Providing drivers more choices for their commute

North Carolina Turnpike Authority
Board of Directors Meeting
August 6, 2020
Opening Comments

Secretary Boyette
Chair
Annual Ethics Education
Update on By-Laws

Ann Dishong
Director of Governance

Ebony Pittman
Assistant Attorney General,
Transportation Division
Finance & Budget Update

David Roy
Director of Finance & Budget
### Revenue Statistics

<table>
<thead>
<tr>
<th></th>
<th>FY19 – Q1</th>
<th>FY19 – Q2</th>
<th>FY19 – Q3</th>
<th>FY19 – Q4</th>
<th>FY20 – Q1</th>
<th>FY20 – Q2</th>
<th>FY20 – Q3</th>
<th>FY20 – Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Triangle Expressway Actual Revenue</strong></td>
<td>$12,378,736</td>
<td>$12,925,510</td>
<td>$13,064,297</td>
<td>$14,182,712</td>
<td>$14,754,750</td>
<td>$14,786,304</td>
<td>$14,438,863</td>
<td>$8,810,451</td>
</tr>
<tr>
<td><strong>YOY Percent Change</strong></td>
<td>3.7%</td>
<td>9.4%</td>
<td>7.0%</td>
<td>9.2%</td>
<td>19.2%</td>
<td>14.4%</td>
<td>10.5%</td>
<td>-37.9%</td>
</tr>
<tr>
<td><strong>Monroe Expressway Actual Revenue</strong></td>
<td>$ -</td>
<td>$165,086</td>
<td>$2,203,674</td>
<td>$4,147,407</td>
<td>$5,677,716</td>
<td>$5,929,466</td>
<td>$5,505,598</td>
<td>$4,222,890</td>
</tr>
</tbody>
</table>

1. Actual revenue is reported on a cash basis
Revenue Statistics

Triangle Expressway

FY20 Actual (Total = $52.8M)

FY20 Projections (Total = $57.1M)

FY19 Actual (Total = $52.6M)

- Revenue figures are inclusive of all toll revenue and fees
- Actual revenues reported on a cash basis

YTD revenues up 0.5% year-over-year
Revenue Statistics

Monroe Expressway

- Revenue figures are inclusive of all toll revenue and fees
- Actual revenues reported on a cash basis
- Projections based on 2016 Traffic & Revenue Study; revenues are shown in the same fiscal year as the corresponding transaction
Operating Expenditures

Triangle Expressway

- Actual operating expenditures reported on a cash basis

FY19 Actual (Total = $20.1M)
- Q1 = $4.6 M
- Q2 = $5.0 M
- Q3 = $4.3 M
- Q4 = $6.2 M

FY20 Budget (Total = $20.5M)
- Q1 = $5.0 M
- Q2 = $4.4 M
- Q3 = $5.0 M
- Q4 = $5.9 M

FY20 Actual (Total = $20.3M)

YTD expenditures 1.0% lower than projected budget
Operating Expenditures
Monroe Expressway

FY20 = $10.7 M
FY20 Budget (Total = $10.7M)
FY20 Actual (Total = $9.5M)

Q1 = $1.8 M
Q2 = $1.9 M
Q3 = $2.4 M
Q4 = $3.4 M

YTD expenditures 11.1% lower than projected budget

- Actual operating expenditures reported on a cash basis
Debt Management Policy
Debt Management Policy

• The purpose of this Debt Policy is to establish guidelines and a framework for the issuance and management of NCTA’s debt
• NCTA is committed to consistent best practices financial management, including maintaining financial strength and flexibility of NCTA
• The policy will be reviewed by NCTA no less than once every two years
• The policy will be presented to and approved by the NCTA Board of Directors
Debt Management Policy

• The policy establishes guidelines and a framework for the following topics:
  • Financial Planning and Debt Issuance
    • New Policy guideline for Variable Rate Debt* limitations established per System:
      • Unhedged: 10%
      • Total Hedged and Unhedged: 25%
  • Debt Service Coverage Targets and Limits
  • Method of Sale Evaluation
  • Debt Structure
  • Call Provisions
  • Debt Refunding
  • Credit Enhancement and Liquidity
  • Continuing Disclosure
  • Credit Objectives

* Currently NCTA does not have any variable rate debt and does not have any plans to issue variable rate debt
On-Going Reporting Requirements

• Once a year, the Finance Committee and NCTA Board of Directors will receive a report on the status of NCTA’s debt including the following information
  • Amount and percentage of total debt by security type broken down by NCTA System
  • Any changes in ratings, including ratings of credit enhancers and swap counterparties
  • Current mark-to-marketed value of all interest rate exchange agreements, if applicable*
  • Historical rate performance for all variable rate bonds, if applicable*

*Currently not applicable as NCTA does not have any variable rate debt
Complete 540 BANs Update
BAN Financing Benefits

- The maximum balance on the TIFIA Loan is reduced to $530 million - a reduction of almost $32 million from the projected maximum balance of $562 million on the current loan.

- Reduction in TIFIA debt service results in long-term benefits for the General Reserve Balance. While BANs premium vs capitalized interest mismatch reduces the minimum balance by $6.7 million initially, by FY 2050 the balance increases by $38.2 million with the issuance of BANs.

- Given uncertain COVID impacts to toll revenues, the reduced TIFIA debt service and improved General Reserve balances could be important.

<table>
<thead>
<tr>
<th></th>
<th>Without BANs</th>
<th>With BANs</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum TIFIA Balance</td>
<td>$561,909,682</td>
<td>$529,918,083</td>
<td>$31,991,600</td>
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<tr>
<td>Total TIFIA Debt Service</td>
<td>$835,520,674</td>
<td>$789,762,698</td>
<td>$45,757,975</td>
</tr>
</tbody>
</table>
Based on assumptions as of July 28, 2020, the estimated net present value benefit of a BAN Dated 10/29/2020 is $4.4 million.

- Markets have been volatile and are subject to change on a daily basis.
- The TIFIA BANs will be limited by the par amount of the TIFA Loan - $499.4 million – which results in a construction funding shortfall of $25.6 million, the present value of which is net from savings.
- NCTA is considering various sources to fill the shortfall.

<table>
<thead>
<tr>
<th>FY</th>
<th>TIFIA DS</th>
<th>TIFIA DSRF</th>
<th>PV</th>
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<td>2058</td>
<td>(33,408,137)</td>
<td>(35,921,564)</td>
<td>1,599,497</td>
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</tr>
</tbody>
</table>

**Total PV Change of Cash Flows:** 29,168,873

**Benefit(Cost) of BANs:** 4,431,096
**Costs of Issuance**

- Below is a table of anticipated costs of issuance for the BANs transaction

<table>
<thead>
<tr>
<th>Cost of Issuance</th>
<th>Amount ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond Counsel</td>
<td>125,000</td>
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<tr>
<td>Disclosure Counsel</td>
<td>65,000</td>
</tr>
<tr>
<td>Financial Advisor Fee</td>
<td>153,750</td>
</tr>
<tr>
<td>Fitch Ratings</td>
<td>130,000</td>
</tr>
<tr>
<td>Ratings</td>
<td>132,050</td>
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<tr>
<td>Trustee/Paying Agent/Registrar</td>
<td>9,000</td>
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<tr>
<td>Trustee Counsel</td>
<td>7,500</td>
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<tr>
<td>Printing/Mailing/Shipping</td>
<td>5,000</td>
</tr>
<tr>
<td>LGC Fee</td>
<td>12,500</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>5,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>644,800</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Underwriter’s Discount</th>
<th>Amount ($)</th>
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<tr>
<td>Takedown ($2.00/bond)</td>
<td>998,920</td>
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<tr>
<td>Expenses*</td>
<td>85,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1,083,920</strong></td>
</tr>
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</table>

*Includes Underwriter's Counsel
Bond Documents and Resolutions
Proposed Triangle Expressway System Senior Lien Turnpike Revenue Bond Anticipation Notes, Series 2020 (the “BANs”)

- Intent is to save interest costs by interim financing of Complete 540 Phase 1 costs at a rate less than interest rate on TIFIA 2019 Loan (2.27%)
- To be issued as Senior Lien on parity with outstanding revenue bonds but expected to have principal paid from draw on TIFIA 2019 Loan at project completion. Interest will be paid from proceeds of BANs
BANs Documents
Fifth Supplemental Trust Agreement

• Sets forth the terms for the BANs – maturity, rate, redemption provisions, etc.
• Includes a “best efforts” pledge to timely receive TIFIA 2019 Loan draws for BANs payment and, if not possible, find alternative financing for payment of BANs
• Includes one amendment to Trust Agreement to allow for payment of BANs from expected sources without disturbing usual flow of toll revenues
• Includes continuing disclosure obligations to provide investors with ongoing financial and operational information pursuant to SEC Rule 15c2-12
BANs Documents

Preliminary Official Statement

• Describes key terms of BANs including expected sources of payment
• Describes Triangle Expressway System and Complete 540 – Phase 1 briefly
• Describes Authority’s continuing disclosure undertaking
• To be revised for Final Official Statement upon sale of BANs
BANs Documents

Note Purchase Agreement

- Executed after the BANs are priced
- Commits the Underwriters to purchase the BANs
- Sets forth final terms of BANs and conditions to closing, including
  - Receipt of ratings
  - Closing certifications
  - Attorney opinions
BANs Resolutions

• Finance Committee Resolution
  • Makes recommendation to the Board

• Board Resolution
  • Adopts Bond Order and approves issuance of the BANs, subject to LGC approval
  • Approves execution and delivery of Fifth Supplemental Trust Agreement, Preliminary Official Statement, Note Purchase Agreement and other documents related to the BANs
  • Approves use of the Preliminary Official Statement and Final Official Statement by the Underwriters
  • Limits terms for BANs
    • Final maturity date: No later than April 2024
    • Maximum aggregate principal amount of $499,461,980
    • Maximum interest rate of 2.27%
    • Maximum percentage of aggregate discount to Underwriters of 0.25%
  • Requests LGC approval
## Tentative Financing Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
<th>Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/15</td>
<td>Finance Committee Approval</td>
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</tr>
<tr>
<td>8/6</td>
<td>NCTA Board Approval</td>
<td>✔️</td>
</tr>
<tr>
<td>Late Sept.</td>
<td>Receive Credit Ratings</td>
<td></td>
</tr>
<tr>
<td>10/6</td>
<td>LGC Approval</td>
<td></td>
</tr>
<tr>
<td>10/6</td>
<td>Posting of Preliminary Official Statement / Pre-marketing begins</td>
<td></td>
</tr>
<tr>
<td>10/14</td>
<td>Negotiated Bond Sale</td>
<td></td>
</tr>
<tr>
<td>10/29</td>
<td>Bond Closing</td>
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</tr>
</tbody>
</table>
Toll Technology Update

Manish Chourey
Chief Technology Officer
Project Timeline Projections

- **Roadside System**
  - Morrisville Interchange Installation Complete
  - I485 Pre-RFP work
  - Backoffice System
  - Functional Test (WIP)
  - Data Migration Iteration-1
  - CSC Operator Transition Complete on 5/30/2020

- **Roadside System**
  - Morrisville Interchange Go-Live – Aug 8th
  - I485 RFP Issuance
  - Backoffice System
  - Integration Test
  - Data Migration Iteration-2
  - Technology Initiatives
  - Connected Vehicle

- **Roadside System**
  - Tri-Ex Retrofit Start Install
  - I485 Vendor selection process
  - Backoffice System
  - Performance Test
  - Data Migration Iteration-3
  - Technology Initiatives
  - Automate Audit Functions

- **Roadside System**
  - Tri-Ex Retrofit Install Complete
  - I485 Start design work
  - Backoffice System
  - CSR Training
  - System Transition and Cutover
  - Technology Initiatives
  - Transponder Fulfilment

- **Roadside System**
  - Tri-Ex Retrofit Install Complete
  - I485 Development work
  - Backoffice System
  - System Stabilization and Acceptance
  - Technology Initiatives
  - Integrated Data Platform

- **Backoffice System**
  - Functional Test (WIP)
  - Data Migration Iteration-1
  - Technology Initiatives

Timeline provides Plan dates – subject to changes based on actual activities
Morrisville Interchange Toll System Update

✓ Installation and System Tuning complete
✓ Onsite Integration Testing to complete
✓ NCTA Employees and Audit Staff Training complete

➢ North and South Bound Interchange is scheduled to Go-live on 8/9
Transaction Statistics

<table>
<thead>
<tr>
<th></th>
<th>FY19 – Q1</th>
<th>FY19 – Q2</th>
<th>FY19 – Q3</th>
<th>FY19 – Q4</th>
<th>FY20 – Q1</th>
<th>FY20 – Q2</th>
<th>FY20 – Q3</th>
<th>FY20 – Q4</th>
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</thead>
<tbody>
<tr>
<td>Triangle Expressway Transactions</td>
<td>13,394,773</td>
<td>13,712,458</td>
<td>13,787,834</td>
<td>14,816,341</td>
<td>14,798,679</td>
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<td>12,821,214</td>
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<tr>
<td>YOY Percent Change</td>
<td>6.6%</td>
<td>8.3%</td>
<td>12.7%</td>
<td>7.5%</td>
<td>10.5%</td>
<td>7.4%</td>
<td>-7.0%</td>
<td>-51.5%</td>
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<tr>
<td>Monroe Expressway Transactions</td>
<td>-</td>
<td>1,253,524</td>
<td>6,096,550</td>
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<td>YOY Percent Change</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>31.3%</td>
<td>-12.5%</td>
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Customer Service Update

Manish Chourey
Chief Technology Officer

Angela Queensland
Customer Service Manager
Total Posted Transactions
Triangle Expressway

TriEx Posted Transactions
TriEx Prepaid %
Total Posted Transactions
Monroe Expressway

Monroe Posted Transactions
Monroe Prepaid %
New Bill by Mail Customers

An average of 6% of BBM customers that receive an invoice convert to NCQP Accounts.

Monroe Expressway Opening
I-77 Express Lanes Opening

Total Number of BBM Accounts

Percentage of Account Conversions
New NC Quick Pass Accounts

An average of 60% of new NCQP accounts are BBM customers that have converted after receiving an invoice.
Monthly Transponders Distributed

NC Quick Pass Program

853,839

Total Transponders Distributed as of June 30, 2020
CSC Covid-19 Response

Pandemic Update
• Employees and Embedded Consultants continue to work remotely
• Website trends indicate slight increase in traffic since previous month
• Call volumes remain at 70-80% compared to Feb-2020 volumes
• Plans under consideration to resume invoice escalation and registration stops September 2020
• Turnpike monitoring state guidelines to lift suspension on pursuing new debt 3rd party collections

CSC Operation is in Code Red
• Walk-in centers closed to public since March 2020
• Plans to reopen Charlotte and Monroe walk-in locations are underway
• CSR’s are spaced out to meet social distancing (6+ feet)
• CSC is current with incoming workload (calls, image reviews and fulfillment)
• Expansion area is in use for CSR training, transponder storage and BOS2 upgrade IV&V test area
CSC Operations Contract Transition

Transition Status
- Operator GC Services commenced Operations May 30, 2020
- Lower production work and call volumes allowed controlled transition
- Transition of staff members to GC Services employment has been smooth
- The new GC Services management team (the six key personnel) become more comfortable with each day.
- AECOM’s final management staff onsite until end of June 2020

Staffing/Training Updates
- GC Services retained 90%+ of staff through transition
- Customer service staff completed soft skills refresher
- Annual PCI training preparations underway
- GC Services conducting new-hire training classes
  - Applicants go through a multi-tiered interview process to vet quality candidates
Mainline Traffic Statistics
Triangle Expressway

Q4: April – June
AWT: Average Weekday Traffic

54.6% Decrease
FY19 Q4 AWT = 55,970
FY20 Q4 AWT = 25,420

53.4% Decrease
FY19 Q4 AWT = 19,020
FY20 Q4 AWT = 8,870

53.0% Decrease
FY19 Q3 AWT = 43,600
FY20 Q3 AWT = 20,500

44.4% Decrease
FY19 Q3 AWT = 20,520
FY20 Q3 AWT = 11,410
## Roadway Maintenance Statistics

**Triangle Expressway**

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<thead>
<tr>
<th></th>
<th>FY 2020 Q1</th>
<th>FY 2020 Q2</th>
<th>FY 2020 Q3</th>
<th>FY 2020 Q4</th>
<th>Rolling Rate</th>
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<tbody>
<tr>
<td>Road Surface</td>
<td>96.9</td>
<td>89.5</td>
<td>94.9</td>
<td>93.8</td>
<td>93.8</td>
</tr>
<tr>
<td>Unpaved Shoulders and Ditches</td>
<td>94.7</td>
<td>99.1</td>
<td>98.7</td>
<td>92.5</td>
<td>96.3</td>
</tr>
<tr>
<td>Drainage Structures</td>
<td>92.3</td>
<td>98.1</td>
<td>91.9</td>
<td>92.5</td>
<td>93.7</td>
</tr>
<tr>
<td>Roadside</td>
<td>94.7</td>
<td>96.2</td>
<td>94.7</td>
<td>91.7</td>
<td>94.3</td>
</tr>
<tr>
<td>Traffic Control Devices</td>
<td>86.6</td>
<td>90.9</td>
<td>90.4</td>
<td>86.8</td>
<td>88.7</td>
</tr>
<tr>
<td>Overall</td>
<td><strong>92.5</strong></td>
<td><strong>93.6</strong></td>
<td><strong>93.6</strong></td>
<td><strong>91.0</strong></td>
<td><strong>92.7</strong></td>
</tr>
</tbody>
</table>
Mainline Traffic Statistics

Monroe Expressway

-8.0% Decrease
FY19 Q4 AWT = 16,100
FY20 Q4 AWT = 14,820

-9.6% Decrease
FY19 Q4 AWT = 15,350
FY20 Q4 AWT = 13,880

-7.5% Decrease
FY19 Q4 AWT = 13,390
FY20 Q4 AWT = 12,390

0.2% Increase
FY19 Q4 AWT = 9,040
FY20 Q4 AWT = 9,060

Q4: April - June
AWT: Average Weekday Traffic
Complete 540 Outreach

- Virtual Neighborhood Meetings
- CAMPO Presentation
- Resident Communications
Status of Construction

- The project is approximately 95% complete
- All the Express Lanes were opened as of November 23, 2019
- The northern project section achieved final acceptance on July 15, 2020
  - Liquidated damages of $2.58M
- Final acceptance of central section is anticipated by early fall 2020
- Final acceptance of entire project by end of 2020
# Remaining Work

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paving</strong></td>
<td>• Paving of approximately 10% of the GP lanes remains</td>
</tr>
<tr>
<td></td>
<td>• Paving on various shoulders and ramps in the Southern section</td>
</tr>
<tr>
<td></td>
<td>• Complete paving on I-277, Oaklawn Avenue, and LaSalle Street</td>
</tr>
<tr>
<td></td>
<td>• Completion of final pavement markings and markers in the Central and Southern sections</td>
</tr>
<tr>
<td><strong>Noise Walls</strong></td>
<td>• Complete noise walls between I-277 and LaSalle Street</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>• Complete lighting in the South between I-85 and I-277</td>
</tr>
<tr>
<td><strong>Final Punch List Work</strong></td>
<td></td>
</tr>
</tbody>
</table>
Amendment 9

No cost amendment

Near-term contract improvements as discussed by the local advisory group, including:
- Increased Toll Rate Transparency
- Pilot program for medium-size truck usage of managed lanes
- Allowance for NCDOT Toll Rebate Program
Dedicated lanes for drivers seeking reliable travel times and improved connectivity in the U.S. 74 corridor in Matthews and Charlotte
## U.S. 74 Corridor Improvements

<table>
<thead>
<tr>
<th>Express Lanes (EL)</th>
<th>General Purpose Lanes</th>
<th>Grade Separations</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL Access Points</td>
<td>Auxiliary Lanes</td>
<td>Bicycles &amp; Pedestrian Facilities</td>
</tr>
<tr>
<td>EL Direct Connectors</td>
<td>Interchanges</td>
<td>Parallel Roads</td>
</tr>
</tbody>
</table>

*Existing and Extended General Purpose Lanes Will Not Be Tolled*
**STIP Project U-6103**

U.S. 74 between I-277 and Idlewild Road

$95M (STIP)

ROW and Construction – FY 23

**STIP Project U-2509**

U.S. 74 between Idlewild Rd and I-485

$878M (STIP)

A – ROW – FY 21; Construction – FY 22

B – ROW and Construction – FY 23
STIP Project U-6103
U.S. 74 between I-277 and Idlewild Road
- Coordination with CATS and other stakeholders
- Environmental Document – 2021

STIP Project U-2509
U.S. 74 between Idlewild Rd and I-485
- Environmental Assessment approved – January 2020
- Public Hearings held – January 2020
- FHWA Cost Estimate Review conducted – June 2020
- Final environmental document (FONSI) – August 2020
- Contemplating stakeholder meeting for this fall
Complete 540
<table>
<thead>
<tr>
<th>Commitment</th>
<th>Status Update</th>
</tr>
</thead>
</table>
| Land Acquisition                          | - Agreement with Wake County executed  
|                                           | - Funding for four years                                                                                                                   |
| Stream Protection/Mitigation               | - Additional stream mitigation beyond permitting requirements  
|                                           | - 2 batches – 35,000 linear feet now; 12,000 linear feet in the future  
|                                           | - Determined priorities with the Neuse & Tar-Pamlico River Basin Partnership  
|                                           | - Better for the environment, providing sooner, more economical                                                                           |
| Johnston County Stormwater Program         | - Agreement with Johnston County executed  
|                                           | - Funding provided early                                                                                                                   |
| Vehicle Miles Traveled Study               | - Firm under contract to conduct study to determine strategies for reducing VMT  
|                                           | - Study has been underway for a couple of months                                                                                             |
| Mussel Propagation Facility               | - Supplemental Agreement executed to fund additional 5 years of operations  
|                                           | - Advance funds provided to ensure current work can continue                                                                               |
| Research Projects for Protected Species    | - Research ideas submitted for this cycle of research funding                                                                               |
Project Readiness

Completed Activities
• Environmental Document
• Section 404/401 Corridor Permits
• Biological Opinion
• Air Quality Conformity
• Preliminary Design/Public Hearing Map
• Final Surveys
• Interchange Access Reports
• Service Road Study

Activities Underway
• Reevaluation of Traffic Forecasts and Analysis
• Refining Preliminary Design
• Confirming Environmental Mitigation Availability
• Traffic and Revenue Studies
• Roadway and Structure Geotechnical Investigations

Future Preconstruction Activities
• Refining Project Cost Estimate
• Other Financial Preparations
• Pavement Design and Life Cycle Cost Analyses
• Plans for right-of-way acquisition (no MAP Act)
• Utility Coordination
• Railroad Coordination
• Procurement Strategy
• Industry Coordination
Preliminary Findings
Preliminary Findings

**Study Purpose**

- Advance ideas for improving and accelerating regional connectivity
- Accelerate effective, all-day mobility along our freeway and street-system that can expand and improve over time
- Complement existing and emerging travel options
- Serve as a valuable template for other regions of the state
FAST study approach
Preliminary Findings

Transit System

Planned Commuter Rail
**Preliminary Findings**

**BRT corridors:** High-frequency, high quality, subregional connections

**Commuter rail:** Express, regional, low/moderate frequency connection

**FAST:**
- Assumes completion of BRT, multiple linkages to commuter rail
- Provides complementary, effective, regional connections
- **Accelerates creation of true regional transit network**
Creating a regional FAST network

- **Bigger** network – more routes
- **Better** network – more frequency, new service patterns
- **Faster** network – more “transit advantages”

**FAST mindset**
Add improvements quickly, then scale them over time
Preliminary Findings

Mobility criteria
- Travel Demand
- Transit Performance
- Traffic Performance
- Context

Accessibility criteria
- Access Equity
- Planned Projects
- Missing Links
Preliminary Findings

2030 Trip Origins to Chapel Hill
Preliminary Findings

2030 Trip Origins to Durham and Duke
Preliminary Findings

2030 Trip Origins to South Durham
Preliminary Findings

FAST Network

2030 Trip Origins to RTP
Preliminary Findings

FAST Network

2030 Trip Origins to RDU
Preliminary Findings

2030 Trip Origins to North Cary
Preliminary Findings

2030 Trip Origins to Blue Ridge/Crabtree
Preliminary Findings

2030 Trip Origins to WakeMed/St. Albans
Preliminary Findings

2030 Trip Origins to Crossroads/S Cary
Preliminary Findings

2030 Trip Origins to All Zones

Trip Origins (1 dot = 5 trips)
- to Chapel Hill
- to Duke & Downtown Durham
- to South Durham
- to RTP
- to RDU
- to North Cary
- to Blue Ridge & Crabtree
- to NCSU
- to Downtown Raleigh
- to Wake Med & St. Alban’s
- to Crossroads & South Cary
Potential transit advantages
Low-cost transit advantages -- Freeways

- On-ramp signal bypass
- Bus On Shoulder System (BOSS)
- Yield-to-Bus

Prioritize corridor features where they are anticipated to have the greatest impact.
Prioritize corridor features where they are anticipated to have the greatest impact.
FAST Network Characteristics

Stop Features

- Level Boarding
- Enhanced Bus Stop
- “Floating” Bus Stop

Source: Metropolitan Council

Source: KCATA

Source: Oran Viriyincy
Proposed 2025 FAST network
Preliminary Findings

FAST Network

Immediate Freeway Corridors

- US 15/501
  - Bus On Shoulder System

- I-40 & NC 147
  - Bus On Shoulder Expansion
  - Increased Service Frequency & Span

- South Durham
  - Direct Pedestrian Access

- RTP/Davis Drive
  - Direct Access Ramps

- RDU
  - Direct Access Ramps

- Wilmington St
  - Direct Access Ramps

RDU

High priority: FAST Freeway
0-5 Years: FAST Freeway
0-5 Years: Direct Access
Future BRT
BRT
Preliminary Findings

**FAST Network**

**Immediate Freeway & Street Corridors**

- **US 15/501**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding

- **NC 54/Raleigh Rd**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding

- **Holloway/Main/Erwin**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding
  - Floating Bus Stops

- **Six Forks Rd**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding
  - RED Bus Lanes (portion)
  - Floating Bus Stops

- **Glenwood Ave (west of I-440)**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding
  - RED Bus Lanes (portions)

- **Glenwood Ave (east of I-440)**
  - Traffic Signal Priority
  - Enhanced Access/Stops/Boarding
  - RED Bus Lanes (portions)

- **Capital Blvd**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding
  - Future Through Lanes

- **Poole Road**
  - Traffic Signal Priority
  - Queue Jump Lanes
  - Enhanced Access/Stops/Boarding
  - Floating Bus Stops

**Systemwide**

- Increased Frequency
- Off-Board Fare Collection

**Other Improvements**

- Floating Bus Stops (some)
Preliminary Findings

10 freeway and street FAST corridors
7 of 10 begin at a proposed BRT linkage
"Interlining" with 2+ routes along part of a BRT lane (e.g.)

- Increased speed and reliability
- Higher frequency
- Multiple travel options
Example future FAST corridors
Preliminary Findings

Immediate Freeway & Street Corridors

- Orange County
- Durham County
- Wake County

High priority: FAST Freeway
High priority: FAST Street
0-5 Years: FAST Street
0-5 Years: FAST Freeway
0-5 Years: Direct Access
Future BRT
BRT
Preliminary Findings

Future Freeway & Street Corridors

- High priority: FAST Street
- High priority: FAST Freeway
- 0-5 Years: FAST Street
- 0-5 Years: FAST Freeway
- 5-10 Years: FAST Street
- 5-10 Years: FAST Freeway
- 10+ Years: FAST Street
- 10+ Years: FAST Freeway
- 0-5 Years: Direct Access
- 5-10 Years: Direct Access
- 10+ Years: Ped Access
- BRT
- Commuter Rail
Minneapolis: I-35W Lake Street Station

Source: https://www.metrotransit.org/i-35w-lake-street-station
Wrap Up
Public Comment Period

• Download a version of this presentation at letsgetmoving.org/FAST

• Email comments to FAST@letsgetmoving.org

• 45-Day Comment Period
  July 16-August 31
Next Steps

• Review ongoing/upcoming highway projects for potential transit advantage incorporation opportunities

• Develop implementation playbook for several illustrative examples
  • High priority projects
  • 0-5 year projects
Preliminary Findings

FAST Network

Purpose

FAST
Freeway And Street-based Transit network

Connect Champion
Capitalize
Complement Existing Investments
Leverage Future Opportunities

Improve Accessibility

Capitalize on the Great Work already being done.
• Taruna Tayal | ttayal@vhb.com | 919.741.5525
• Don Bryson | dbryson@vhb.com | 919.334.5615
Thank you!