

# North Carolina Turnpike Authority

Board of Directors - Operations Committee Meeting

July 16, 2020



# Opening Comments

**JJ Eden**

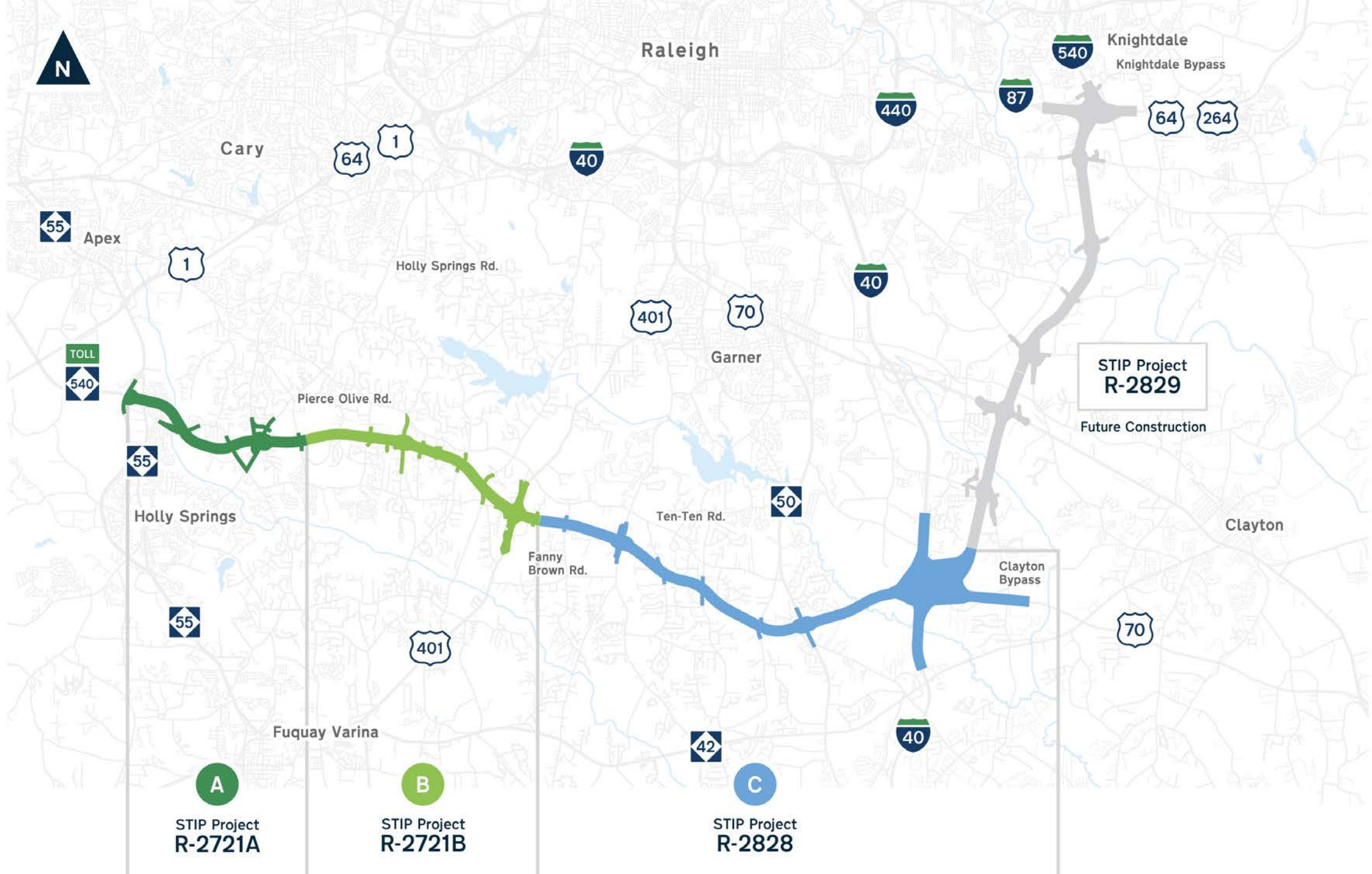
Executive Director

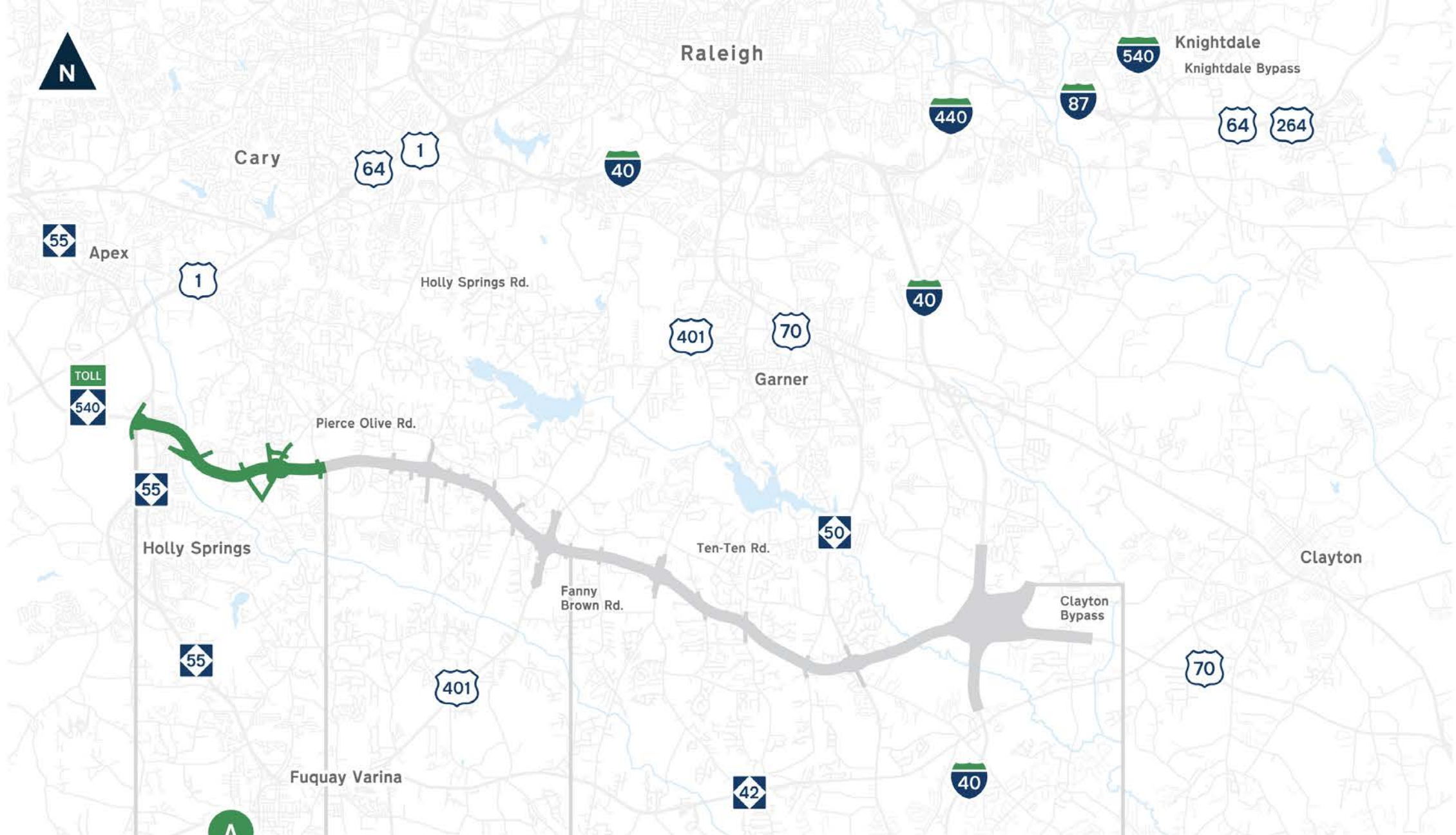
## May Statistics

- **Triangle Expressway**
  - Transactions – 2.4 million
  - Revenue - \$3.0 million
- **Monroe Expressway**
  - Transactions – 2.5 million
  - Revenue - \$1.4 million
- **Transponders**
  - Nearly 10,900 distributed
  - Nearly 843,000 distributed program-to-date as of May 31, 2020

# Complete 540 Construction Update

**Dennis Jernigan, P.E.**  
Director of Highway Operations





**A**  
STIP Project  
R-2721A

STIP Project  
R-2721B

STIP Project  
R-2828

R-2721A

A

77%

Plans for Construction

4.3 miles

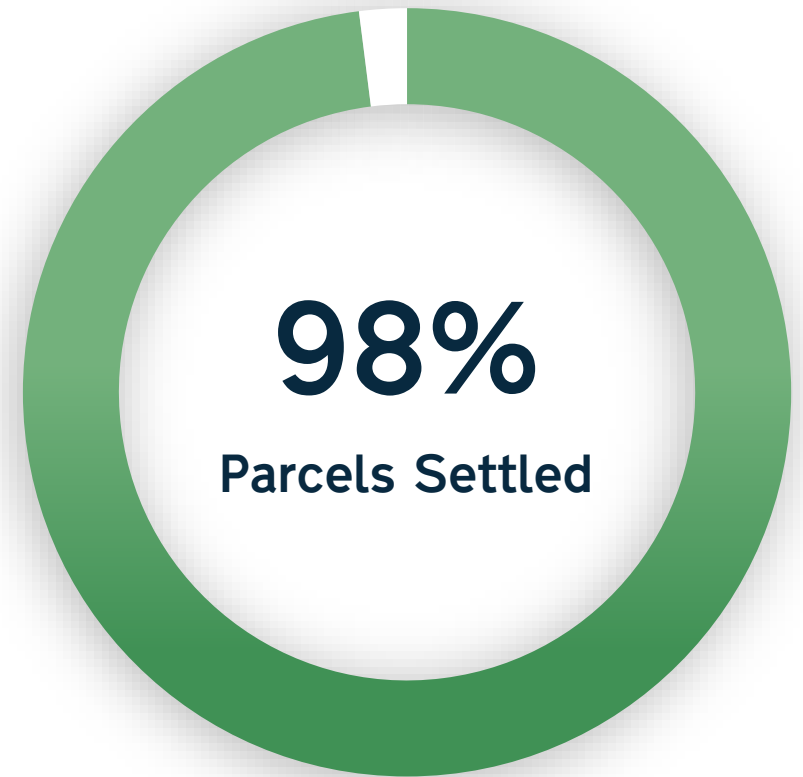
Length of Project

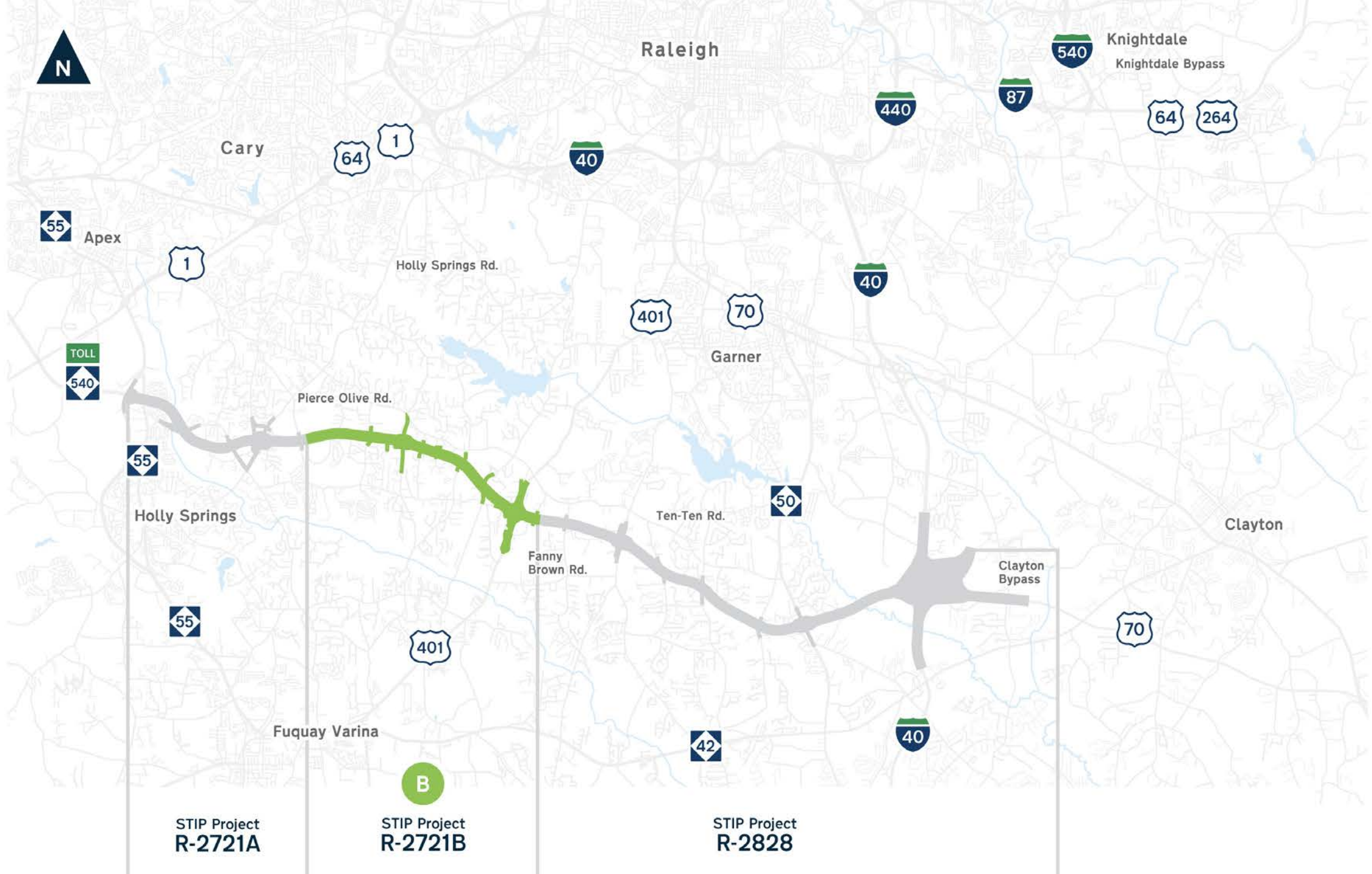
\$183.5M

Cost of Contract

196

Design Submittals





STIP Project  
**R-2721A**

STIP Project  
**R-2721B**

STIP Project  
**R-2828**



R-2721B

B

83%

Plans for Construction

4.9 miles

Length of Project

\$160.0M

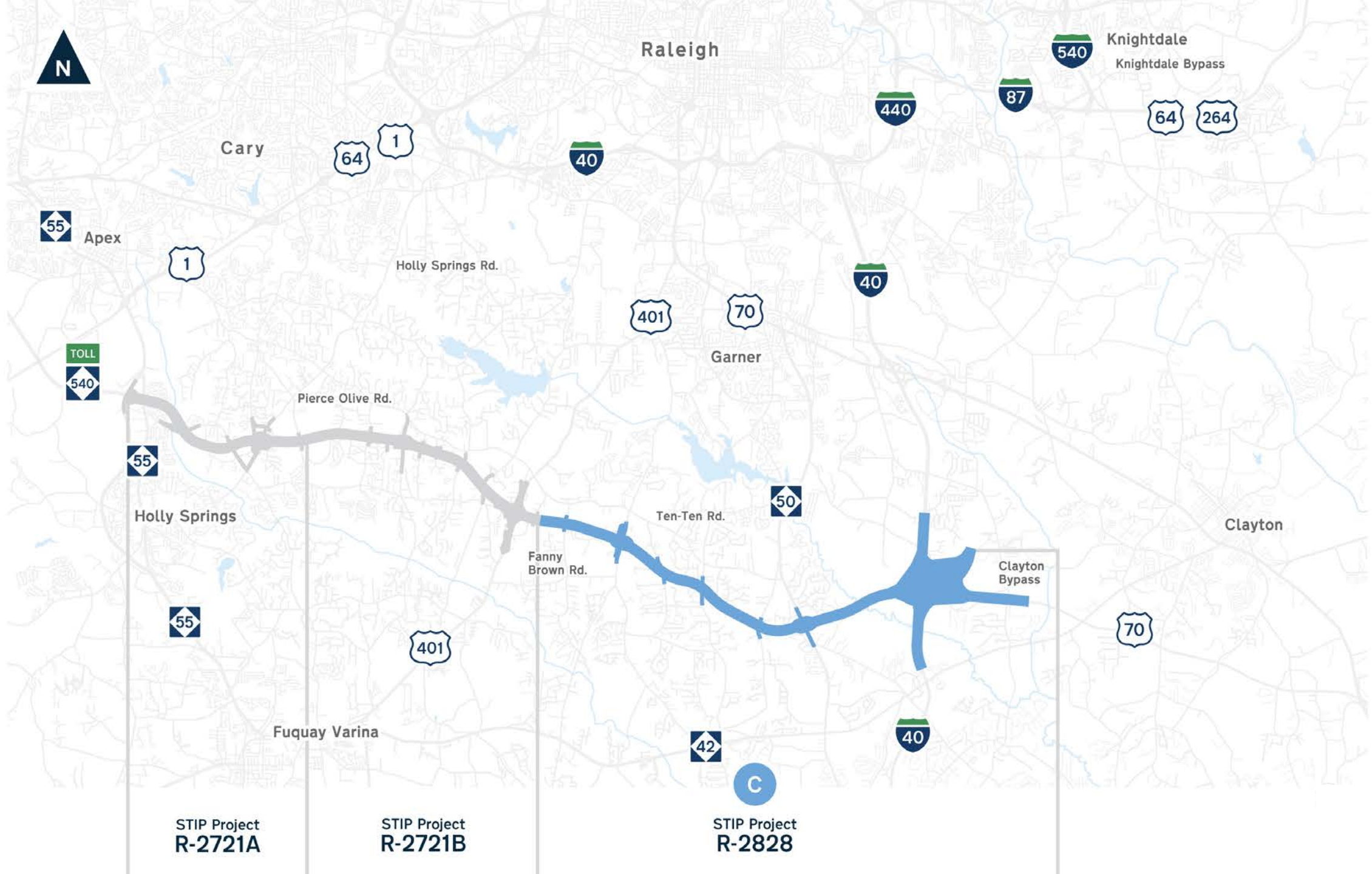
Cost of Contract

170

Design Submittals

96%

Parcels Settled



STIP Project  
**R-2721A**

STIP Project  
**R-2721B**

STIP Project  
**R-2828**

R-2828



93%

Plans for Construction

8.6 miles

Length of Project

\$403.2M

Cost of Contract

390

Design Submittals

89%

Parcels Settled



**STIP Project R-2829**  
Future Construction

**A**  
STIP Project R-2721A

**B**  
STIP Project R-2721B

**C**  
STIP Project R-2828

- # Interchanges**
- 1 - N.C. 55 Bypass
  - 2 - Holly Springs Rd. (S.R. 1152)
  - 3 - Bells Lake Rd. (S.R. 1386)
  - 4 - Fayetteville Rd. (U.S. 401)
  - 5 - Old Stage Rd. (S.R. 1006)
  - 6 - N.C. 50 / Benson Rd.
  - 7 - I-40 & U.S. 70 Clayton Bypass







RTSC3  
WACKER NEUSON  
BRANCH CIVIL

Large corrugated metal pipes with various markings and handwritten text, including '14 1/2\"/>







# Complete 540 Outreach



Virtual Neighborhood Meetings

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CAMPO Presentation

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Resident Communications

# I-485 Express Lanes Update

**Andy Lelewski, P.E.**  
Director of Program Development

## Division 10 Construction Update

- 6 structures and 2 box culverts are under construction.
- 1 box culvert completed.
- Over 29 miles of portable concrete barrier have been installed.
- Approximately 14,000 LF of pipe have been constructed.



Segment C Median Widening near Rea Road

## Division 10 Construction Update

- Over 8 miles of median widening is under construction.
- 4,500 LF of median barrier wall is complete.
- Soil stabilization, ABC placement, and asphalt paving is ongoing.
- Over 7,500 LF of conduit has been installed for ITS/AET facilities.



Segment C Median Widening near Ballantyne Commons Parkway

## Division 10 Construction Update

- Westinghouse Road interchange Direct Connector construction is ongoing.



## Division 10 Construction Update

- McAlpine Creek Bridge construction is beginning.



## Division 10 Construction Update

- Johnston Road interchange Direct Connector construction is ongoing.





## Division 10 Construction Update

- Ballantyne Commons Parkway bridge foundations began on 6/1/20. Cap construction is beginning now.



## Division 10 Construction Update

- John St. interchange bridge widening is underway.



# Toll Collection System

## What NCTA Will Provide

- Design, test, installation, operations, and maintenance of the Roadside Toll Collection System (RTCS)
- Dynamic pricing system
- Operations and maintenance of some components of the Intelligent Transportation System (ITS)

# NCTA Activities

## Recent NCTA Accomplishments

- Review of Toll Zone infrastructure, Intelligent Transportation System, Toll Collection Signing/Pavement Marking submittals

Section	Discipline	Status	Last Reviewed
All	AET	RFC	Jun-20
Early Works	ITS	RFC	Oct-19
All	ITS	100%	Current
A&B Early Works	Signing	RFC	Apr-20
A&B	Signing	100%	Current
C&D Early Works	Signing	RFC	Apr-20
C&D	Signing	90%	Current
A&B	Pavement Marking	RFC	Jun-20
C&D	Pavement Marking	100%	Current

# NCTA Activities

- Upcoming NCTA Work
  - Monitoring of Early Work along the corridor
  - Continue review of submittals
  - Developments of I-485 related operations policies
- Schedule
  - Summer 2020 – Release of RTCS Request for Proposals
  - Fall 2020 – Commencement of tolling

# Customer Service Center Update

**Manish Chourey**  
Chief Technology Officer

# Covid-19 Response

## Pandemic Update

- Employees and Embedded Consultants continue to work remotely
- Website trends indicate slight increase in traffic since previous month May and June 2020
- Call volumes remain at 70-80% compared to Feb-2020 volumes
- Plans under consideration to lift suspension of invoice escalation and plate registration stops
- Turnpike monitoring state guidelines to lift suspension on pursuing new debt 3<sup>rd</sup> party collections

## CSC Operation is in Code Red

- Walk-in Centers are shutdown since 3/18/2020
- Plans to Reopen Charlotte and Monroe Walk-in locations are under considerations for - first week of August
- CSR's are spaced out to meet social distancing (6+ feet)
- CSC is keeping current with incoming workload (Image reviews, Customer Calls and requests, fulfillment)
- Expansion Area is in use for CSR Training, Transponder storage and BOS2 upgrade IV&V Test area

# Customer Service Update

## Staffing/Training Updates

- The new GC management team has completed a full month of operations
- Hiring new resources go through two levels of interviews a. Phone b. In-person
- Staff members completed Soft skills refresher
- Annual PCI training preparations underway
- Next training class tentatively scheduled for 7/20 with social distancing and use of technology
- Call monitoring feedback are provided via in-person instructions and developing modules

## Plan Reviews

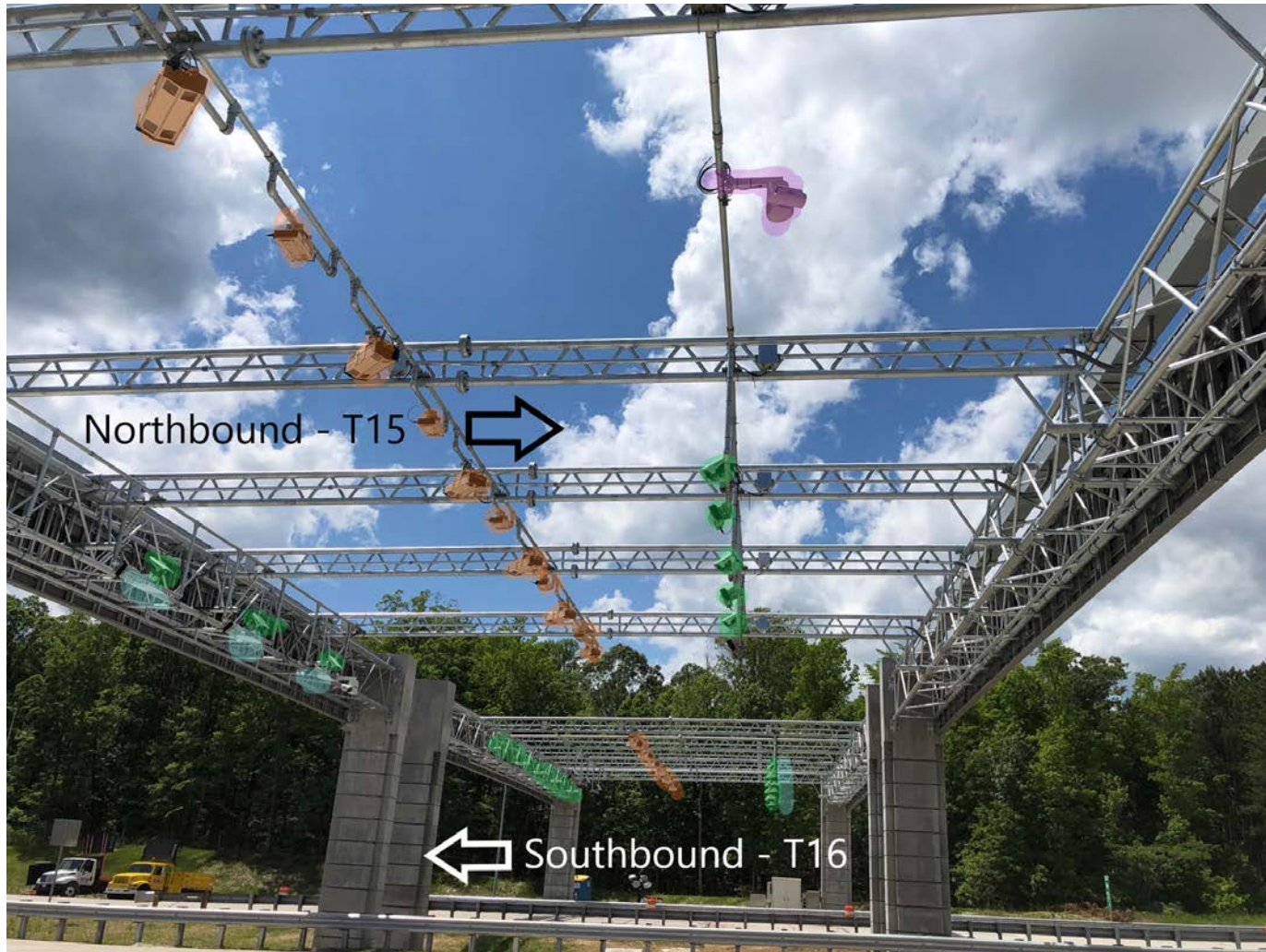
- Business Operations Continuity and Disaster Recovery plans are under review
- Staff forecasting plans are under review due to changes in Image review functionality and Training plans for upcoming system upgrades



# Toll Technology Update

**Manish Chourey**  
Chief Technology Officer

# Morrisville Interchange Toll System Installation - Complete



## Equipment Overview

- nVDC (orange): Next generation Vehicle Detection Classification
- IAG-2 AVI Antennas (Blue) read transponders as the vehicle pass through toll zone
- VRX Cameras (green) used for license plate image capture
- DVAS (pink): Digital Video Audit System
- Idris (smart loops) uses a series of wire loops in the pavement

# Morrisville Interchange Toll System Update

## Installation and Tuning

- Lane-side equipment is installed at the Morrisville Toll Zones and the Host is installed at the NCTA CSC data center in Morrisville
- Kapsch is finalizing the configuration and tuning of this equipment in preparation for formal commissioning

## Testing

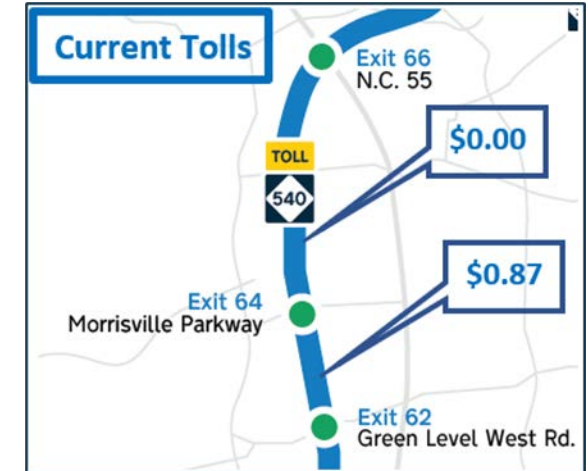
- RTCS-BOS Interface Testing was completed in April 2020
- Host and Lane-side Commissioning testing is scheduled to take place between 7/13 and 7/31/2020
- This testing is inclusive of end-to-end testing with the Back-Office System

## Training

- Kapsch and NCTA are coordinating to finalize training materials
- Schedule CSR and Audit staff training sessions in preparation of Morrisville Go-Live

## Upcoming Major Milestones

- Morrisville Toll Zones scheduled to be commissioned by 7/31
- Morrisville Interchange is scheduled to go-live on 8/9



# Connected Vehicle Data

wejo



Data pulled every 3 seconds (300,000 Vehicles in NC)

## Key Benefits

- Instant data without expensive "tube" or "clicker"
- Immediate detection of real time events
- Enables data sharing for traffic planning and operations



# Connected Vehicle Data – Morrisville Parkway Interchange Analysis

Analyze changes in traffic patterns around the opening of the new Morrisville Parkway Interchange

## Three phases of Analysis

- ✓ Phase 1 (Prior Covid-19) is the analysis of connected vehicle traffic prior to opening the interchange.
- ✓ Phase 2 (Stay at home orders) is the analysis of period after the interchange opened but prior to tolling.
- Phase 3 is the analysis of period after tolling commences. Tolling is expected to commence later this summer.

## Benefits to NCTA/NCDOT

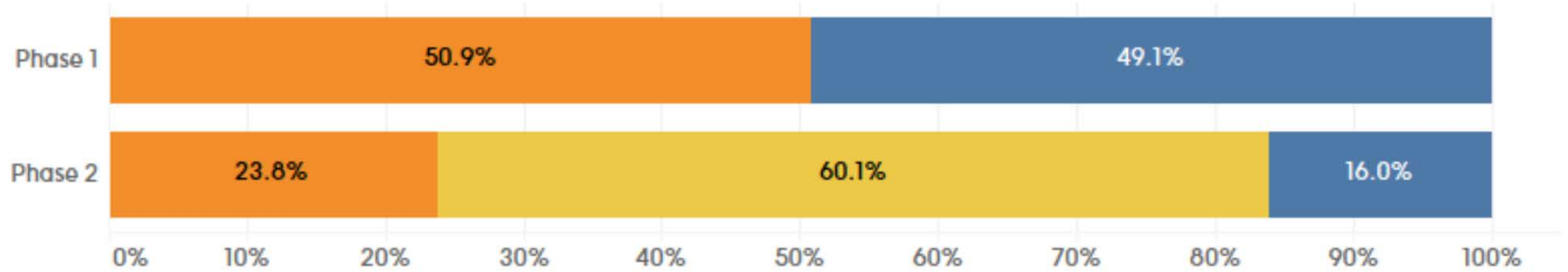
- The data provides origin-destination from unique vehicles captured in region of interest.
- The connected vehicle data sets allows planners and operators to evaluate the impact of new capacity.

## Summary of results:

- NC 55 saw a drop of nearly 27% of traffic which diverted to Morrisville Parkway.
- Green level West saw the biggest drop of nearly 33% of traffic which diverted to Morrisville Parkway
- Traffic correlated to Toll collection system traffic.

# Connected Vehicle Data – Morrisville Parkway Interchange Analysis Results - 1

## Interchange Accessed



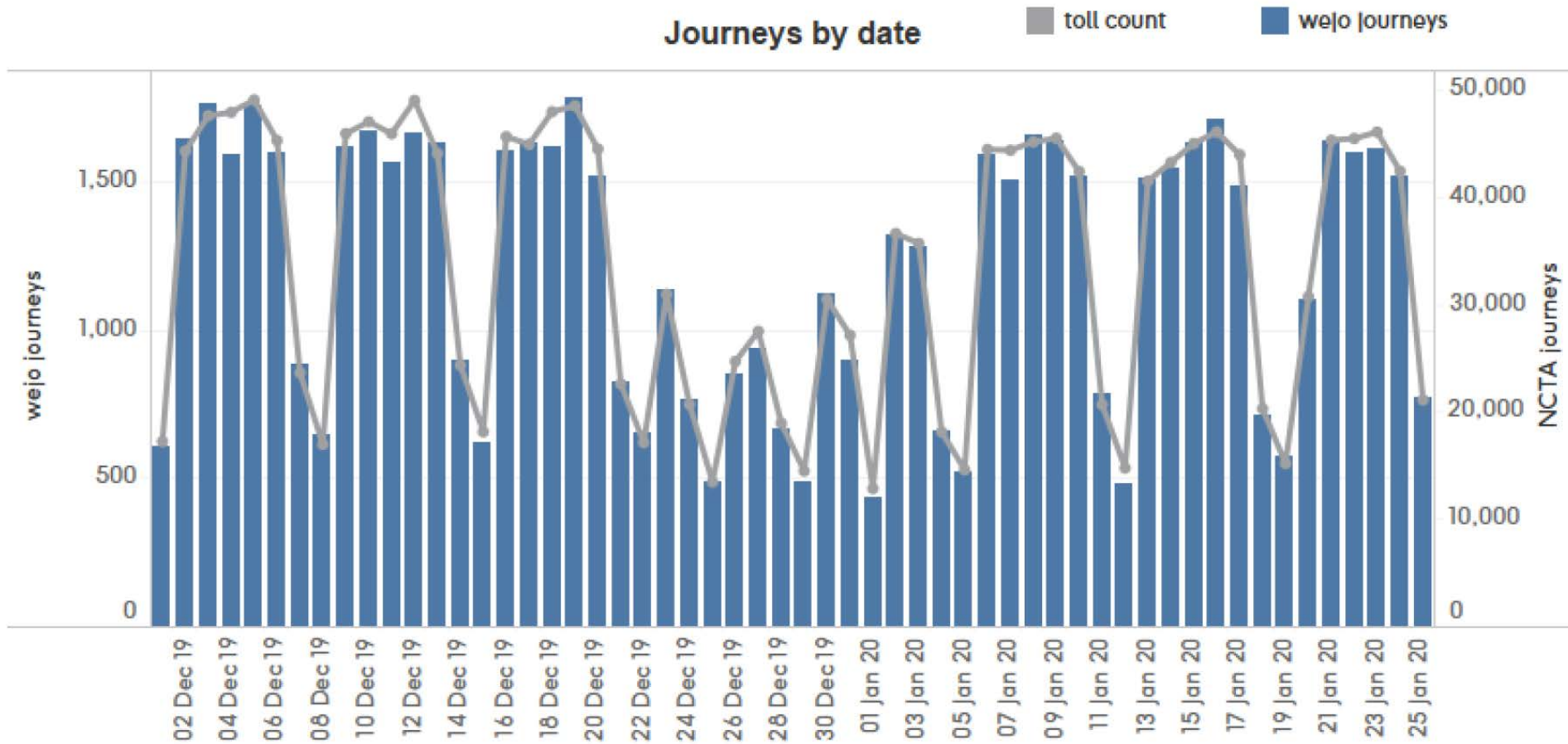
Interchange accessed

NC55

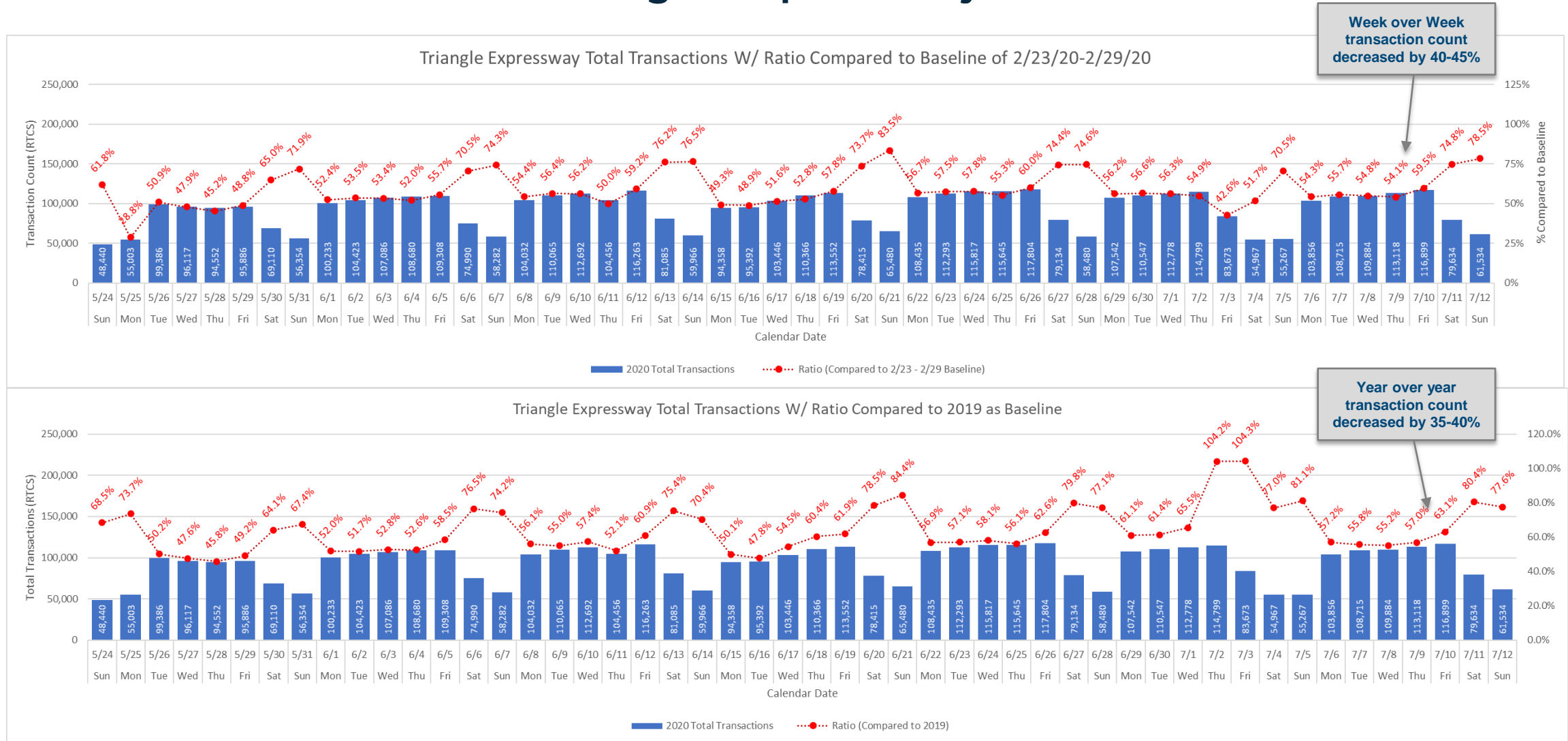
Morrisville Parkway n & s

Green Level West

# Connected Vehicle Data – Morrisville Parkway Interchange Analysis Results - 2



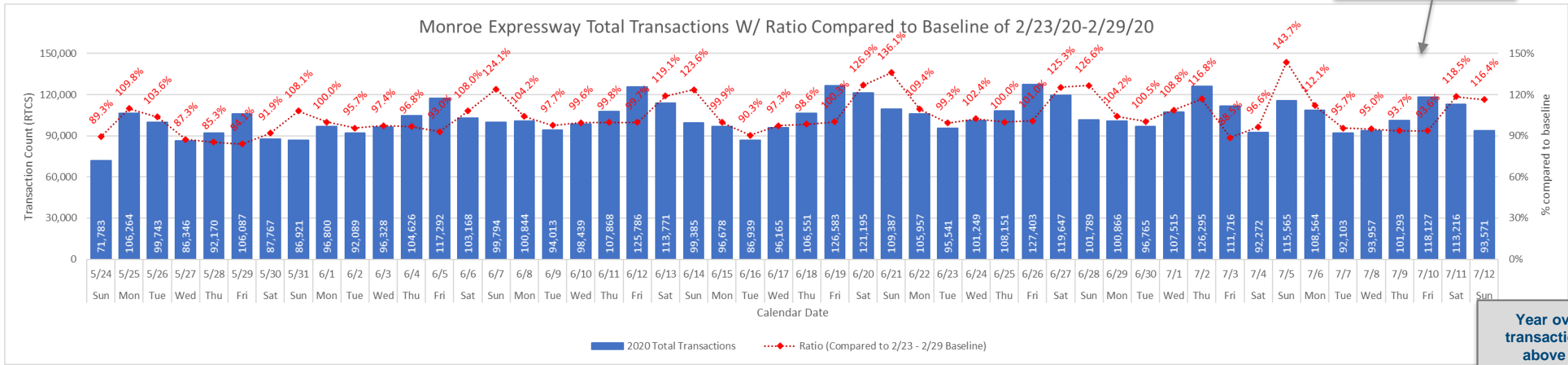
# Transaction Statistics – Triangle Expressway



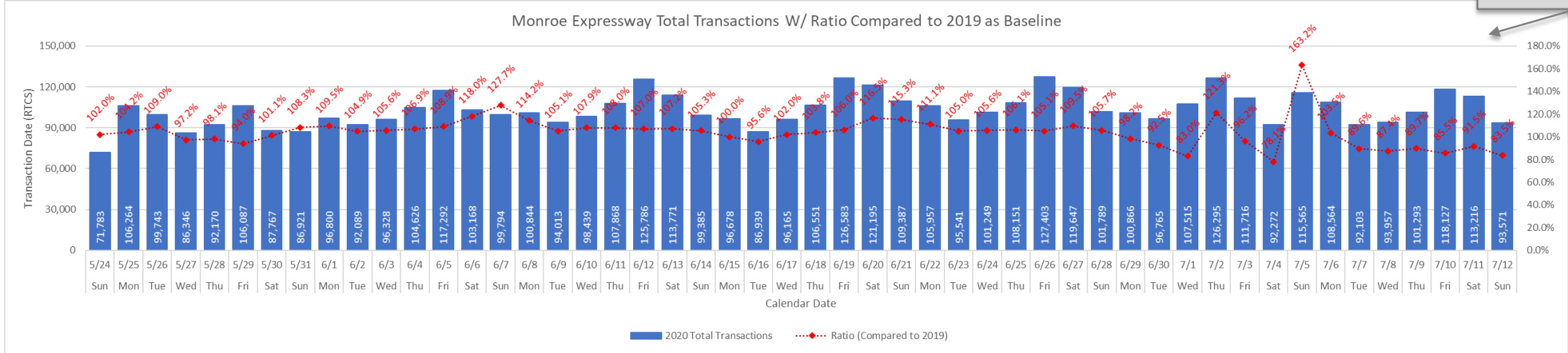


# Transaction Statistics – Monroe Expressway

Week over Week transaction count decreased by 5%



Year over Year transaction count above by 5%

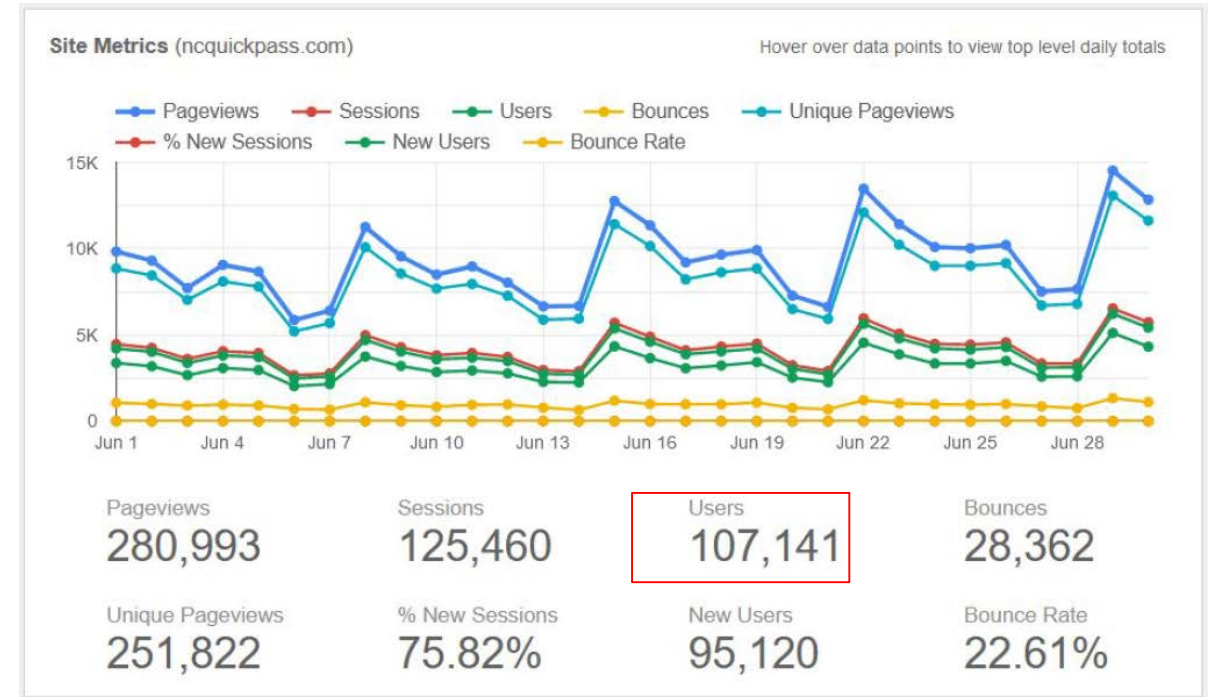


# NCTA Quick Pass Web Site Metrics

## January-2020



## June-2020





**Thank you!**