysis (Net Savings)

Type	Location	Description	Time Spent on task	No. of pieces/time task is performed (yearly)	Total Yearly Time Spent in the task	Total Yearly cost Spent in the task
<b>Current Process</b>				<b>Total Yearly Cost associated with Existing Product Process</b>		<b>\$1,212,900</b>
Material Costs -Paint	Plant	Paint needed to paint stamp and piece number on each piece. (NCDOT APPROVED and PC1-092313-1)	Material Cost only	3 Cans/week/plant	3 x \$1.5 x 52 x 65 =	\$15,210.00
Material Costs - Paper	Various	Paper reports used to fill out inspections reports.	Material Cost only	3 * 5000 = 15,000 pages	3 cases of paper @ \$35/cs =	\$105.00
Material Costs- Stencils		Stencils used to make NCDOT Stamp (currently using copper or brass stencil attached to steel hand)	Material Cost only	90	\$26.35	\$2371.50
				<b>Total Yearly Cost associated with Existing Product Process</b>		<b>\$1,230,586.50</b>
RFID tag installation	Plant	Time a worker spends scanning barcode/ RFID tag in a precast piece	20 sec	145 pieces/wk x 52 weeks = 7450 pieces	7450 pcs * 20 secs = 149,000 seconds  149,000 seconds/60 = 2483.33 Minutes/60 = 41.38 Hours	41.38 hours x \$40.00 per hour x 65 =  <b>\$107,611.11</b>
			<b>Total Cost Savings</b>		<b>\$1,230,586.50 – \$107,611.11 = \$1,122,975.39</b>	

# Manufacturer Participation and Cost

- Based on number of pieces produced
- Flat cost to house and transfer data of \$3,588 and \$0.85 per tag
- Or
- If producing less than a 2000 pieces, cost of \$2.99 per tag
- Following tables show production and associated costs for a number of producers
  
- Additional costs for equipment and WiFi access may be required but are not shown in cost analysis

	Number of Pieces	Percentage of Pieces	Annual Data Transfer Cost	Tag Cost	Total Annual Cost	Additional Piece Cost (Per Piece)
Precast Company						
Cherry Contracting, Inc, Cherry Contracting - Winston Salem Plant - PC65 Count	13891	21.60%	\$3,588.00	\$0.85	\$15,395.35	\$1.11
Concrete Pipe and Precast, LLC, Concrete Pipe and Products - Dunn - PC12 Count	8593	13.36%	\$3,588.00	\$0.85	\$10,892.05	\$1.27
Construction Resource Group, Construction Resource Group - PC92 Count	7255	11.28%	\$3,588.00	\$0.85	\$9,754.75	\$1.34
Smith-Carolina Corp., Smith Carolina - Reidsville - PC36 Count	7017	10.91%	\$3,588.00	\$0.85	\$9,552.45	\$1.36
Mack Industries Inc., Mack Industries Inc., of North Carolina - PC77 Count	5869	9.13%	\$3,588.00	\$0.85	\$8,576.65	\$1.46
Utility Precast, Utility Precast - Charlotte - PC43 Count	4662	6.01%	\$3,588.00	\$0.85	\$7,550.70	\$1.62
Precast Supply Inc., Precast Supply Inc. - PC69 Count	3763	5.85%	\$3,588.00	\$0.85	\$6,786.55	\$1.80
Dellinger Precast, Inc., Dellinger Precast - Denver - PC9 Count	2871	4.47%	\$3,588.00	\$0.85	\$6,028.35	\$2.10
Wellington-Hamrick, Wellington-Hamrick Precast, Inc - PC44 Count	2177	3.39%	\$3,588.00	\$0.85	\$5,438.45	\$2.50
Oldcastle Precast, N.C. Products - Fuquay - PC60 Count	2106	3.28%	\$3,588.00	\$0.85	\$5,378.10	\$2.55

Precast Company	Number of Pieces	Percentage of Pieces	Annual Data Transfer Cost	Tag Cost	Total Annual Cost	Additional Piece Cost (Per Piece)
Foltz Concrete Pipe Company, Foltz Concrete - Winston Salem - PC49 Count	1269	1.97%	\$0.00	\$2.99	\$3,794.31	\$2.99
Cape Fear Precast, Cape Fear Precast - PC67 Count	859	1.34%	\$0.00	\$2.99	\$2,568.41	\$2.99
Precast Solutions, Precast Solutions - PC88 Count	754	1.17%	\$0.00	\$2.99	\$2,254.46	\$2.99
Southern Concrete Materials, Southern Concrete Materials - Fletcher - PC50 Count	682	1.06%	\$0.00	\$2.99	\$2,039.18	\$2.99
Carr Precast Concrete Inc., Carr Precast Concrete - Dunn - PC14 Count	606	0.94%	\$0.00	\$2.99	\$1,811.94	\$2.99
Watson Concrete Pipe, Watson Concrete Pipe - Lenoir - PC47 Count	551	0.86%	\$0.00	\$2.99	\$1,647.49	\$2.99
Stay-Right Precast, Inc., Stay-Right Precast - Raleigh - PC38 Count	433	0.67%	\$0.00	\$2.99	\$1,294.67	\$2.99
Seminole Precast MFG, Inc., Seminole Precast MFG Inc. - PC85 Count	423	0.66%	\$0.00	\$2.99	\$1,264.77	\$2.99
M.C. Precast & Pipe, M.C. Precast Concrete, Inc. - Apex - PC55 Count	389	0.60%	\$0.00	\$2.99	\$1,163.11	\$2.99
Eastern Vault Company, Eastern Vault Company - Princeton, WV - PC73 Count	348	0.30%	\$0.00	\$2.99	\$1,040.52	\$2.99

	Number of Pieces	Percentage of Pieces	Annual Data Transfer Cost	Tag Cost	Total Annual Cost	Additional Piece Cost (Per Piece)
Precast Company						
Parking Bumper Company, Parking Bumper Company - PC89 Count	186	0.29%	\$0.00	\$2.99	\$556.14	\$2.99
Oldcastle Precast, Brooks Products - Concord - PC11 Count	179	0.28%	\$0.00	\$2.99	\$535.21	\$2.99
Mid-Atlantic Drainage, Mid-Atlantic Drainage - Myrtle Beach - PC24 Count	179	0.28%	\$0.00	\$2.99	\$535.21	\$2.99
Rinker Materials, Rinker - Hydro Conduit - Wilson - PC72 Count	85	0.13%	\$0.00	\$2.99	\$254.15	\$2.99
MST Concrete Products, MST Concrete - Central, SC - PC25 Count	67	0.10%	\$0.00	\$2.99	\$200.33	\$2.99
Rinker Materials, Rinker - Hydro Conduit - Columbia - PC6 Count	25	0.04%	\$0.00	\$2.99	\$74.75	\$2.99
Foley Products Company, Foley Products - Winder, GA - PC63 Count	14	0.02%	\$0.00	\$2.99	\$41.86	\$2.99
	65253				\$106,429.91	
			Avg. Additional Cost /Piece			<b>\$1.63</b>

# Moving Forward

- Require all Precasters to comply with program starting January 1, 2015
- Grace period will be given to allow those not involved in pilot to comply
- Begin transitioning to other manufactured materials and have similar trials to work out logistics with tags and IT requirements
- Transition to require as means for NCDOT inspectors to track project produced samples by July 1, 2015
- Eliminate Sample Cards for most materials by January 1, 2016



## **Project Delivery Improvement Initiative**

Glenn Mumford, PE, State Roadway Design Engineer  
Jeff Roerden, MSOD, Management Engineer, Governance Office

November 5, 2014

# Presentation Objectives

- Project Purpose and Methodology Used
- Primary Focus Areas and Identified Improvements
- Next Steps

# The Purpose and Methodology

- Secretary Tata chose the Lean Six Sigma (LSS) business improvement methodology to identify and address key business processes
- The Project Development / Delivery Process was chosen as one of the initial LSS projects
- A cross-functional team of preconstruction staff was assembled to review the project development process and to identify improvements

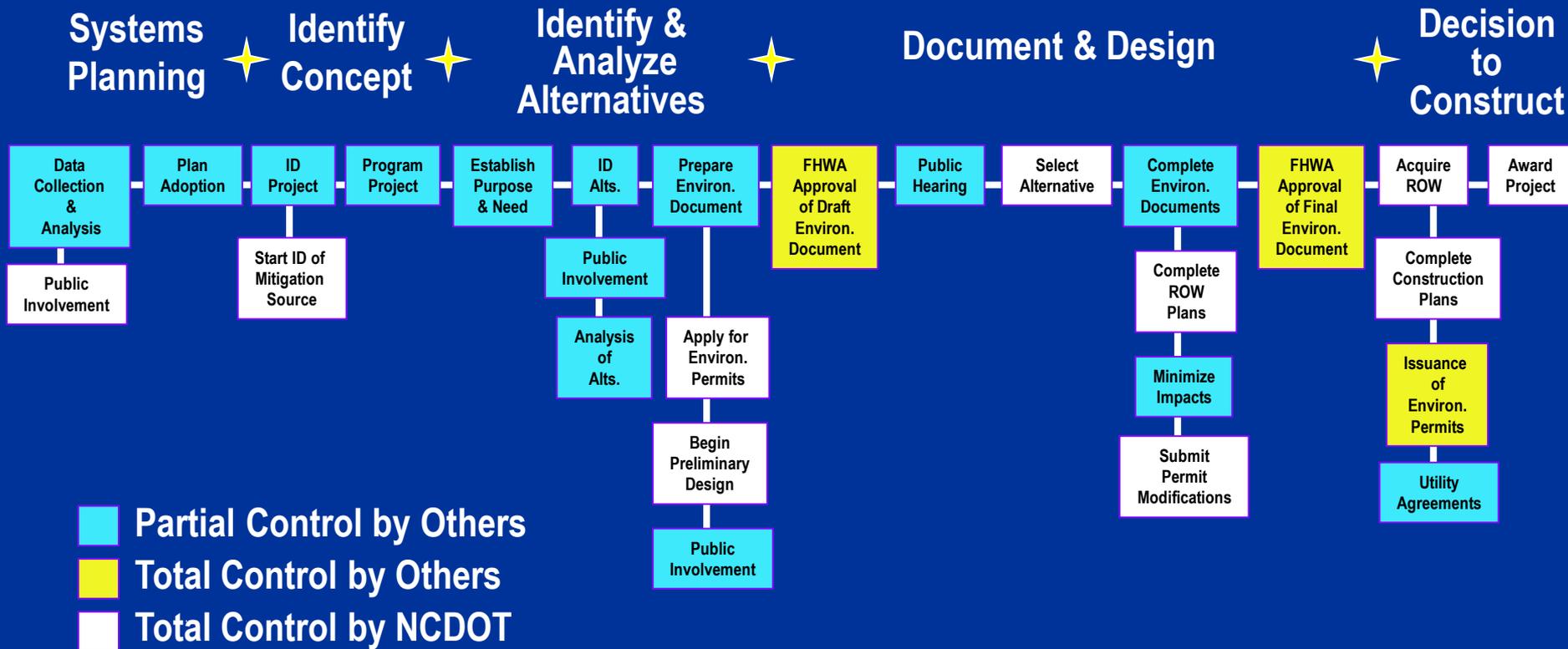
Team members were selected based on their expertise in each of the main areas of the project development process

- Project Planning
- Design (Roadway, Hydraulics, Geotechnical)
- Transportation Safety and Mobility
- Right of Way Acquisition and Utilities
- Environmental Permitting
- Schedule Management Office Provided Assistance

# The Challenge

- The Project Development Process is complex, composed of many activities, and is dependent upon the coordination, input, and approval from a large group of stakeholders
- Many of the activities in the process require concurrence from parties outside NCDOT
- The activities in the process are sequential and risk is associated with starting some activities ahead of others

# Pre-Construction Transportation Decision-Making Process



Goal: To ensure a transportation improvement meets need in the least environmentally damaging practical way

Focus was placed on activities within the following areas that are within the Department's control

- Cycle Time
- Schedule
- Scope
- Efficiency

# Focus Area - Cycle Time

Goal: Reduce the overall cycle time for widening and new location projects by 25%.

- Complete new location projects 34 months faster
- Complete widening projects 24 months faster

# Cycle Time - Proposed Improvements

- Complete more tasks concurrently versus sequentially
- Begin design earlier & manage associated risks
- Begin utility coordination earlier
- Identify parcels critical for utility or other complex relocations and begin earlier acquisitions

# Implementation Actions

- Established new planning networks and new design networks within Department's scheduling tool that achieve a 25% cycle time reduction for widening and new location projects
- Plan to schedule the work for new projects with the new networks
- Examine projects that are already under development to determine if there are any efficiencies to be gained by using the new networks



# Focus Area - Schedule

**Goal: Improve Project Delivery Schedule Stability So That Managers Are Better Able to Plan and Execute Their Work**

**Note: Project Managers work to meet schedules as assigned within the STIP. If STIP priorities change, then project managers have to adjust their work plans to meet new STIP priorities and associated funding dates.**

# Schedule - Proposed Improvements

- Establish four intermediate product delivery dates for planning and design activities
- Manage projects to these product delivery dates regardless of whether they are earlier than the STIP Right of Way date or Letting date.\*

\*Program Development will be consulted to determine appropriate extent of work to be done if project is not imminently funded in STIP

# Schedule - Proposed Products

- Planning delivery dates
  - Initial Environmental Document
  - Final Environmental Document
- Design delivery dates
  - Right of Way Plans Complete
  - Roadway Plans to Contracts and Proposals
- Delivery dates will be “locked” and can only be changed with appropriate approval

# Benefits

- Provides business unit managers a stable estimate of annual workload and strengthens their ability to manage it
- Establishes clear delivery responsibility / accountability at each stage
- Provides a better stopping point for “shelving” projects if the projects loses priority or funding within the STIP

# Implementation

- Several projects are currently on the “shelf” and right of way acquisition can begin upon receipt of authorization
- Scheduling tool has “locked” these dates and performance measures are in place to measure success in meeting these dates

# Focus Area - Scope

**Goal:** Establish the scope of projects appropriately to minimize the number of changes that lead to re-work and lengthen the cycle time

# Scope - Proposed Improvements

- Hold more informed project scoping meetings to identify potential issues and then customize the process to address identified issues
- Utilize new technologies (e.g. GIS and LIDAR) as much as possible to reduce the number of alternatives studied and to select the recommended alternative
- Enhance collaboration with the Divisions starting with an earlier review of the plans at the time the preliminary vertical and horizontal alignments have been established

# Benefits

- Improved coordination in project scoping helps to identify issues and capitalizes on work that has been previously completed to accelerate project planning and design
- Expanded GIS use reduces the number of field surveys and field verifications for development of multiple alternatives
- Earlier coordination on project plans enhances project quality and eliminates major rework later in the process

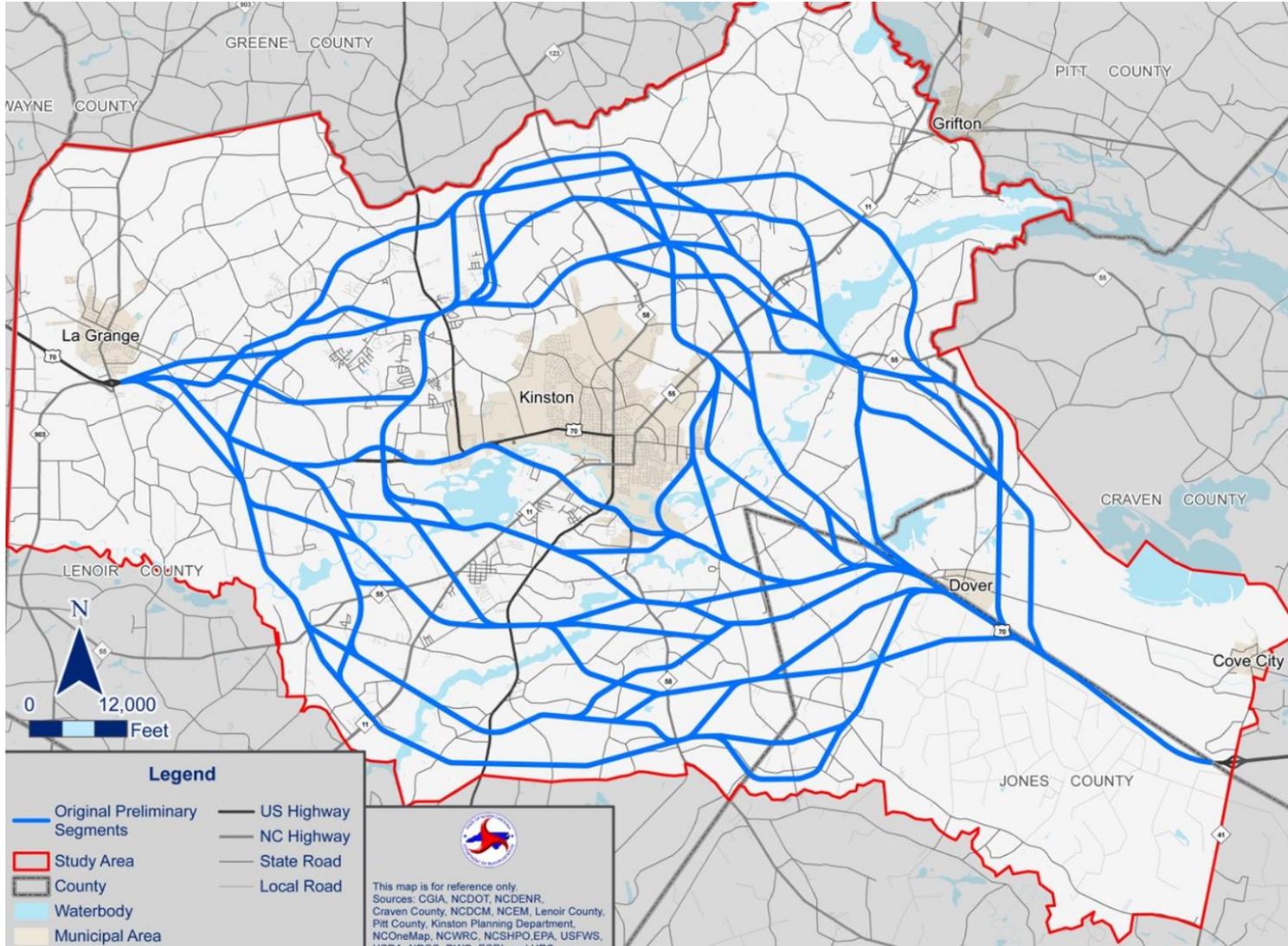
# Implementation Examples

- Project internal and external scoping meetings have been included for all projects
- Department is currently underway with a GIS Pilot project on the Kinston Bypass

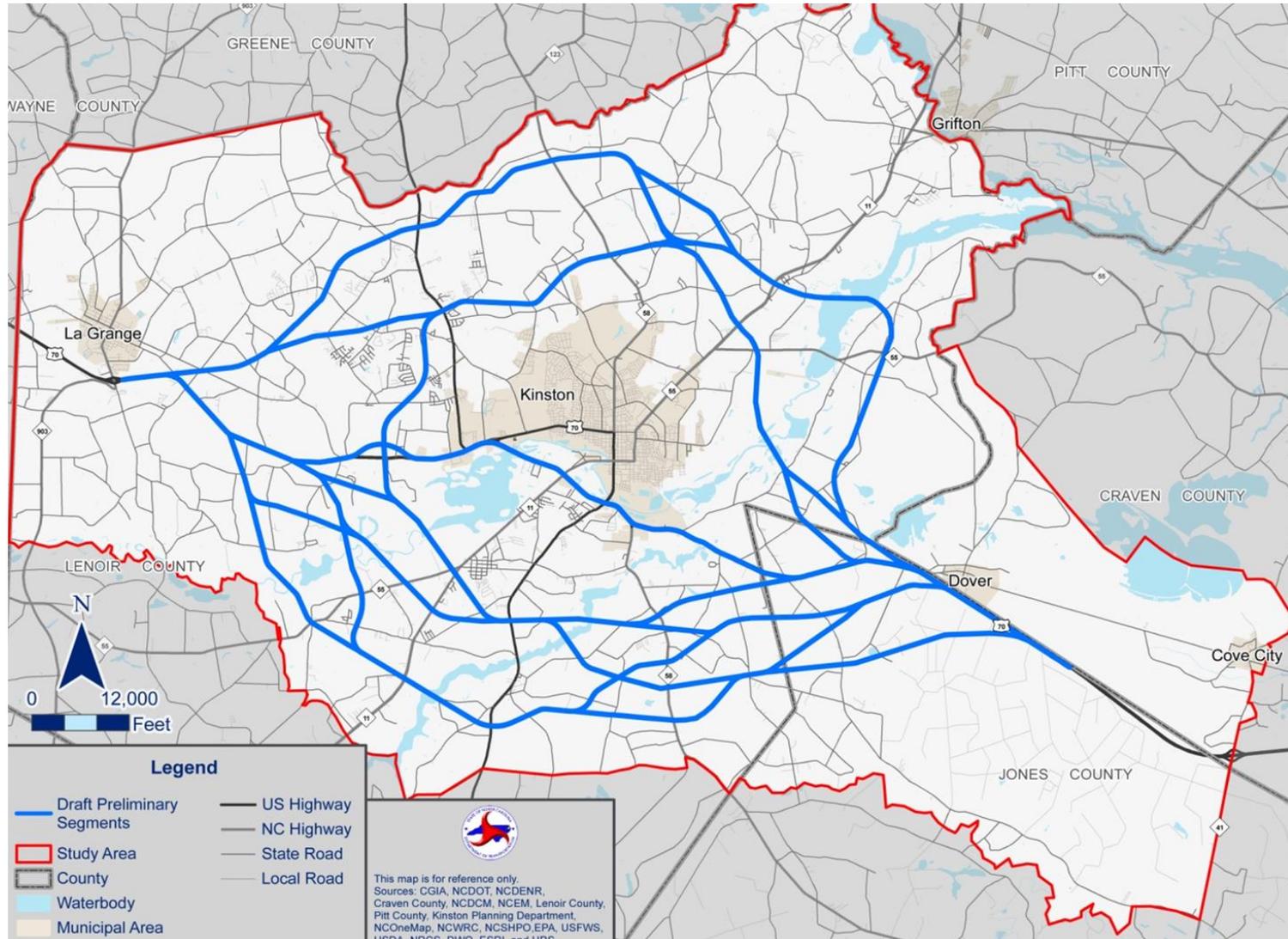
# Kinston Bypass - GIS Data Used to Evaluate Alternatives

- Corridor Length and Cost
- Archaeological Sites
- Historic Sites
- Parks
- Buildings
- School Properties
- Cemeteries
- Churches
- Airports
- Major Gas Lines
- Major Transmission Lines
- Easements
- Mitigation Sites
- Floodplains
- Streams
- Wetlands
- Water Treatment Plants
- Waste Water Treatment Plants
- Threatened & Endangered Species
- Hazardous Materials Properties

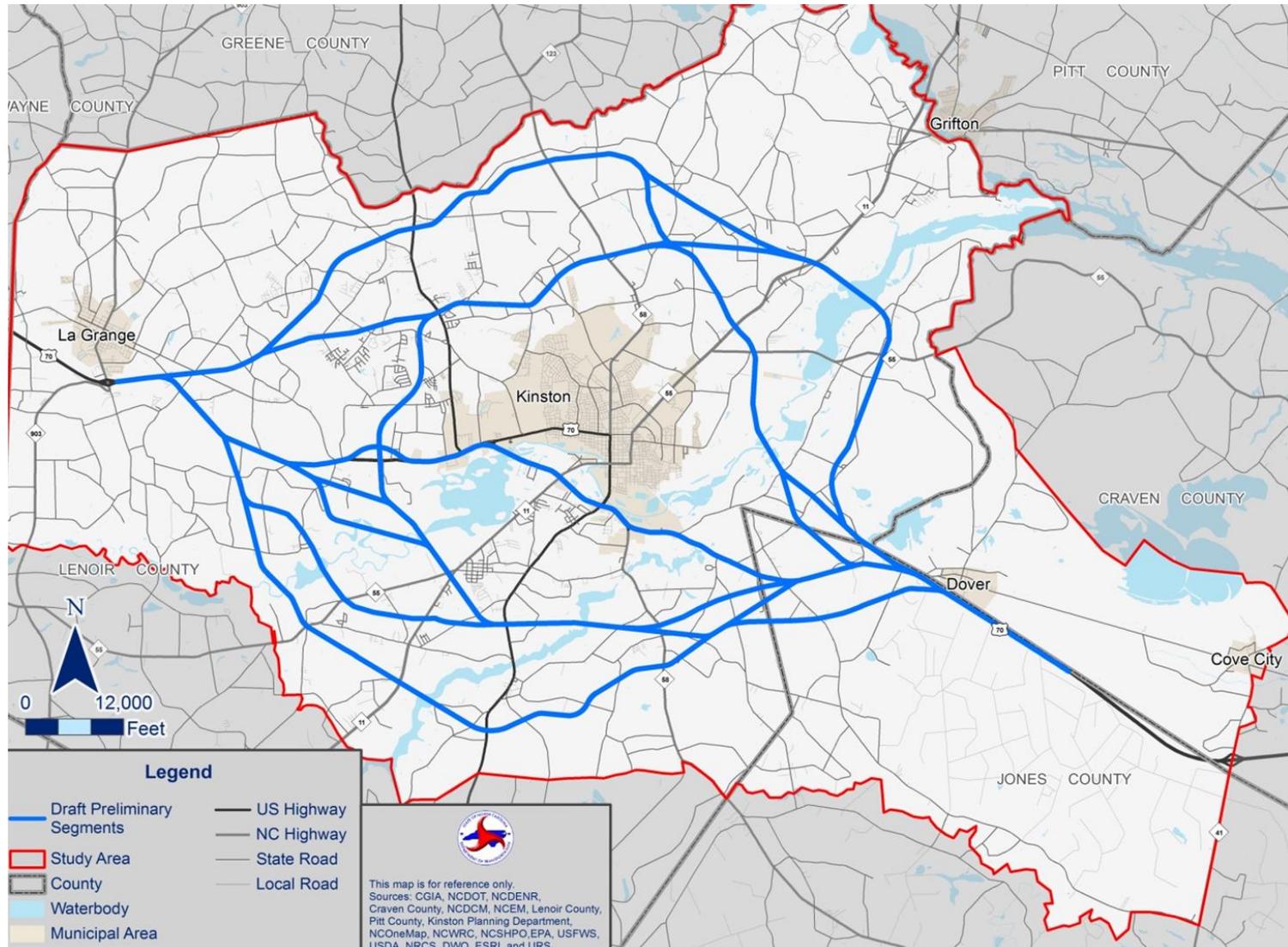
# Kinston Bypass - Initial Route Options



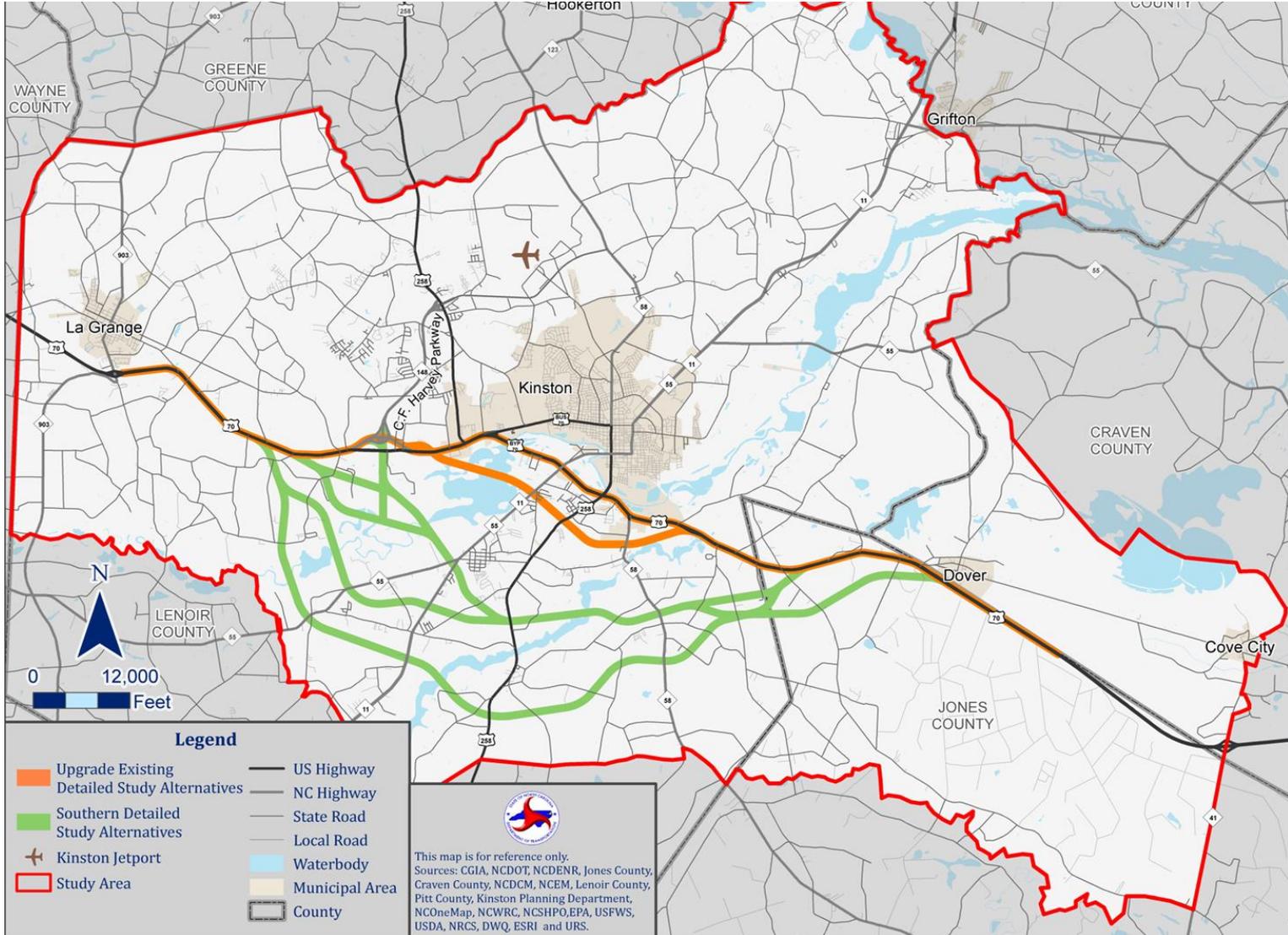
# Kinston Bypass - Options Presented to Public



# Kinston Bypass - Detailed Study Alternatives



# Kinston Bypass - Narrowed Down DSAs



# Implementation Actions

- Established new planning networks and new design networks within Department's scheduling tool that achieve a 25% cycle time reduction for widening and new location projects
- Plan to schedule the work for new projects with the new networks
- Examine projects that are already under development to determine if there are any efficiencies to be gained by using the new networks

# Benefits of Using Enhanced GIS Data

- Allows for consideration / evaluation of a large amount of initial alternatives
- Can easily quantify impacts of new alternatives or revised alternatives
- Allows for alignment shifts outside of the corridor without the need for additional field work

# Focus Area - Efficiency

**Goal: Increase the Efficiency of the Project Delivery Process While Decreasing the Impact on the People Who Work Within or Are Affected By the Process.**

# Efficiency - Proposed Improvements

- Develop designs with the appropriate level of detail to achieve alternative selection.
- Reduce the scope of traffic analysis for alternative selection on new location projects.
- Identify parcels critical for utility or other complex relocations and establish a mechanism for initiating the acquisition process prior to ROW Authorization.
- Get utility owners involved in the process earlier.

# Benefits

- Capitalizes on improvements in technology and methodology to reduce work effort when evaluating multiple alternatives
- Increases the chance utilities and businesses will be successfully relocated prior to the established project letting date

# Implementation Items

- Developed a process for identifying parcels critical for utility or business relocation earlier
- On Kinston Bypass, we are piloting reduced levels of design

# Next Steps

- Implement the New Scheduling Networks
- Finalize / Implement New Policies associated with some of the recommendations
- Communicate Changes to External Stakeholders

**Questions?**



# North Carolina Scenic Byways

Action Items-Byway Designations

**Jeff Lackey**

Program Manager-North Carolina Scenic Byways

November 5, 2014

# North Carolina Scenic Byways

annual report

## Byway Purpose :

*“Our Goal is to identify and highlight scenic roads with unusual , exceptional, or unique qualities for public viewing and enjoyment.”*

### Scenic Byway Purpose

Overview of the Intent of the Program:

“Our Goal is to identify and highlight scenic roads with unusual , exceptional, or unique qualities for public viewing and enjoyment.”



The North Carolina Department of Transportation (NCDOT) has designated 57 Scenic Byways to give visitors and residents a chance to experience a bit of North Carolina history, geography and culture while raising awareness for the protection and preservation of these treasures. Routes are carefully selected to embody the diverse beauty and culture of the Tar Heel State and provide travelers with a safe and interesting alternate route.

These byways are intended as an option to the faster-paced traffic and commercial areas found along our major highways and interstates. Following the byways, you will see some of the most breathtaking scenery from the Blue Ridge Mountains to fertile plains and the crystal blue coastline.

The routes are clearly marked with highway signs and the Scenic Byways logo. North Carolina Scenic Byways are selected based on natural, cultural and historic features along the route. They vary in length from three to 173 miles and in character from curvy mountain roads to ferry rides across coastal sounds. You will see little or no development along the routes which detracts from the natural character and quality of the byway.



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

annual report

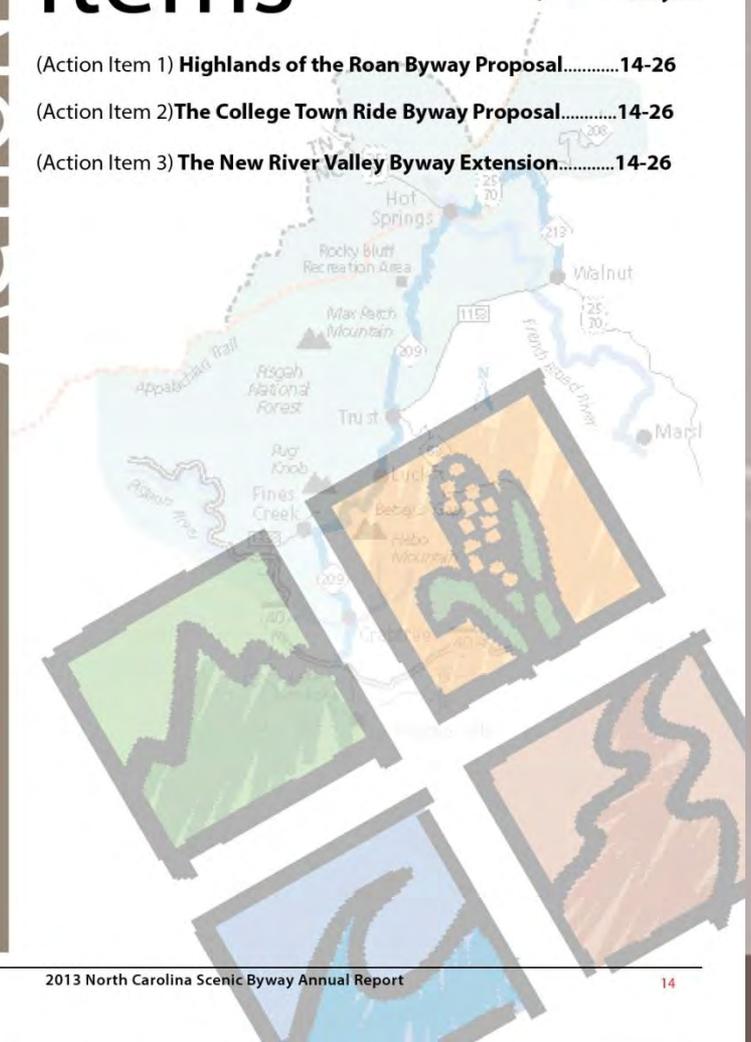
## Byway Nominations

Action Items:

ACTION

## Items

- (Action Item 1) **Highlands of the Roan Byway Proposal**.....14-26
- (Action Item 2) **The College Town Ride Byway Proposal**.....14-26
- (Action Item 3) **The New River Valley Byway Extension**.....14-26



# North Carolina Scenic Byways

annual report

## Action Item # 1

### Highlands of the Roan

## Corridor Statistics

### Sponsor

Mitchell County Historic  
Courthouse Foundation

### County

Mitchell County

### Length

30 Miles

### Existing Zoning

Pisgah National Forest



## Highlands of the Roan Proposal (General Byway Description)

**ACTION ITEM #1-Highlands of the Roan Byway Proposal:** The proposal begins at the junction of Highway 19E and 80N in Yancey County just before crossing the South Toe River. The route travels along 80N for 13 miles and provides a backdrop of small farms, churches and cemeteries. The road merges into Highway 226 at Loafers Glory, home to Masterson Grist Mill, one of the most photographed sites in the region. The route continues along Highway 226 to Bakersville, the county seat. From Bakersville, the corridor connects with the final leg of the proposal, Highway 261N, roughly 14 miles, and serves as the scenic "Rhododendron Ramble". This ramble passes open pastures, red barns, traditional farmhouses, and acres of Christmas tree farms. The last three miles of the route are embedded in the Pisgah National Forest, concluding the 30 mile scenic drive at Carvers Gap.



Three large grassy balds east of Carvers Gap lure hikers with the Grassy Ridge Bald at 6,189 feet as the highest point of the entire Appalachian Trail and an unobstructed 360 degree view. At the Carvers Gap fee station is the once famous Cloudland Hotel site that now provides a starting point for moderate hike to the Roan High Bluff overlook. The conclusion of the proposal is at the 600 acre Catawba Rhododendron gardens with the spectacular display of magenta blooms during June.



### APPLICATION SPONSOR:

Mitchell County Historic Courthouse Foundation

### CORRIDOR STATISTICS:

LENGTH: 30 Miles

COUNTY: Mitchell County

ROUTE: 80N, Highway 226 and Highway 261N

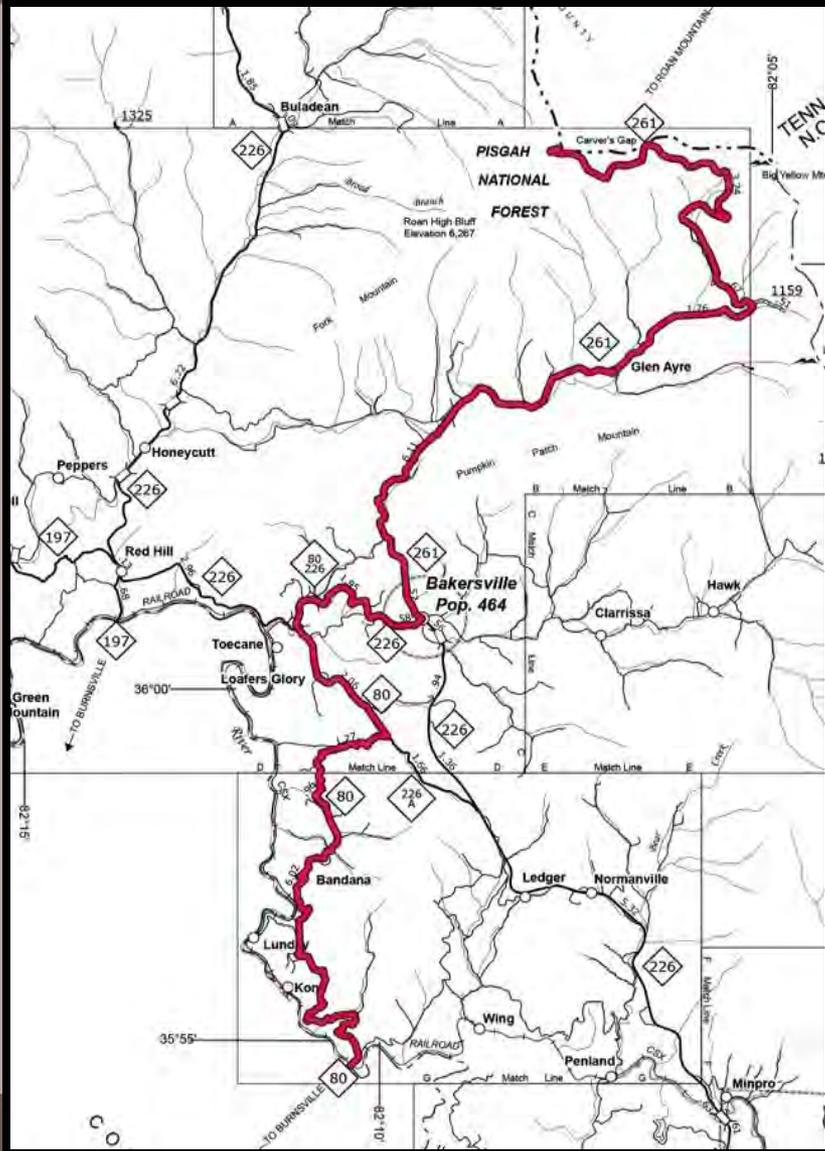
EXISTING ZONING: Pisgah National Forest

### RECOMMENDATION:

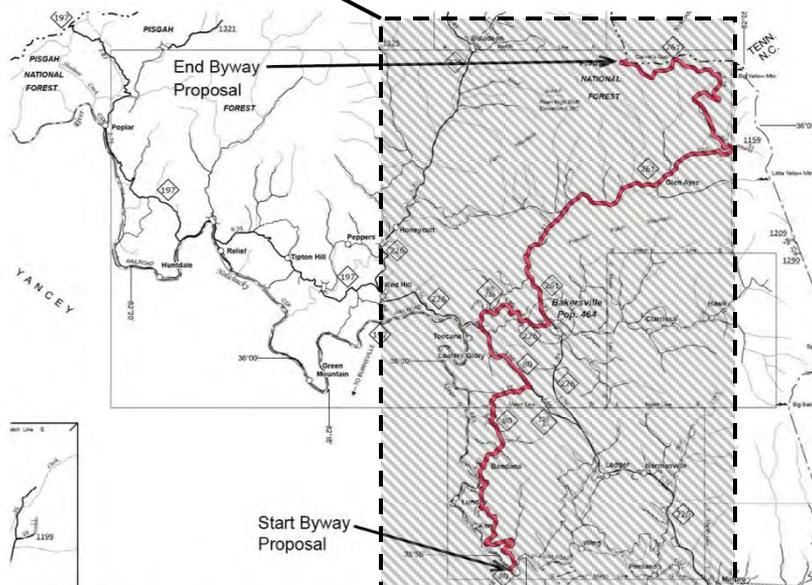
Designate and integrate 30 miles of the Highlands of the Roan from the intersection of 19E and 80N, along Highway 226 into Bakersville, to the Highway 261N portion to Roan Mountain.

# North Carolina Scenic Byways

## annual report



### Highlands of the Roan Proposal (Mapping)



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



Carvers Gap  
ELEVATION 5512 FT.

PISGAH—CHEROKEE  
*National Forest*

Welcome  
To  
NORTH CAROLINA

# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

annual report

## Action Item # 1

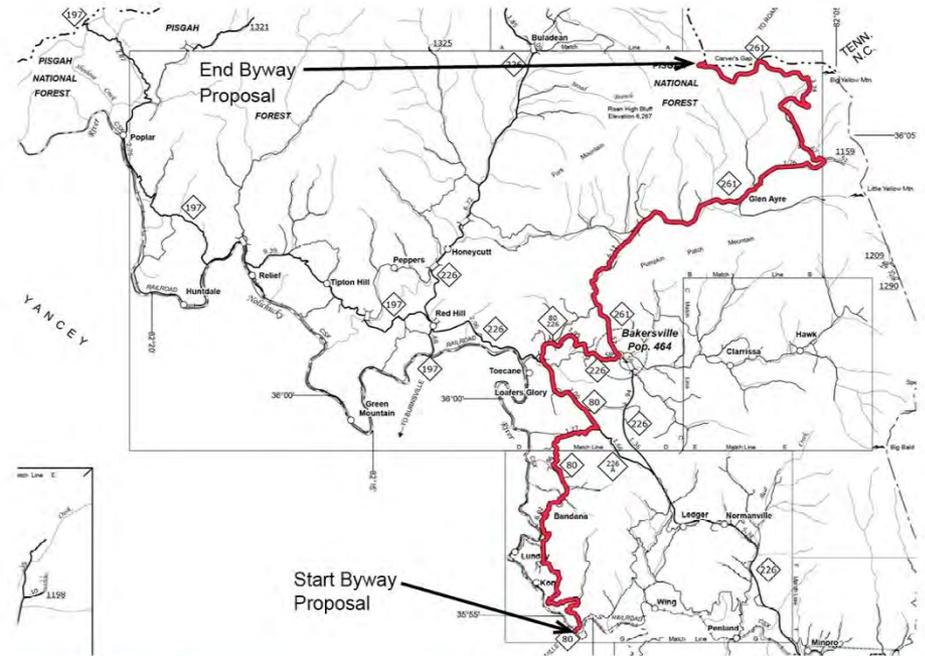
### Highlands of the Roan Byway Proposal

#### Recommendation:

Designate and integrate 30 miles of the Highlands of the Roan from the intersection of 19E and 80N, along Highway 226 into Bakersville, to the Highway 261N portion to Roan Mountain.



#### Highlands of the Roan Proposal (Mapping)



# North Carolina Scenic Byways

annual report

## Action Item # 2

### The College Town Ride

## Corridor Statistics

### Sponsor

Davidson Land Conservancy

### County

Mecklenburg and Iredell County(s)

### Length

6 Miles

### Existing Zoning

Town of Davidson



## The College Town Ride Proposal (General Byway Description)

**ACTION ITEM #2-The College Town Ride Proposal:** The proposal begins at the Iredell/Mecklenburg County line along NC 115. The route travels south towards the Town of Davidson, where NC 115 becomes Main Street. Continuing on Main Street approximately 1 mile, the route turns east onto Concord Road. In just under 1 mile, the route turns northeast from Concord Road onto Grey Road. After 2 miles on Grey Road, the route passes quickly from Mecklenburg County into Iredell County and back again. The route continues from Grey Road southeast onto Shearer Road for approximately 1 mile, then turns onto Fisher Road. The route ends at the terminus of Fisher Road, which is the entrance to Fisher Farm Park.



The proposed route follows NC 115 as it turns into Main Street, a historic trade route between Charlotte and Statesville. Main Street evolved from a dirt road to a woodplanked road before it was finally paved by the state in the 1920's. At that time, the state highway commissioner telegraphed Davidson College president, William J. Martin, to proclaim that the new road (now NC 115) was to be called the Davidson College Highway. Davidson College (1837), named for Revolutionary War hero General William Lee Davidson, was sited at the junction of this north/south trade route between Charlotte and Statesville and the north/east route to Salisbury.



**APPLICATION SPONSOR:**  
Davidson Lands Conservancy

**CORRIDOR STATISTICS:**  
LENGTH: 6 Miles

COUNTY: Mecklenburg and Iredell County(s)

ROUTE: NC 115, SR 2693, SR 2419

EXISTING ZONING: Town of Davidson

### **RECOMMENDATION:**

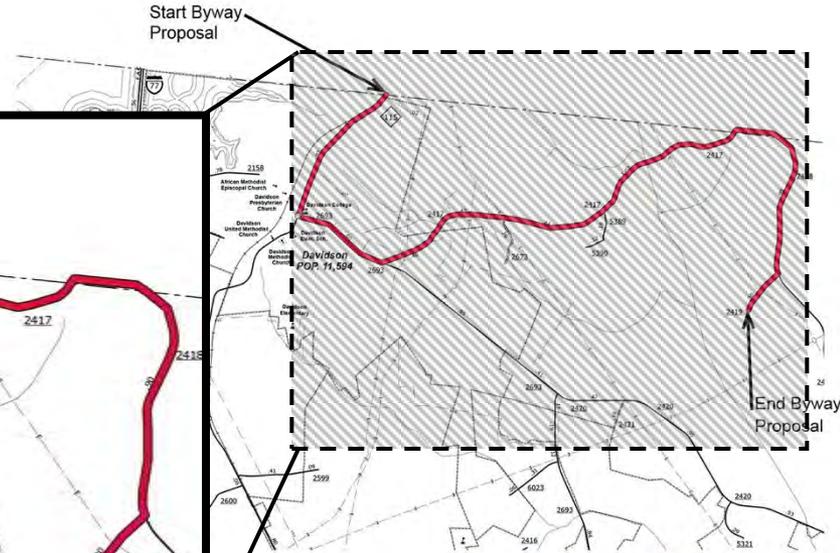
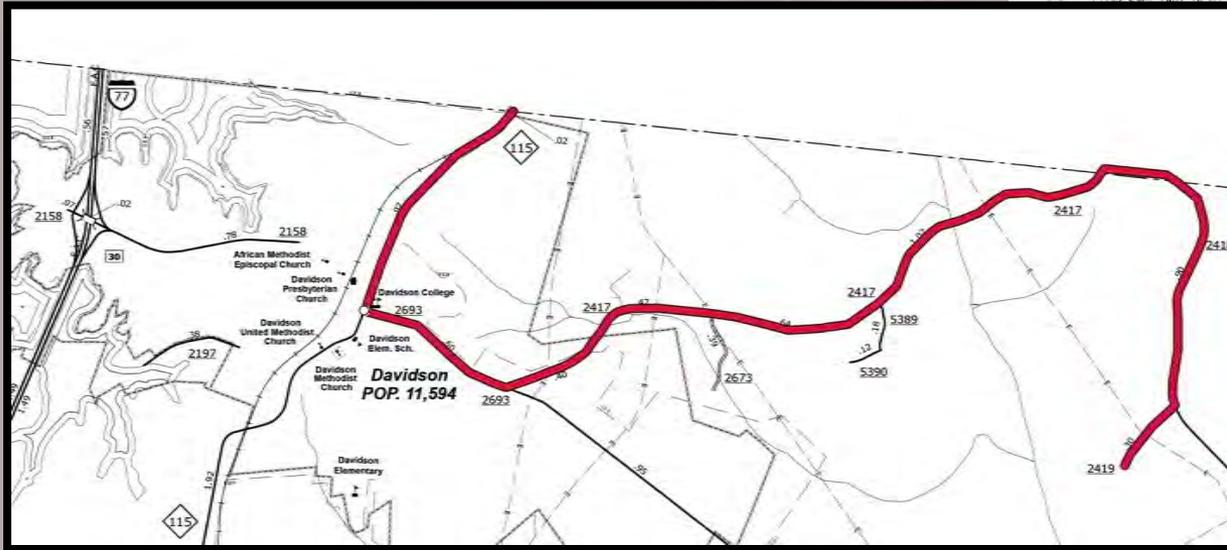
Designate and integrate the 6 miles of the College Town Ride as part of the NC Scenic Byways.

# North Carolina Scenic Byways

annual report



## The College Town Ride Proposal (Mapping)



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

annual report

## Action Item # 2

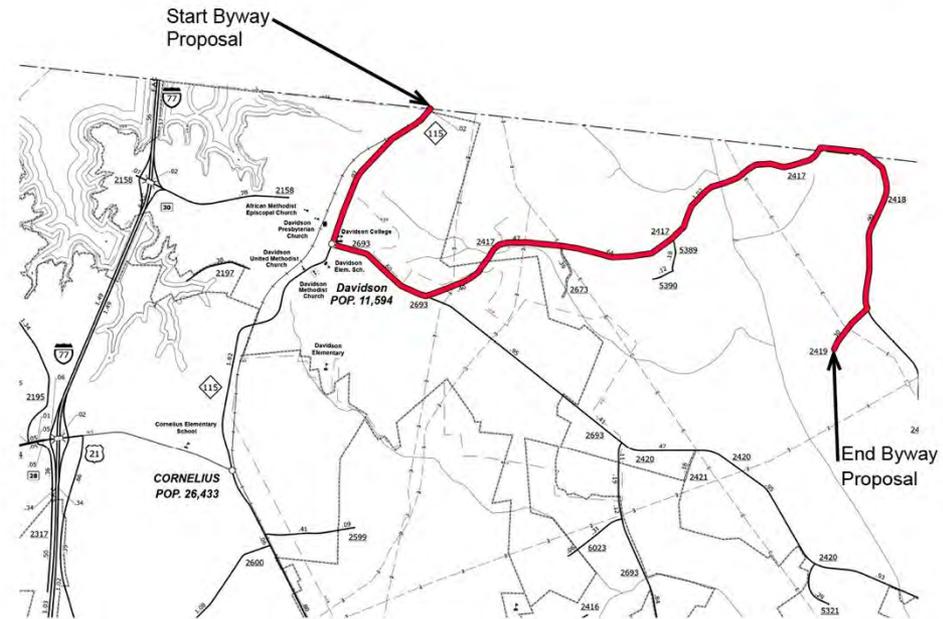
### College Town Ride Byway Proposal

#### Recommendation:

Designate and integrate the 6 miles of the College Town Ride as part of the NC Scenic Byways.



#### The College Town Ride Proposal (Mapping)



# North Carolina Scenic Byways

annual report

## Action Item # 3

### New River Valley Scenic Byway Extension

## Corridor Statistics

### Sponsor

Ashe County

### County

Ashe County

### Length

12.25 Miles

### Existing Zoning

Town of West Jefferson



## New River Valley Scenic Byway Extension (General Byway Description)

**ACTION ITEM #3-New River Valley Extension Proposal:** The extension of the New River Valley Scenic Byway follows US Hwy 221 and begins at the Ashe and Watauga County line in Deep Gap. The route travels north along US HWY 221 across the south fork of the New River, through the communities of Fleetwood and Baldwin. In Baldwin the route connects with NC Hwy 194 and the New River Valley Byway and continues to its end point at the edge of West Jefferson where US Hwy 221 intersects NC Hwy 163.



The New River and Mount Jefferson are both recreational draws to Ashe County for both day trippers and overnight visitors. Mount Jefferson and the New River State Park have a combined annual visitation of 319,308 visitors. Mount Jefferson State Recreational Area: At an elevation of 4,655 Mount Jefferson is one the highest peaks along the route. The recreation area offers hiking with the most popular trail the Summit Trail. There are also 19 picnic tables open to the public for day trips and groups. The New River State Park, is 2,220 acres which offers hiking, camping, picnicking and several locations along the New River to put in canoes and kayaks. Both these areas are in the



**APPLICATION SPONSOR:**  
Ashe County

**CORRIDOR STATISTICS:**  
LENGTH: 12.25 Miles

COUNTY: Ashe County

ROUTE: US Highway 221

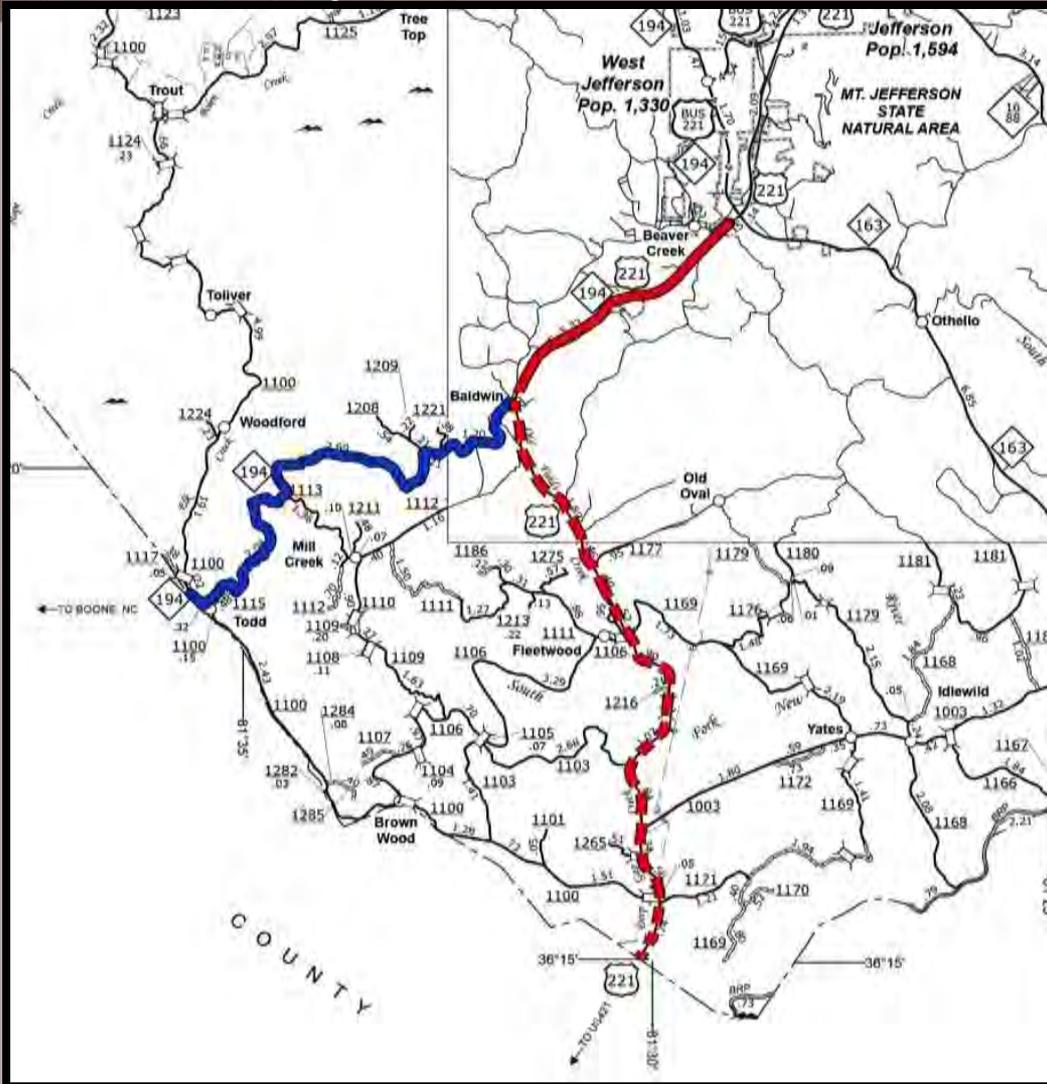
EXISTING ZONING: Town of West Jefferson

### **RECOMMENDATION:**

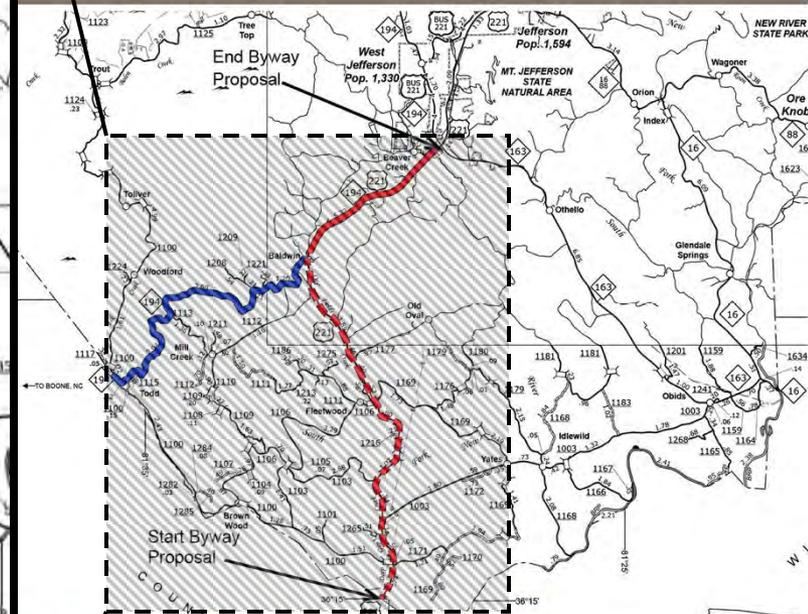
Designate and integrate the 5.5 miles from the intersection of Highway 194 and US 221 to the town limits of West Jefferson as part of the NC Scenic Byways.

# North Carolina Scenic Byways

## annual report



**New River Valley Scenic Byway Extension (Mapping)**



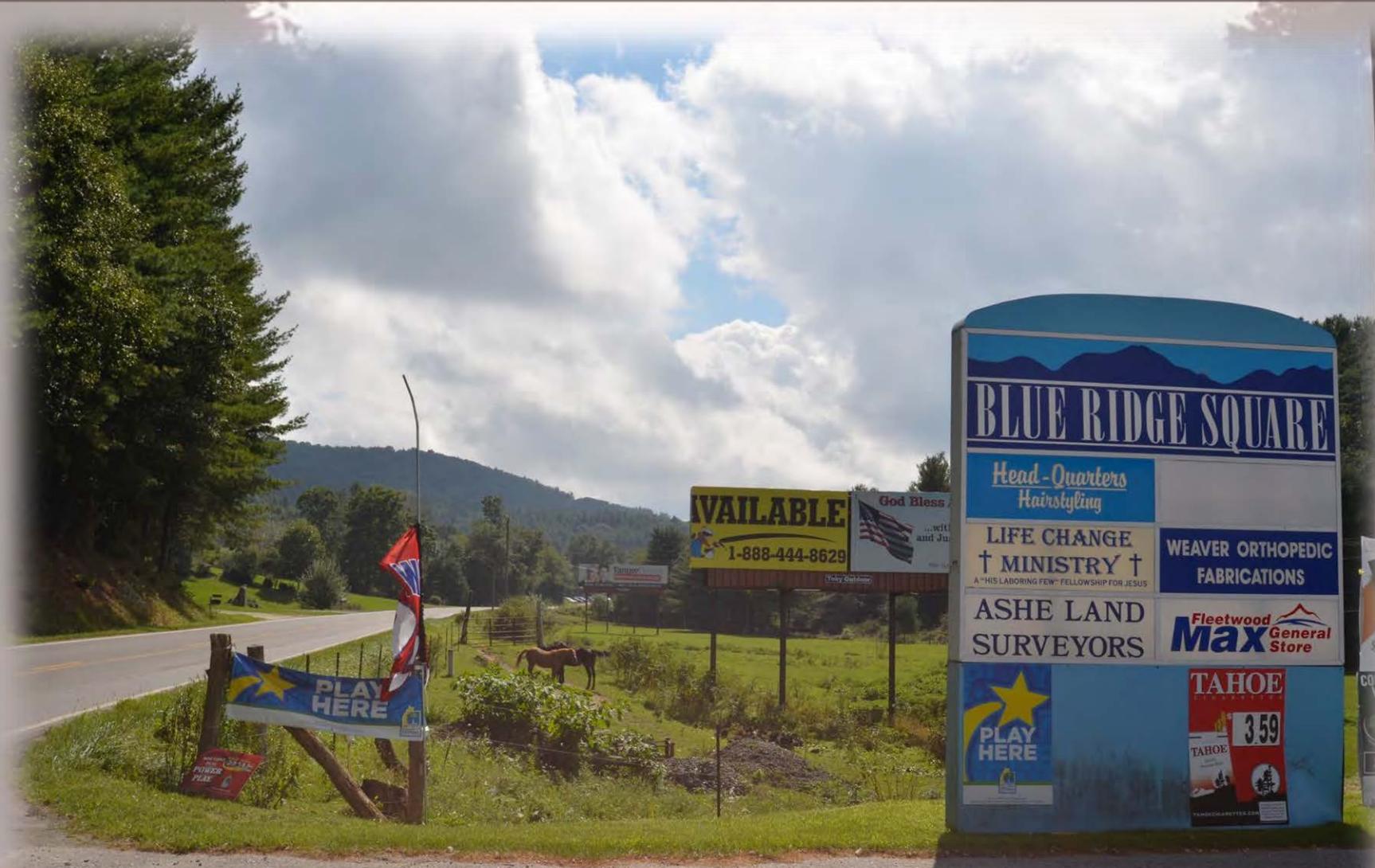
# North Carolina Scenic Byways

*annual report*



# North Carolina Scenic Byways

annual report



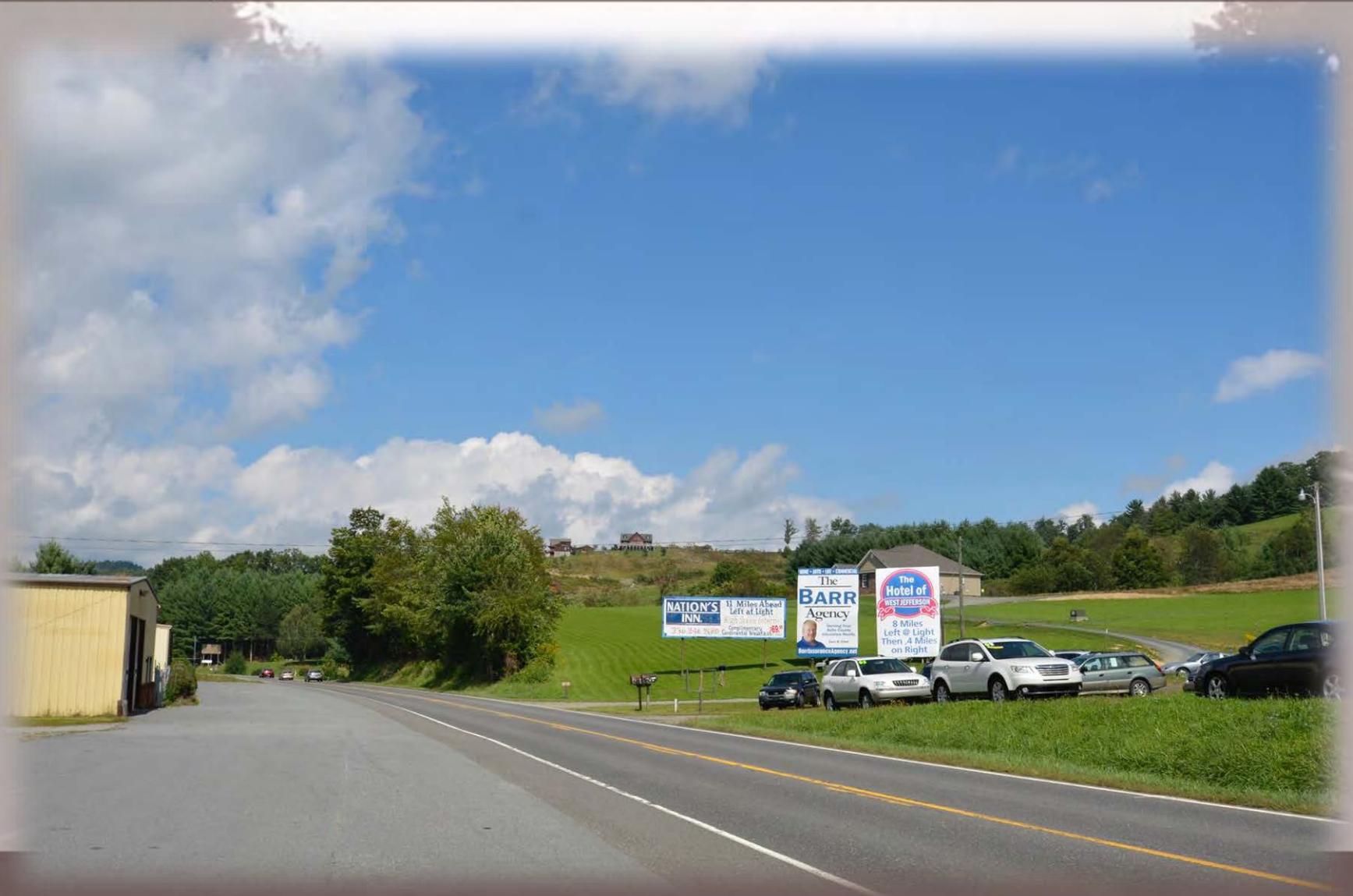
# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

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# North Carolina Scenic Byways

annual report

## Action Item # 3

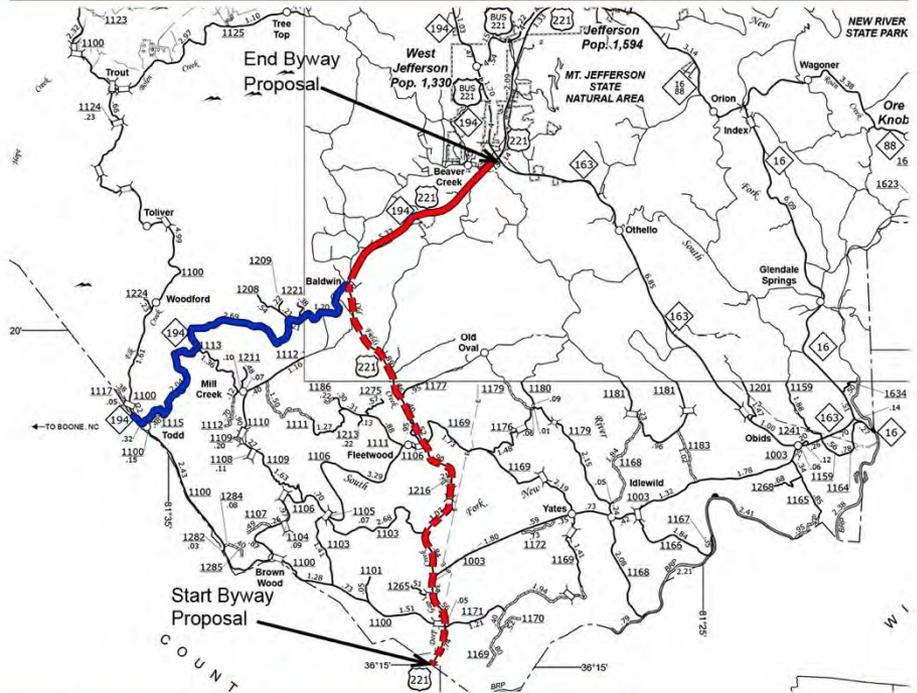
### New River Valley Scenic Byway Extension

#### Recommendation:

Designate and integrate the 5.5 miles from the intersection of Highway 194 and US 221 to the town limits of West Jefferson as part of the NC Scenic Byways.



#### New River Valley Scenic Byway Extension (Mapping)





# MULTIMODAL COMMITTEE MEETING MINUTES

**DATE:** 10/1/14    **TIME:** 9:00-11:00am    **LOCATION:** EIC

<b>MEETING CALLED BY</b>	Andrew Perkins
<b>BOARD ATTENDEES</b>	Lou Wetmore, Malcolm Fearing, Andrew Perkins, Jeff Sheehan, Cheryl McQueary

## AGENDA TOPICS

<b>1. INTER-COUNTY PUBLIC TRANSPORTATION AUTHORITY – HERB MULLEN</b>	
<b>DISCUSSION SUMMARY</b>	Discussed the new technologies recently implemented such as computerized tracking systems and propane conversion kits that are reducing cost to operate.
<b>ACTIONS TAKEN</b>	Requested presentation be sent to Multimodal members to share with other parties
<b>2. PUBLIC TRANSPORTATION - DEBBIE COLLINS</b>	
<b>DISCUSSION SUMMARY</b>	Reviewed PTD Report
<b>ACTIONS TAKEN</b>	Requested quarterly ridership numbers from Public Transportation
<b>3. BIKE &amp; PEDESTRIAN UPDATE - LAUREN BLACKBURN</b>	
<b>DISCUSSION SUMMARY</b>	Presented funding study from sub-committee
<b>ACTIONS TAKEN</b>	

# MULTIMODAL COMMITTEE MEETING MINUTES

<b>4. OCTOBER MINUTES APPROVAL – ANDREW PERKINS</b>	
<b>DISCUSSION SUMMARY</b>	Approval of October Minutes.
<b>ACTIONS TAKEN</b>	Motion to approve was made by Lou Wetmore and seconded by Cheryl McQueary. Motion was approved.

<b>5. ITEM I-1, ITEM I-1A – DEBBIE COLLINS</b>	
<b>DISCUSSION</b>	Approval of Public Transportation's funding items.
<b>ACTIONS TAKEN</b>	Motion to approve was made by Cheryl McQueary and seconded by Lou Wetmore. Motion was approved.

<b>6. ITEM I-2 – PAUL WORLEY</b>	
<b>DISCUSSION</b>	Approval for Rail's funding items
<b>ACTIONS TAKEN</b>	Motion to approve was made by Cheryl McQueary and seconded by Lou Wetmore. Motion was approved.

<b>7. AVIATION UPDATE – BOBBY WALSTON</b>	
<b>DISCUSSION</b>	UAS research has started
<b>ACTIONS TAKEN</b>	



# MULTIMODAL COMMITTEE AGENDA

## BOARD OF TRANSPORTATION NOVEMBER 5, 2014

**TIME: 9:00-11:00**

**LOCATION: EIC**

<b>TOPIC</b>	<b>PRESENTER</b>	<b>TIME</b>
Call to Order	John Collett	9:00
Introduction of Jeff Mann	Bobby Lewis	9:00-9:10
Approval of Minutes	John Collett	9:10-9:15
Funding Items (PTD, Aviation, Rail)	Transit Directors	9:15-9:25
Ferry Division Verbal Update	Ed Goodwin	9:25-9:35
Public Transportation Division Handout	Debbie Collins	9:35-9:45
Rail Division Handout Rail Division Technologies Presentation	Paul Worley	9:45-10:10
Aviation Division Verbal Update Aviation Division Technologies Presentation	Bobby Walston	10:10-10:35
Bicycle & Pedestrian Verbal Update Bicycle & Pedestrian Technologies Presentation	Lauren Blackburn	10:35-11:00

# NC UAS Program Overview

November 2014

Kyle Snyder,  
NGAT Program Director



**NGAT**

NC STATE UNIVERSITY

# NC UAS COA Flight Locations

1- Butner



2- Caratoke (Moyock)



3- Gull Rock Test Site (Hyde County)



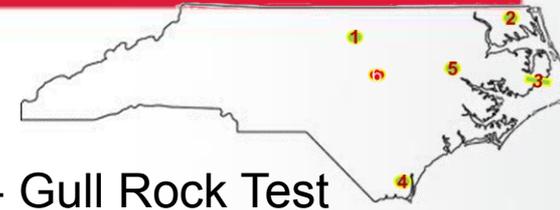
4- Green Swamp



5- Vernon James



6- Lake Wheeler



# Current NGAT UAS Fleet with COA Locations



- Vireo
- All locations



- UX5
- Lake Wheeler



- Precision Hawk
- Lake Wheeler



- Maveric
- Butner



- Swiper
- GRTS

## Micro (< 5 lbs)



- Super Swiper
- GRTS



- Condor II/Avenger
- GRTS



- Protector 10/  
Super Bat
- GRTS



- FENRIR
- Butner

## Small (10 - 55 lbs)



- RMAX
- GRTS

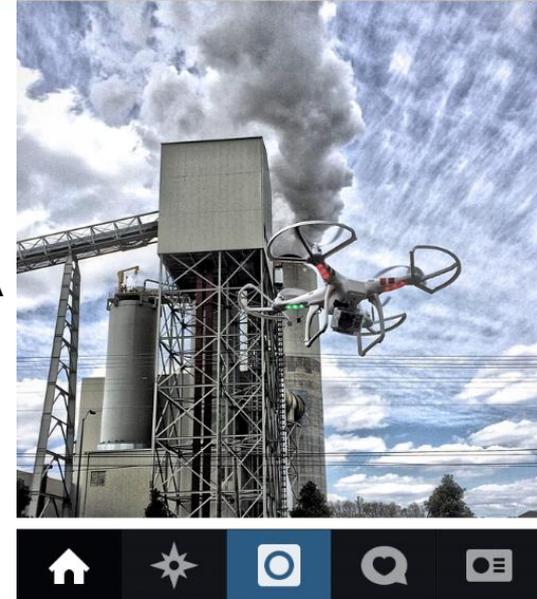


- T-20
- Caratoke

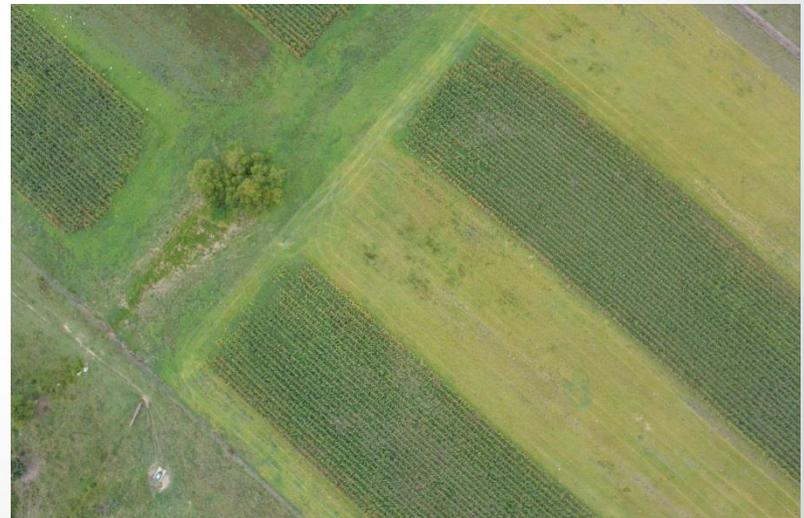
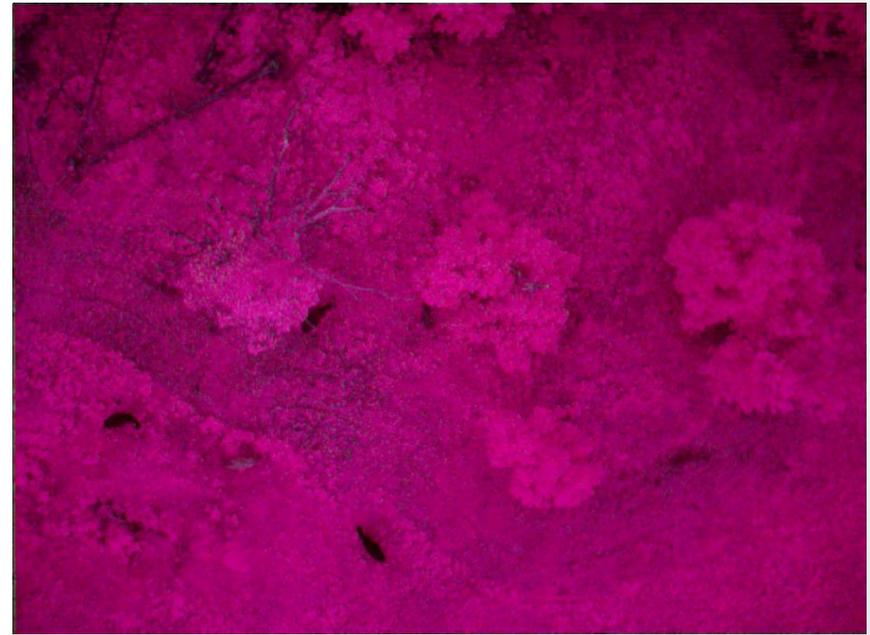
## Large (55+ lbs)

## Current NC UAS Policy Activities

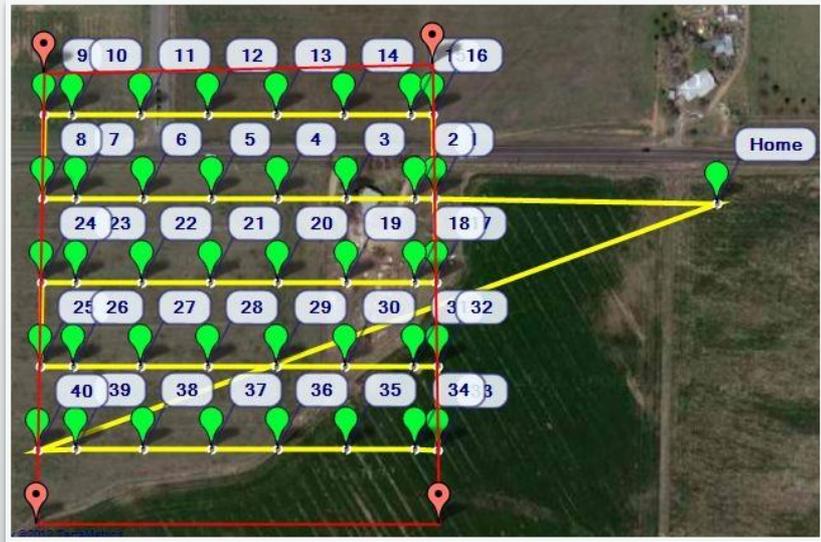
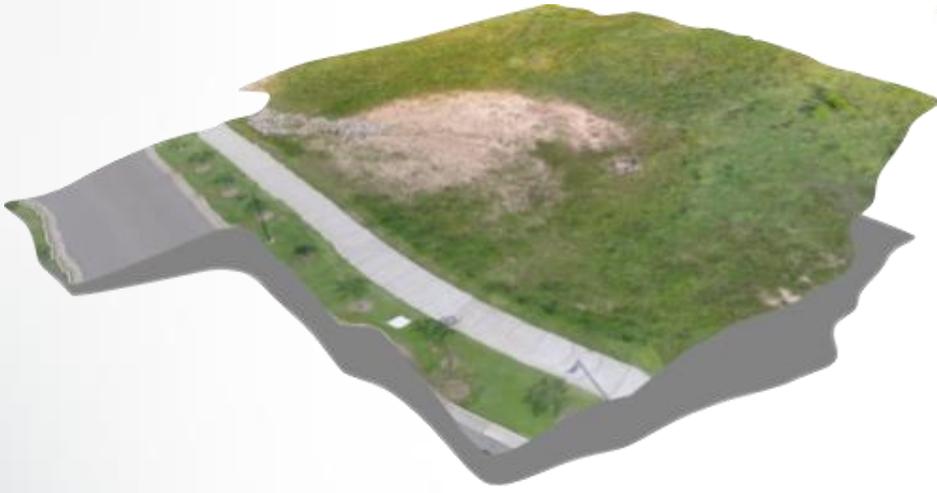
- FAA is THE authority today
- UAS operated by state agencies are “public aircraft”
  - **Must have a COA (Certificate of Authorization) from FAA**
  - Must meet NC requirements in addition to federal laws
- Current UAS operations by state/local agencies require approval from State CIO
- 2014 NC UAS Legislation Highlights
  - No UAS may be launched from any State or private property without consent. Local governments may adopt similar rules.
  - Allows civil penalty of up to \$5000.00 for unwarranted surveillance by UAS.
  - Requires NCDOT Division of Aviation to develop a knowledge and skills test for operating UAS not later than May 31, 2015. Test must comply with state and federal regulations. *Working group has formed to address.*
  - Division of Aviation is required to immediately begin developing a Commercial licensing system that complies with FAA guidelines (not yet developed). Within 60 days of issuance of authorization by FAA be able to implement commercial license requirements.



# NGAT UAS Products



# UAS Inspection Tool Project: NCDOT



# Path to a NC UAS Program



## What To Watch For...

- New NGAT Website
- NGAT Membership Program Launch
- Regional Workshops and Informational Sessions
- 2014 Fall Reception- TBD
- 2014 NC State Fair, Raleigh- October
- 2014 UAS Demo Day at GRTS- 10/30
- FAA UAS Integration Center of Excellence Announcement

December 2014

# For More Information



Contact:

Kyle Snyder  
NGAT Program Director  
919-515-8623 (office)  
[kyle\\_snyder@ncsu.edu](mailto:kyle_snyder@ncsu.edu)

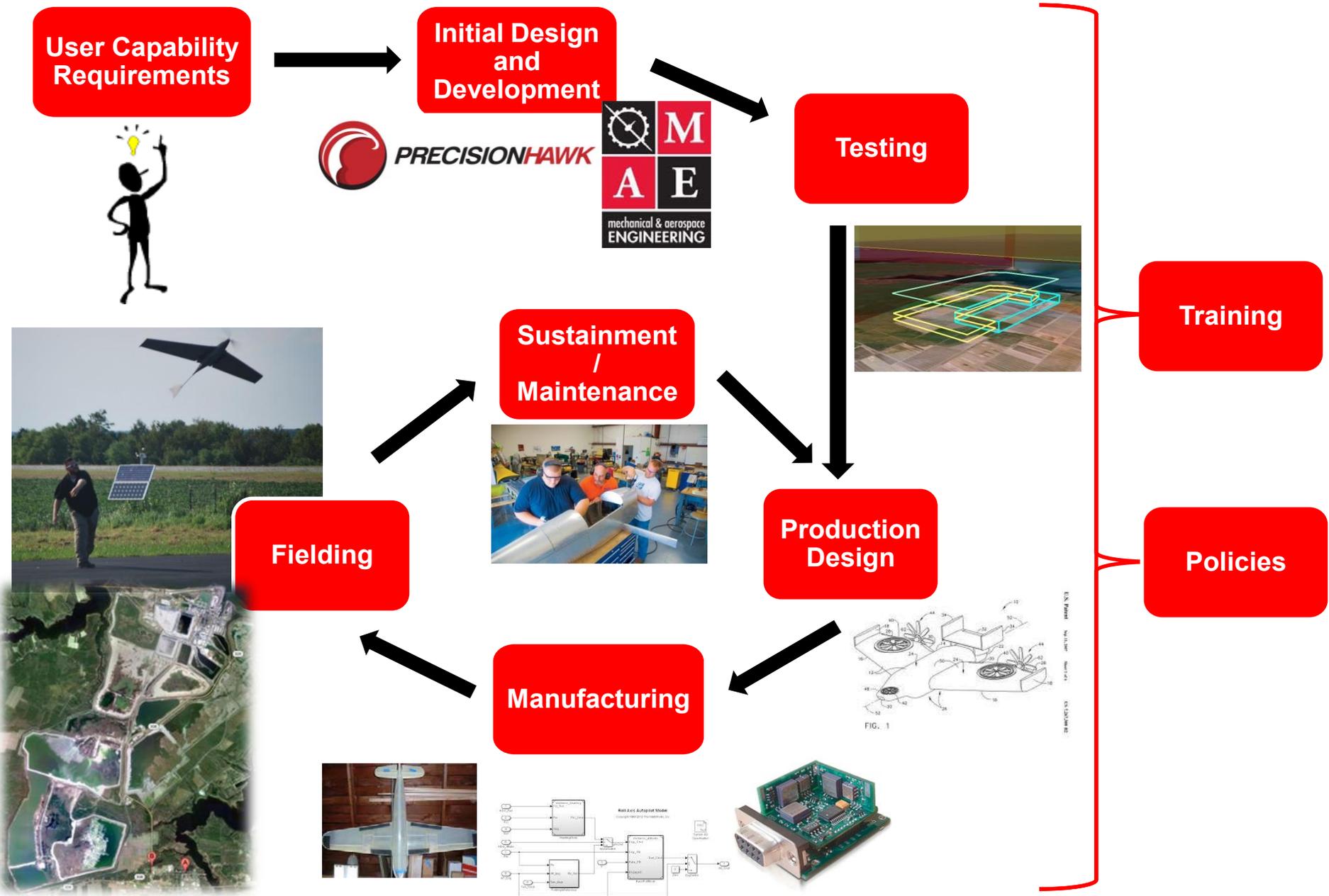
*It is not really necessary to look too far into the future; we see enough already to be certain it will be magnificent. Only let us hurry and open the roads.*

- Wilbur Wright

*"If you decide to try your machine here & come, I will take pleasure in doing all I can for your convenience & success & pleasure, & I assure you- you will find a hospitable people when you come among us."*

- William J. Tate, Kitty Hawk Postmaster 1900

# Building a UAS Ecosystem in NC



## NGAT UAS In Action

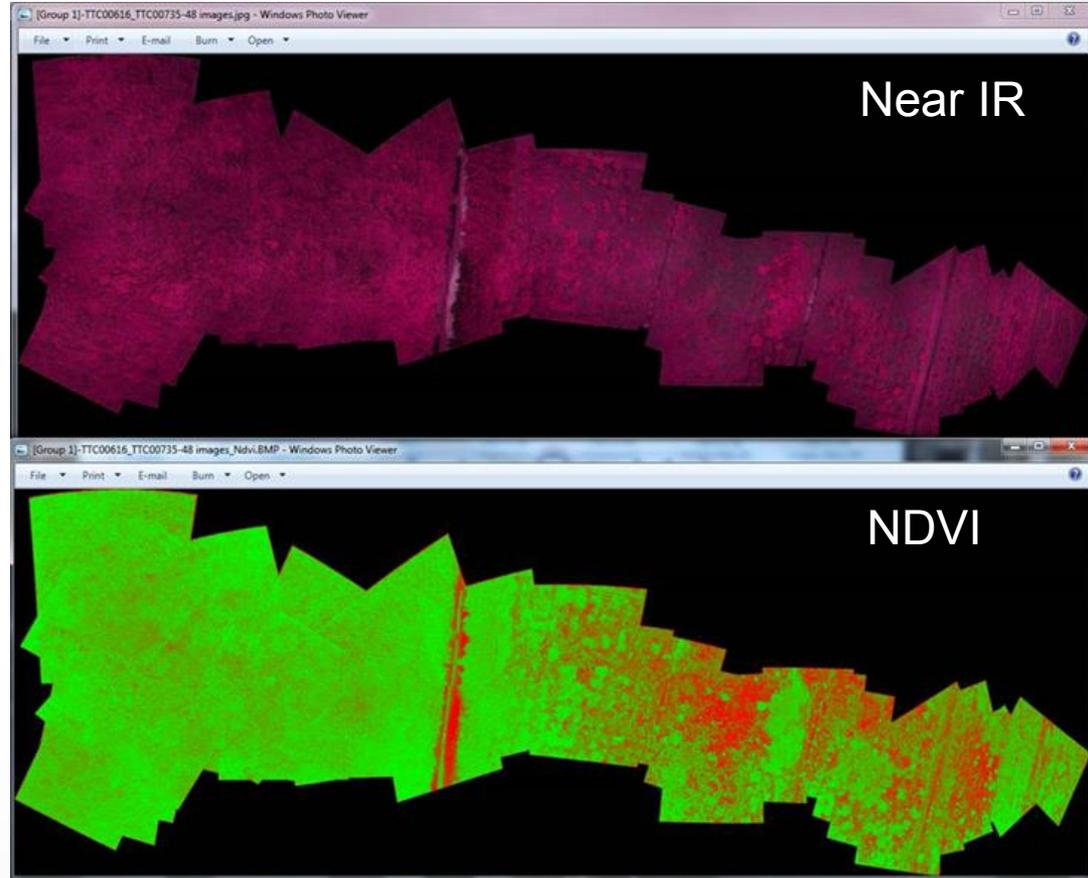


# Normalized Difference Vegetation Index NDVI

False Color



NDVI



# Butner 3 cm BGR



## **Butner, BGNIR 3 cm**





# **Bicycle and Pedestrian Data Collection**

Lauren Blackburn

November 5, 2014

# Transportation Planning & Data

## Know your mode

- Volumes
- Classification
- Origins & Destinations
- Safety concerns
- Networks & Gaps

## Bicycle/Pedestrian

- Only short-term observations and manual counts available
- Only National Household Travel Survey (commuter info) available
- Observations and qualitative info (health, recreation, commute, etc)
- Survey responses and crash data
- Growing GIS database showing built vs planned networks

# Need common, consistent system to measure volume to:

- Understand current trends
- Model future usage
- Plan at different levels (site, corridor, region)
- Improve project prioritization
- Inform Complete Streets process



# NCDOT Non-Motorized Traffic Monitoring Program Pilot Objective

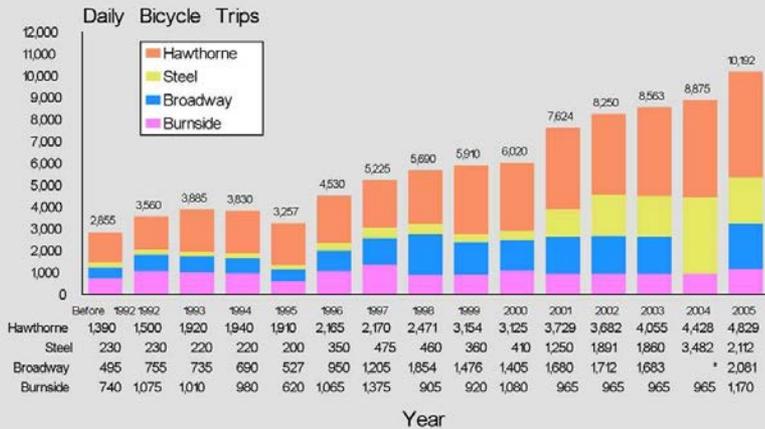
- Design and test a bicycle and pedestrian count collection protocol
  - Sample sizes, factor groups
  - Site selection protocols
  - Equipment specification by site
  - Installation assistance and equipment validation
  - Data collection and sharing
- Recommend how to replicate the methodology across North Carolina

# State of the Practice

- No other state DOTs with adequate model for North Carolina
- Minnesota, Colorado and Oregon DOTs beginning programs
- USDOT/FHWA seeking state model
- 2013 Traffic Monitoring Guide (TMG) includes recommendations for conducting bicycle and pedestrian counts, and specifies a standard set of data fields for reporting the counts.
- Traffic Monitoring Analysis System (TMAS) will be modified to receive and report on bicycle and pedestrian counts
- Several related TRB/NCHRP-funded research studies

# Average Daily Bicycle Traffic

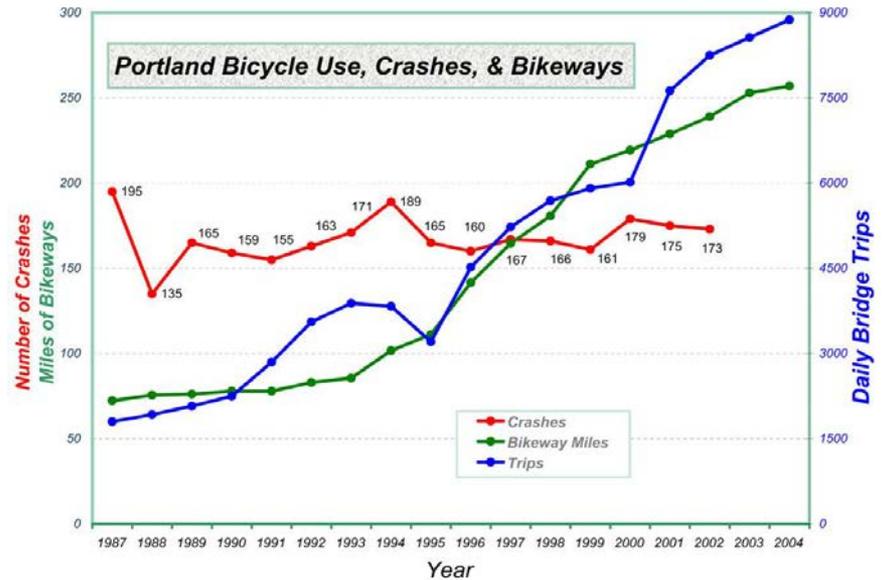
4 Main Willamette River Bicycle Bridges



Based on either 24-hour hose counts or extrapolated from 4-6 pm counts

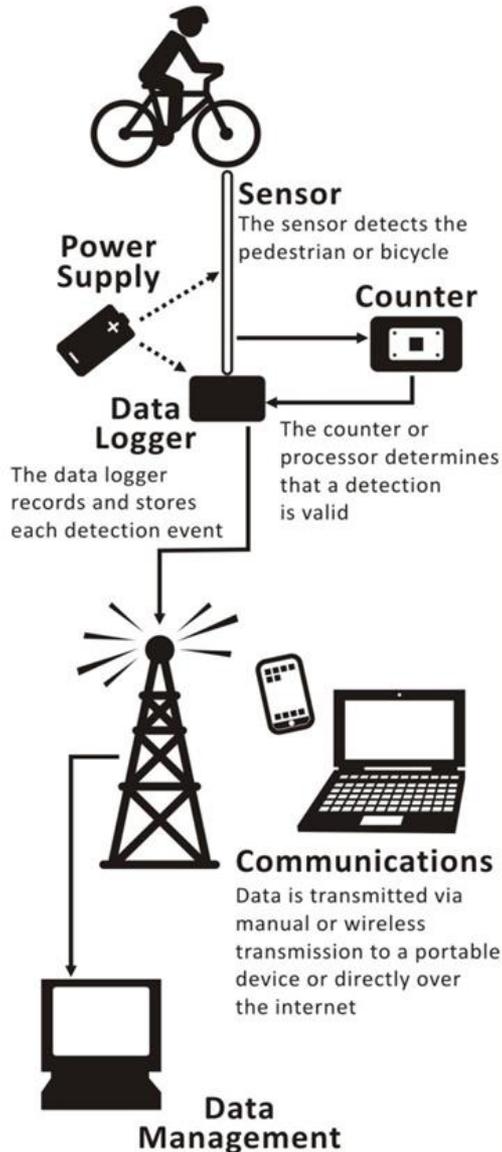
\* Broadway Bridge closed for construction during time of count

Example Graphic: Average Daily counts on 4 bridges in Portland



Example Application: Average Daily bicycle counts relative to crash information

## Automated Data Collection

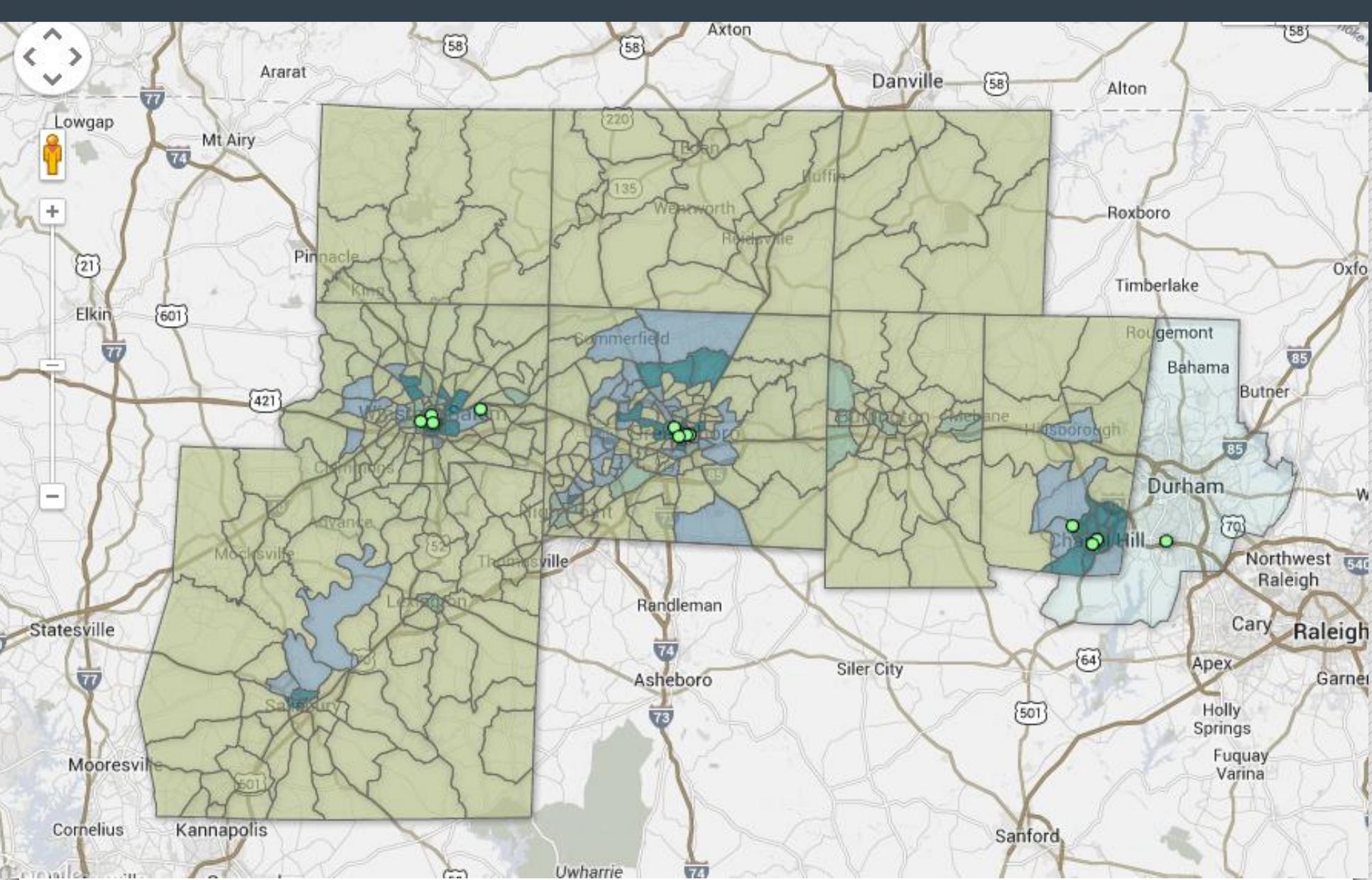


## Technologies used in NCDOT program:

- Inductive loops (differentiates users)
- Passive infrared beam (detects users)

Other technologies exist but lack desired features or data reliability





✓ Bicycling

- Trails
- Dedicated lanes
- Bicycle friendly roads



Walker Ave

Walker Ave

Walker Ave

College Ave

Tate St

Mendenhall St

Administration Dr

Administration Dr

Foust Park

Spring Garden St  
Spring Garden St

Spring Garden St

Spring Garden St

Morehead Ave

Weatherspoon Art  
Museum - The  
University of North  
Carolina at Greensboro

Highland Ave

Tate St

Joyner St

S Mendenhall St

Joyner St





# Next Steps....

- Synthesize and validate data
- Create database and sync with TMG standards
- Establish data-sharing process with local partners
- Document process
- Incorporate 'lessons learned' considerations
- Discuss next steps to establish a non-motorized traffic monitoring program statewide



## Fall 2014 Training Opportunities

During the months of September and October, the Public Transportation Division has been hosting training across the state. Working with the training advisory group, a series of training opportunities were put together to match the various training needs and Federal Transit Administration oversight requirements. The highlights are showcased in this report.

### Reasonable Suspicion

On September 9<sup>th</sup> and 10<sup>th</sup>, Robbie Sarles of RLS and Associates, provided a 4 hour training for transit supervisors on recognizing whether or not employees have reported to work fit for duty and ready to perform their safety sensitive tasks. Over 100 transit supervisors attended.



### FTA's Transit Bus Safety Oversight Program

On September 17, 2014, NCDOT hosted FTA's Transit Bus Safety Oversight Program in Asheboro, NC. Ream Lazaro walked over 80 transit professionals through the MAP-21 requirements. Even though the Public Transportation Division has an oversight program in place, the requirements for a performance based safety program will necessitate an update to these activities.



### Wheelchair Lift Maintenance Workshops

October's training on wheelchair lift maintenance was conducted in Boone, Charlotte and Chapel Hill on October 21st, 22nd and 23rd. The focus provided preventative maintenance tips and education on how to perform proper adjustments, both geared to extending the useful life of the lift.



## 2014 Training Extravaganza Recap

- Held at the Hilton in North Raleigh, September 29 - October 1.
- More than 180 attendees at the conference from all around the state.
- Groups were separated by experience level, affording more specialized training based on two sets of needs.
- Mark Aesch of TransPro set the tone for the event as the keynote speaker, with his talk on performance based management and the culture of ownership.



## Annual Evacuation Training

In conjunction with several emergency services departments in Stanly County, the PTD held an annual evacuation training simulation on October 3<sup>rd</sup>.

This year, the simulation incorporated smoke machines, an overturned vehicle, CPR mannequins, fake weapons and more to simulate real life scenarios that could happen in the field.

## 2014 Public Transportation Recognition Award Recipients

This year's recipients of the Eastern and Western Recognition Awards were also announced at the Training Extravaganza. Congratulations to Kelly Walker, Eastern, pictured on the left, and Camille Sterling, Western, pictured on the right!





# North Carolina

DEPARTMENT OF TRANSPORTATION

## New Rail Technology

Multimodal Committee

North Carolina Board of Transportation

Paul Worley, CPM  
Rail Division Director

November 5, 2014

# New Technology Initiatives

- Biodiesel-Fueled Locomotives
- Compressed Natural Gas-Fueled Locomotives
- Vehicle Detection Systems
- Trespasser Research

# Alternative Fuel Testing



WE RECOGNIZE THE IMPORTANCE OF  
“GOING GREEN” AND STRIVE TO EMBRACE  
ECO-FRIENDLY TECHNOLOGY.

## **NCDOT and NCSU test biodiesel fuel blends in state-owned locomotives**

- NCDOT has worked with NCSU Environmental Engineering for the past three years to study the effects of operating *Piedmont* F59PH and PHI passenger locomotives on biodiesel fuel using Particulate Emissions Measurement System (PEMS) technology.

# Alternative Fuel Testing

## It works...

- The study proved both locomotive types operate successfully using biodiesel fuel with no loss of fuel economy, while reducing overall engine emissions
- NCDOT one of few rail passenger providers nationally to have operated a locomotive in revenue service using 100% biodiesel fuel
- First organization to use the PEMS method of testing on a locomotive engine

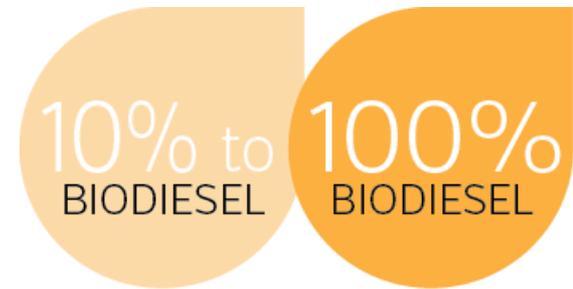


# Alternative Fuel Testing

## A Variety of Blends Evaluated

Testing typically started with a blend of 10% biodiesel and 90% standard ultra-low sulfur diesel (ULSD) fuel, biodiesel levels were increased incrementally up to 100% pure biodiesel fuel.

Locomotives were tested during standard operation between Raleigh and Charlotte, NC on various blends of biodiesel fuel and standard ultra-low sulfur diesel (ULSD) fuel.



# Alternative Fuel Testing

## Compressed Natural Gas (CNG) as an Alternative Fuel

- NCDOT plans to use Cab Control Units (CCU) for push-pull service between Raleigh and Charlotte
- Space in CCUs would be used as fuel tinders for connected locomotives
- Exploring use of CNG to augment and/or replace the ultra-low sulfur diesel fuel and biodiesel fuel NCDOT currently used in locomotives – known as “Dual-Fuel” technology
- Our goal – to have two dual-fuel passenger locomotives operating by mid-2016
- Results in improved stack emissions and reduced fuel costs
- Subject to availability of funds

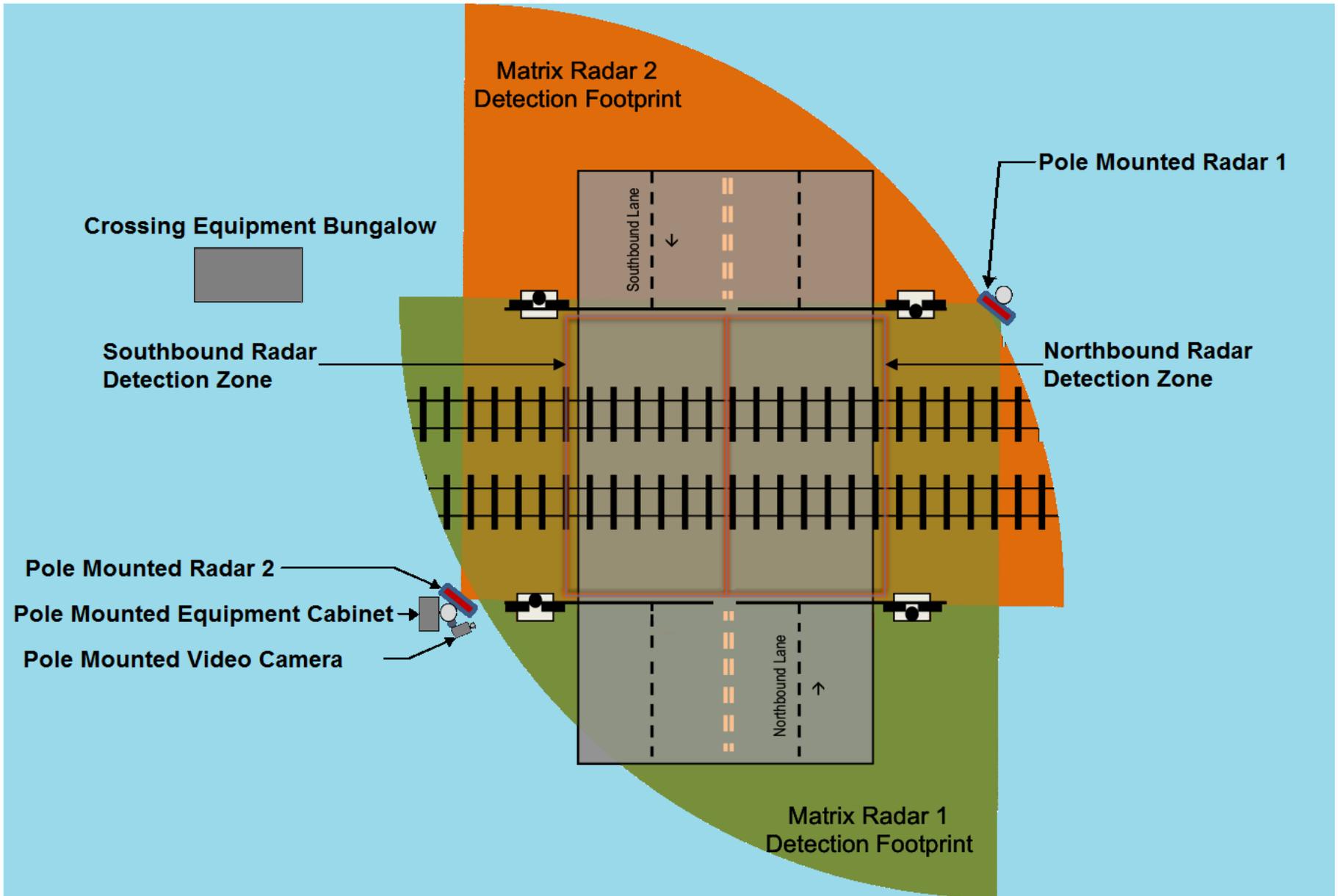
# Vehicle Detection System

Federal Highway Administration awarded NCDOT \$1,263,800 to evaluate the use of dynamic exit gate clearance timings using Dual Matrix Radar System.



Vehicle Detection System  
technology now operating  
at two crossings





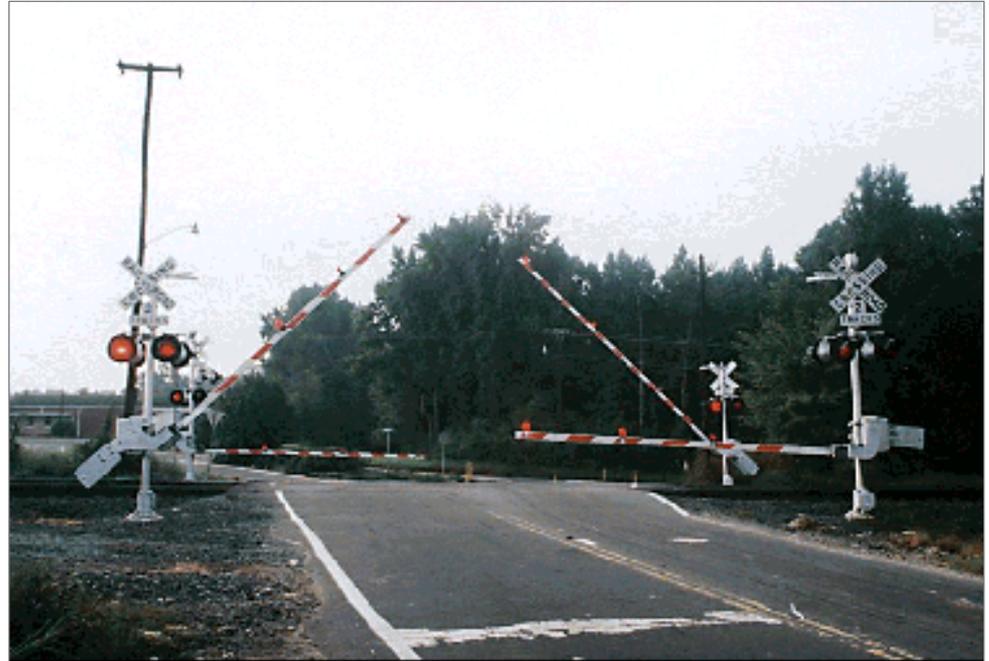
# Dual Matrix Radar

- Provides out-of-street detection
- Provides redundancy
- Tested technology
- Minimal impact to the railroad



# Current Standard Gate Operation

- No vehicle detection provided
- Train detected, entry gates descend first
- Exit gates descend with 7 to 12 seconds delay between entry gate and exit gate descent
- Exit gate descent is always a pre-timed offset interval in every situation



# How a Vehicle Detection System Works

- All gates drop “near-simultaneous” to quickly seal the crossing from vehicles entering late
- Provides a stronger physiological stimuli for obedience to the warning devices
- BUT, if vehicle does enter the crossing at the beginning of entry gate descend, **system will detect vehicle and hold exit gate up**, thus, not trapping the vehicle in the crossing



*Installation testing shows exit gate still up to allow for truck to exit*

# Trespasser Research

## CY2014 Trespasser Incidents in NC

**→ 22 to date** (*13 fatalities & 8 injuries*)

- NCDOT sponsored research project with NCSU – \$156,483
- Two-year project began August 2014

### Goals:

- Identify where trespassing occurs
- Map these areas
- Identify practices and technologies to reduce trespassing incidences
- Investigate trespassing detection system



Questions?



# PIEDMONT & CAROLINIAN PERFORMANCE SNAPSHOT

## NCDOT RAIL DIVISION AUGUST 2014

### Ridership

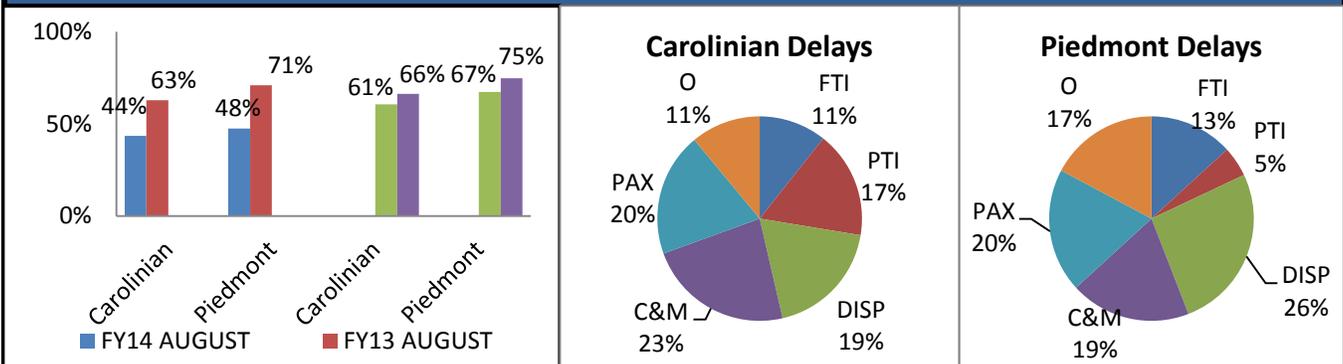
	FY14 AUGUST	FY13 AUGUST	Δ	FY14 YTD	FY13 YTD	Δ
<b>Carolinian</b>	29,823	29,413	1%	280,391	294,682	-5%
<b>Piedmont</b>	14,867	14,685	1%	157,167	157,007	0%
<b>Total</b>	44,690	44,098	1%	437,558	451,689	-3%
			# of Trains	FY14 AUGUST	FY13 AUGUST	Δ
<b>Average number of passengers per train</b>		Carolinian	62	481	474	1%
		Piedmont	124	120	118	1%

### Revenue

	FY14 AUGUST	FY13 AUGUST	Δ	FY14 YTD	FY13 YTD	Δ
<b>Carolinian</b>	\$2,140,850	\$2,107,808	2%	\$17,806,380	\$18,447,323	-3%
<b>Piedmont</b>	\$294,911	\$276,510	7%	\$3,130,927	\$3,061,286	2%
<b>Total</b>	\$2,435,761	\$2,384,318	2%	\$20,937,307	\$21,508,609	-3%
<b>Amenities</b>	Mo. Surcharge	\$6,905	Mo. Expense	\$2,822	Mo. Surplus	\$4,084

\*Average number of passengers per train is the monthly ridership divided by the number of operating trains, assuming regular operations for FY13. Amenities surcharge only accounts for Piedmont services.

### On-time Performance



\*Carolinian and Piedmont delays were 7,718 and 3,709 minutes, respectively. FTI - Freight Train Interference; PTI - Passenger Train Interference; DISP - Dispatch Related; C&M - Construction and Maintenance; PAX - Any Passenger Related; O - All Other Delays (ex. weather, locomotive failure, utility)

### Overall Customer Satisfaction

	FY14 July	FY13 YEAR-END	Δ
<b>Carolinian</b>	82%	81%	1%
<b>Piedmont</b>	92%	92%	0%

\*The customer satisfaction index is calculated from rider survey data taken in the previous month. Overall satisfaction is defined as average scores greater than or equal to 80.

## North Carolina City Pairs with Largest Ridership

	Carolinian	Piedmont
<b>1</b>	Raleigh - Washington	Charlotte - Raleigh
<b>2</b>	Charlotte - Raleigh	Charlotte - Greensboro
<b>3</b>	Charlotte - New York	Charlotte - Cary
<b>4</b>	New York - Raleigh	Charlotte - Durham
<b>5</b>	Greensboro - Washington	Greensboro - Raleigh
<b>6</b>	Charlotte - Durham	Durham - Greensboro
<b>7</b>	Charlotte - Washington	Cary - Greensboro
<b>8</b>	Durham - Washington	Charlotte - HighPoint
<b>9</b>	New York - Wilson	Cary - Durham
<b>10</b>	New York - Rocky Mount	Burlington - Charlotte

\*From the previous month, New York - Raleigh had the largest increase of 51% and Durham - Washington the largest decrease of 18% for the Carolinian; Cary - Durham had the largest increase of 54% and Charlotte - High Point the largest decrease of 27% for the Piedmont.

## Carolinian and Piedmont Total Ons-Offs at North Carolina's Stations

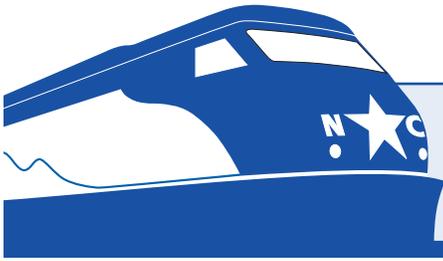
	FY14 AUGUST	FY13 AUGUST	Δ
<b>Charlotte</b>	15,269	16,424	-7%
<b>Raleigh</b>	11,018	9,670	14%
<b>Greensboro</b>	9,647	9,862	-2%
<b>Durham</b>	7,526	7,419	1%
<b>Cary</b>	5,697	5,595	2%
<b>Wilson</b>	3,188	3,203	0%
<b>High Point</b>	2,858	2,942	-3%
<b>Burlington</b>	2,554	2,172	18%
<b>Rocky Mount</b>	2,136	2,516	-15%
<b>Salisbury</b>	2,127	1,486	43%
<b>Kannapolis</b>	1,728	1,977	-13%
<b>Selma-Smithfield</b>	928	791	17%

\*The values represent passenger ons and offs at North Carolina stations for only state-supported routes and do not include those of other Amtrak services. The values should not be construed as total ridership.



[www.NCByTrain.org](http://www.NCByTrain.org)





# The Rail Report

NCDOT Rail Division



November 2014

## Secretary Tata Pledges Commitment to Rail Safety, Encourages Others to Join



N.C. Department of Transportation Secretary Tony Tata visited the BeRailSafe booth at the N.C. State Fair to sign a pledge stating his commitment to rail safety.

The pledge encourages people not to walk on or along railroad tracks, and if they must cross, to do so at a public crossing and look both ways to be sure a train is not coming.

"We want all North Carolinians to be safe around railroad tracks, and I welcome everyone to join me in signing this pledge and doing their part to keep themselves and their communities safe. Even one death on North Carolina's railroads is one too many," said Tata.

Fairgoers were invited to stop by and sign the pledge, which is displayed at the BeRailSafe booth at Safety City, located behind Dorton Arena. Safety City is sponsored by NCDOT's Governor's Highway Safety Program.



In North Carolina, walking on or along railroad tracks without the consent of the railroad company is illegal and a Class 3 misdemeanor. It can also be deadly – each year, an average of 32 people are killed or injured walking on railroad tracks across the state.



In addition to the pledge, paper engineer's hats, train banks, other safety materials were distributed at the fair. Children had fun posing as an engineer



or passenger at the BeRailSafe train. The Rail Division's goal at this year's fair was to provide an interactive display that gave staff and

Volunteer Train Hosts the opportunity to talk with fair goers about rail safety and the dangers of trespassing. Train schedules for North Carolina's Amtrak and Amtrak Travel Guides were also available.

*BeRailSafe is NCDOT's statewide rail safety program that provides information and programming to adults and kids alike about the importance of staying safe around railroad tracks. BeRailSafe also trains first responders across the state in how to deal with emergencies that arise around railroad tracks.*

## Back by Popular Demand – NC's Amtrak Santa Train

Santa will make a special appearance on the mid-day *Piedmont* Trains on Saturday, December 6. NCDOT is offering a Santa Train Excursion from both the Raleigh and Charlotte stations.

**From Raleigh:** Santa Train Raleigh travels to Greensboro and back with a brief layover. To get on board, book a seat on the *Piedmont* #75 departing Raleigh at 11:45 a.m., and a return trip on the *Piedmont* #74 departing Greensboro at 1:34 p.m. and arrive back in Raleigh at 3:11 p.m.

**From Charlotte:** Santa Train Charlotte travels to High Point and back with a brief layover. To get on board, book a seat on the *Piedmont* #74 departing Charlotte at noon, and a return trip on the *Piedmont* #75 departing High Point at 1:34 p.m. and arrive back in Charlotte at 2:55p.m.

Visit [ncbytrain.org](http://ncbytrain.org) to purchase your tickets today, and enjoy visiting with Santa, refreshments and Christmas carolers on board the trains.



## Ridership & Revenue on NC's Amtrak Service – August 2014 vs. 2013

	RIDERSHIP			REVENUE		
	2014	2013	% +/-	2014	2013	% +/-
Piedmont	14,867	14,685	1%	\$294,911	\$276,510	7%
Carolinian	29,823	29,413	1%	\$2,140,850	\$2,107,808	2%

## RailPlan, Inc. Celebrates 365 Injury Free Days at Capital Yard and Charlotte Maintenance

Rail Plan, Inc. Senior Management visited Capital Yard to thank employees and provide all three shifts with an appreciation dinner.

## Amtrak and North Carolina's Amtrak have big presence at the Wide Open Bluegrass Festival in Downtown Raleigh

With trains figuring prominently in many bluegrass songs and more than 180,000 people pouring into Raleigh during the Wide Open Bluegrass Festival on October 2-4, NCDOT and Amtrak took the opportunity to market the trains to this large and diverse audience. As sponsors of the Youth Stage, the North Carolina's Amtrak and Amtrak logo were prominent on the stage backdrop. Rail Division's Alison Boswell and Volunteer Train Hosts staffed two booths for the event, one across from the youth stage by the front door and one inside of the Convention Center which served as the epicenter for the festival activities.

**Thank you to Volunteer Train Hosts, Doug Corriher, Rachael Gieshen, Sarge Sweeney, Tom Sandwick, Leon DeBaer, Bob Warner, Sam Exxum who staffed the booths WOB.**



Youth Stage in front of Raleigh Convention Center

Children and adults enjoyed appearances by Casey the Conductor Bear, aka Alison Boswell of the Rail Division.

Registering to win a round trip for two.



Above: Leon DeBaer and Alison Boswell at the outdoor booth

Left: Bob Warner and Tom Sandwick pickin' and grinnin' at the Blue Grass Festival

## Rail Staff, Interns and Volunteer Train Hosts reach out to spread the word about NC passenger train service

In addition to the NC State Fair and Wide Open Bluegrass, NCDOT has had booths and tables at the following locations the fall

- Greensboro Grasshoppers Baseball Playoff Game
- Selma Rail Days
- Eastern Carolina BBQ Throw Down Festival
- Elon University Football Games
- Lexington Barbecue Festival
- Thomasville Everybody's Day Festival, High Point
- Hamlet Seaboard Festival
- Thomasville Rail Fan & Rail Appreciation Day
- Cary Downtown Harvest Festival
- NC State Talley Student Center
- Winston-Salem State University Football Game
- Historic Salisbury Tour of Homes
- Southeast Alternative Fuels Conference

## NCDOT Wins National Award For Excellence In Communications for Rail Marketing

NCDOT Communications staff received an award from the American Association of State Highway and Transportation Officials' (AASHTO) for print and online ads produced as part of a new campaign to brand and market North Carolina's passenger rail service. The team developed the "Simple and Stress-Free" brand to showcase the many benefits of taking passenger rail between Raleigh and Charlotte and points in between. The ads used varied photography to reach its target audiences – students, parents and seniors – to promote special fares and discounts. Team members, led by Julia Casadonte, Marketing Specialist, include designers Emily Jones and Billy Barrier, and photographer Katy Warner.

## Rail Crossing at Andy Griffith Parkway (US 52) and Rockford Street gets major safety upgrade

Work was completed on a new railroad crossing at the intersection of Andy Griffith Parkway (U.S. 52) and Rockford Street in Mount Airy just in time for the 25th Annual Mayberry Days Festival. The old crossing was deteriorating, and traffic turning north onto Rockford Street had to travel in line with the tracks for a brief period. The resurfacing project replaced the old crossing structure with a more durable concrete crossing and created a turning lane to prevent drivers from traveling down the tracks.

The Yadkin Valley Railroad, NCDOT Highway Division 11 and NCDOT Rail Division worked together to complete the project in an

efficient and timely manner. Yadkin Valley Railroad was responsible for rail labor expense and rail safety coordination, Rail Division FR&RCSI funding provided approximately \$260,000 for tub crossing materials, and NCDOT Highway Division 11 provided signing detours, lane shifts, all road work including an additional right turn lane to get the traffic movement out of the tracks.

For more information on the FR&RCSI program, visit the NCDOT Rail Division projects page.



## NCDOT seeks leasing partner to operate the Piedmont & Northern Railway

The N.C. Department of Transportation is seeking a new partner to operate the 13-mile Piedmont & Northern Railway line from Gastonia to Mount Holly in Gaston County following Patriot Rail's termination of its lease of the corridor.

The railroad has two businesses, averaging 12 carloads per month. The line connects with CSX Transportation at Mount Holly and Norfolk Southern at Gastonia.



*Photo courtesy of Casey Thompson*

"Our department believes that this rail line has the opportunity to be an economic driver, and we will collaborate with Gaston County to select the best railroad operator to accomplish that goal while providing seamless service to existing and prospective shippers," said NCDOT Rail Division Director Paul Worley.

"The Gaston County Commission looks forward to being a partner with the N.C. Rail Division. We believe the rail line is a catalyst to

economic growth and look forward to selecting a new operator that will provide service to businesses in need of a rail line," said Gaston County Commission Chairman Tracy Philbeck.

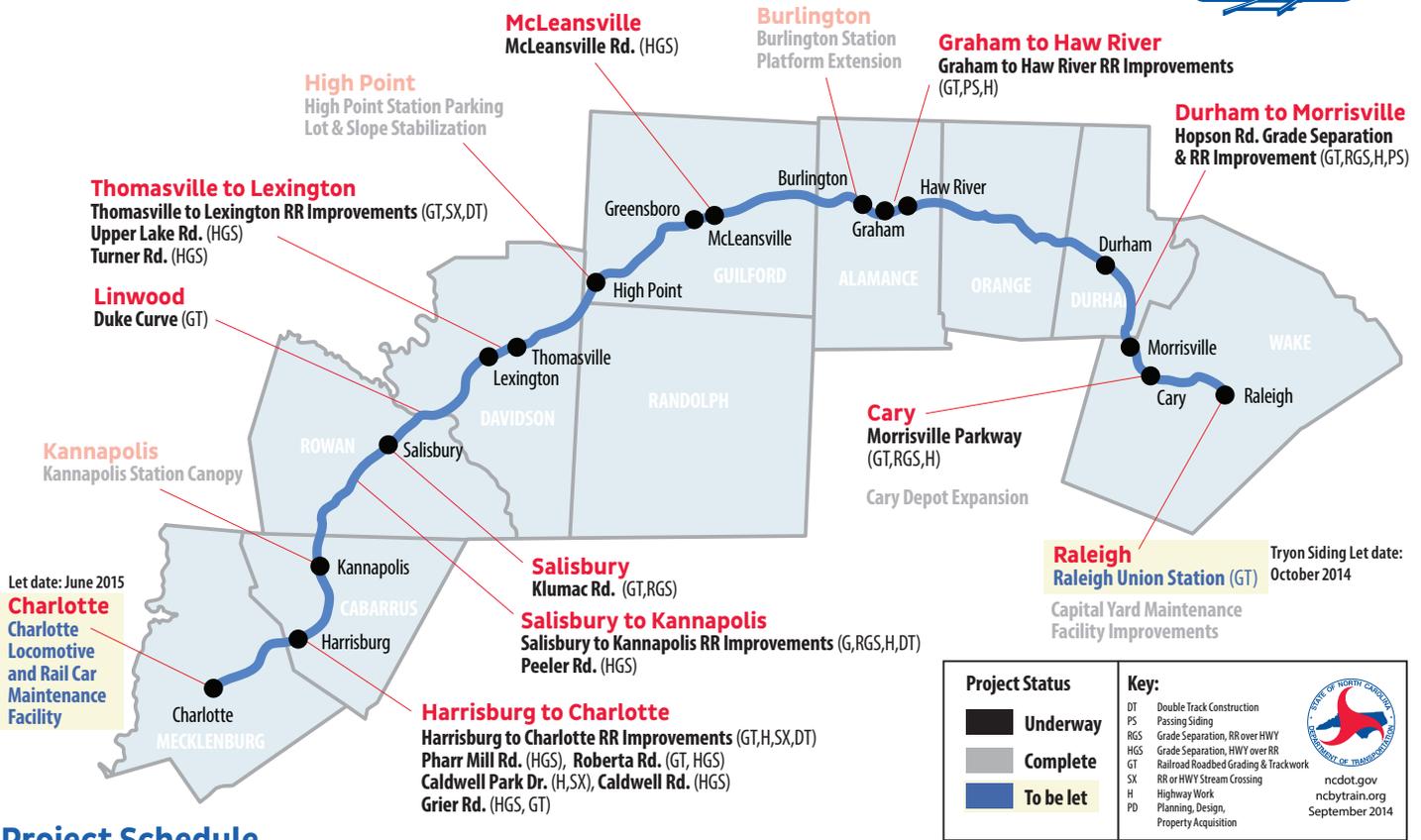
NCDOT is underway with a public procurement for a freight operator, with the goal of having a new operator in place on the line at the beginning of 2015. In the meantime, the two existing freight customers will continue to be serviced and the Rail Division continues to pursue additional business for the line in partnership with Gaston County.

## Governor Pat McCrory and state officials outline state's Ebola Readiness

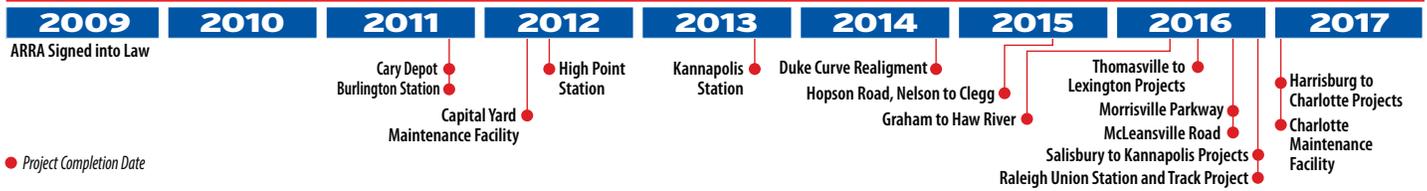
North Carolina officials have been preparing since July for any Ebola diagnosis that may occur in our state. The Department of Health and Human Services has provided extensive guidance to health care providers and procedures are in place to screen and evaluate patients. Additionally, the department is actively monitoring for cases using a network of hospital-based Public Health Epidemiologists in the state's largest hospital systems and surveillance of hospital emergency department visits.

The NCDOT is also reviewing its response plans. "From our airports to our sea ports, our transportation network provides international gateways to North Carolina. Our employees, therefore, may be the first to detect a potential Ebola event in our state, which they would report to appropriate authorities for immediate action," said NCDOT Secretary Tony Tata. "We are reviewing our emergency plans to ensure our employees are prepared."

# Piedmont Improvement Program – September 2014 Status Report



## Project Schedule



## ARRA Funds Spent to Date (effective 9/30/2014)

Component	Expenditure
PD&A/ROW	\$42,285,558.61
Equipment Procurement & Rebuild	\$25,318,073.14
Stations & Facilities	\$10,534,890.75
Track & Structures	\$106,063,722.57
CRISP	\$2,180,376.32
<b>Program Totals</b>	<b>\$186,382,621.39</b> of \$520M awarded FRA Grant Funds
<b>New ARRA Contracts Awarded in September:</b> 11 contracts worth \$240,803.74	

## Raleigh Union Station (RUS) Update



The RUS project is progressing, with completion of final design for the station scheduled for this month. NCDOT and the City are reconciling the budget and scope. Construction of the new NS Tryon siding began in October, and will enable relocation of Cabarrus Yard which today conflicts with the RUS improvements. A ground-breaking is scheduled for early 2015, which coincides with the anniversary of the first passenger train to arrive in Raleigh 175 years ago.

Piedmont Improvement Program Project Photos – September to Mid-October 2014



P-5201 Morrisville Parkway grading



P-5201 Morrisville Parkway, west approach to bridge



U-4716 Hopson Road bridge construction



U-4716 Nelson to Clegg, CP Nelson



P-5205 Graham to Haw River, signal installation



P-5205 Graham to Haw River Grading

Piedmont Improvement Program Project Photos – September to Mid-October 2014



C-4901 Bowers to Lake - View from Upper Lake Bridge



C-4901 Bowers to Lake - Bridge over Hamby Creek



P-5206 Reid to N. Kannapolis - Ditch Line Work



P-5206 Reid to N. Kannapolis - Landis Utility Work



P-5208 Haydock to Junker - Caldwell Road bridge



P-5208 Haydock to Junker - Track Construction



# ROAD/BRIDGE/FERRY NAMING COMMITTEE AGENDA

## BOARD OF TRANSPORTATION NOVEMBER 5, 2014

**TIME: 11:00 AM**

**LOCATION: 160**

TOPIC	PRESENTER	TIME
<b>Norris Tolson</b> – NC 43 from the eastern town limits of Pinetops to SR 1611, Edgecombe County, Div. 4 (Tulloss)	Missy Pair	10 min