

NORTH CAROLINA

Department of Transportation



NCDOT IMD – Innovations & Data Branch

Sarah Searcy – Deputy Director for Innovations & Data

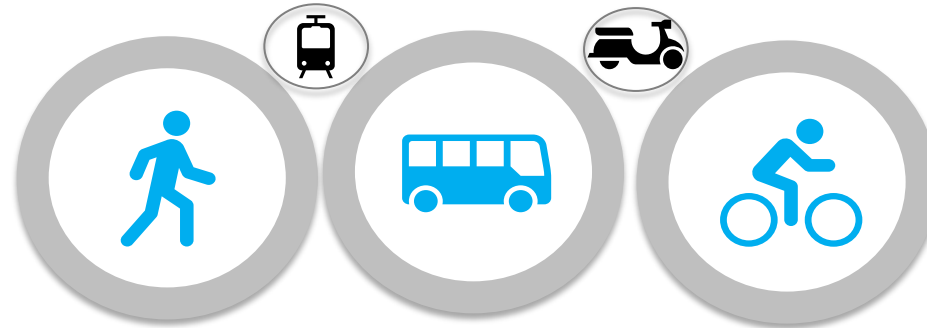
June 16th, 2022

Agenda

- NCDOT IMD – Mission, Vision, and Goals
- Division Organization
- Innovations & Data Branch and Sections
 - Overview and Goals
 - Projects, Activities, and Initiatives
- Looking to the Future



Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION



Mission: Provide leadership for safe, affordable, and **innovative** multimodal transportation throughout North Carolina

Vision

- No remaining transportation barriers or unmet needs.
- Technology and innovation make all modes of transportation quicker, cleaner, cheaper, more convenient, and safer.
- Shared mobility options are better than driving in terms of time, convenience, cost, and safety.
- All transportation users are accommodated safely.
- Residents are happier, healthier, and more likely to participate and succeed in the economy.

Core Goals:

Increase
Access

Enhance Quality
of Life

Ensure
Safety

Integrated Mobility Division

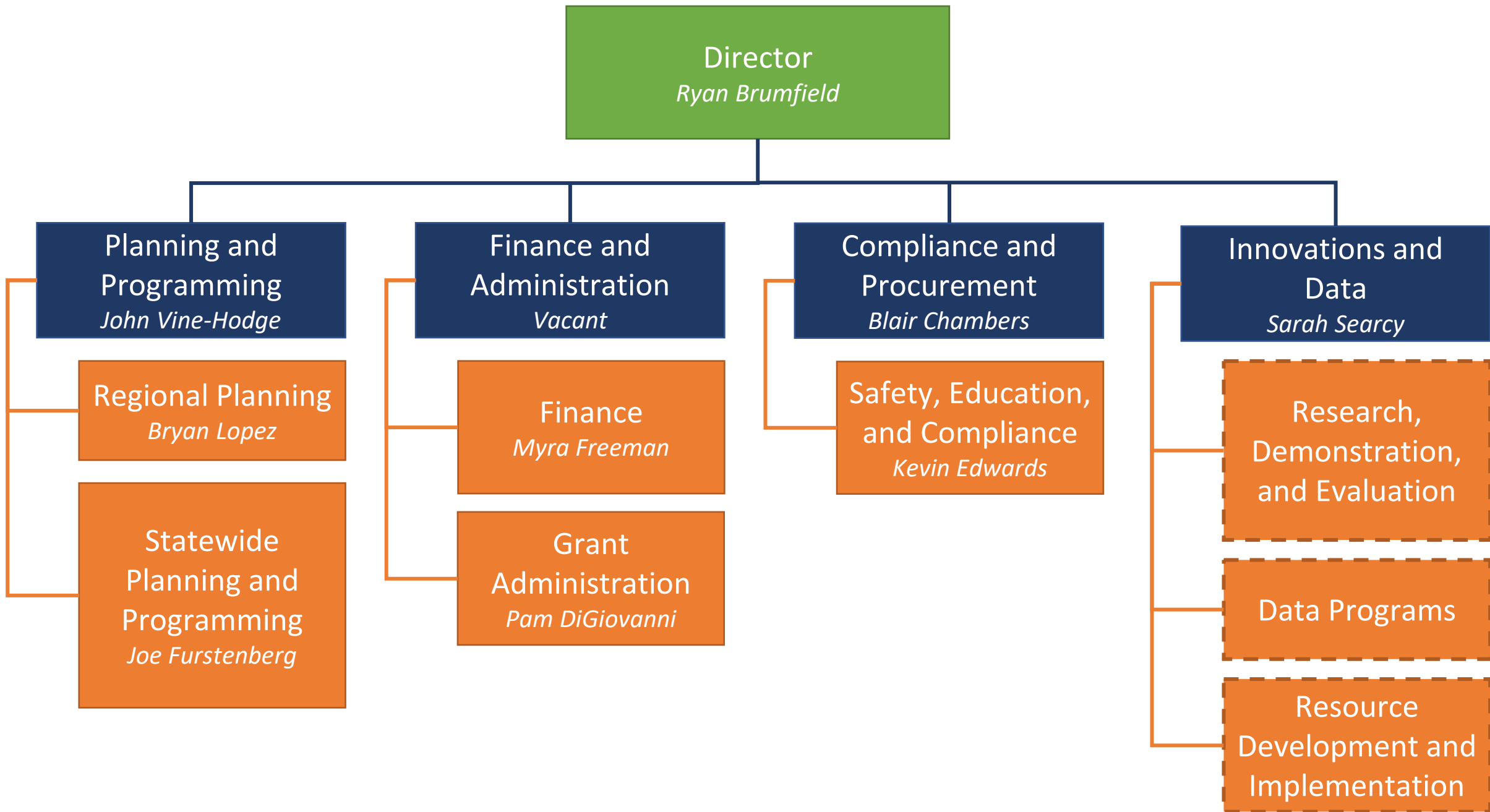
Mission:

To provide leadership for safe, affordable, and **innovative** multimodal transportation throughout North Carolina.

Innovations and Data Branch

Mission:

Direct and manage research activities, pilot and demonstration projects, and data programs to advance the implementation of best practices in support of safe, affordable, and innovative multimodal transportation throughout North Carolina.



Innovations and Data Branch

Research, Demonstration,
and Evaluation

New Mobility

Connected Autonomous Vehicles
(CAV)

Mobility as a Service (MaaS)

Microtransit

Zero Emission Vehicles (ZEV)

NC Clean Transportation Plan

Fleet Transition Plans

Data Programs

Bicycle and Pedestrian

Crash Data

Infrastructure Network Data

Volume Data

Transit

Maintenance Data

Utilization Data

Service Data

Financial Data

Resource Development and
Implementation

Policy Analysis

Concept Development

Strategic Planning and
Outreach

IMD's Innovation Process

- Understand emerging mobility trends and challenges
- Develop ideas
- Secure funding
- Pilot innovations
- Shape new policy, deploy proven concepts broadly, and disseminate best practices

Recent Examples



Innovations and Data Branch

Research, Demonstration, and
Evaluation

Connected Autonomous Vehicles (CAV)



Why this project?

PILOT: LEARNING ABOUT AV
LEARN ACROSS DOT AGENCY
EVALUATE SAFETY
FIRST MILE/LAST MILE
SOLUTION FOR LIMITED MOBILITY
PED AND VEHICULAR INTERACTIONS WITH AV
INFRASTRUCTURE NEEDS
STUDY VARIOUS TRANSIT USE CASES
PROVIDING OPPORTUNITIES FOR PARTNERS
ADVANCE TECHNOLOGY
INFORM POLICY AND RULEMAKING



Automated vehicles that accurately detect, recognize, anticipate, and respond to the movements of all transportation system users could lead to breakthrough gains in transportation safety.



Project Goals



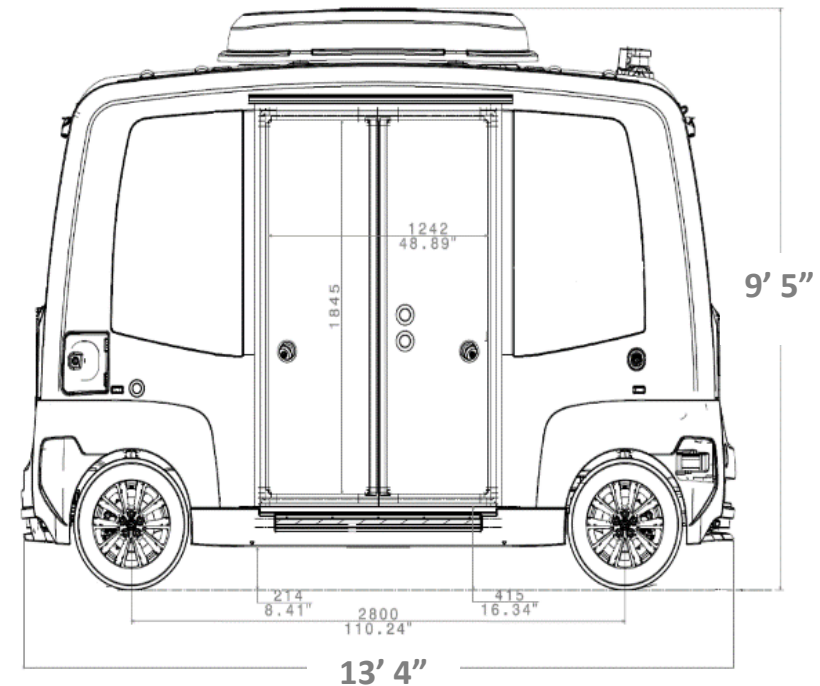
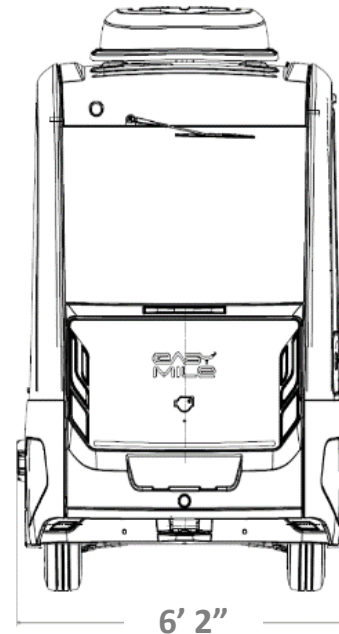
Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION



cassi The Shuttle

Connected Autonomous Shuttle
Supporting Innovation

- EasyMile EZ10 Gen3 vehicle
- Low-speed, electric, driverless shuttle
- Level 4 automation
- Transport up to 6 people plus the operator
- 12 mph top speed
- Fixed route – pre-determined, pre-mapped
- Up to 16 hours of operations
- ADA compliant with access ramp



Deployment 1: NCDOT Transportation Summit Convention Center, Raleigh



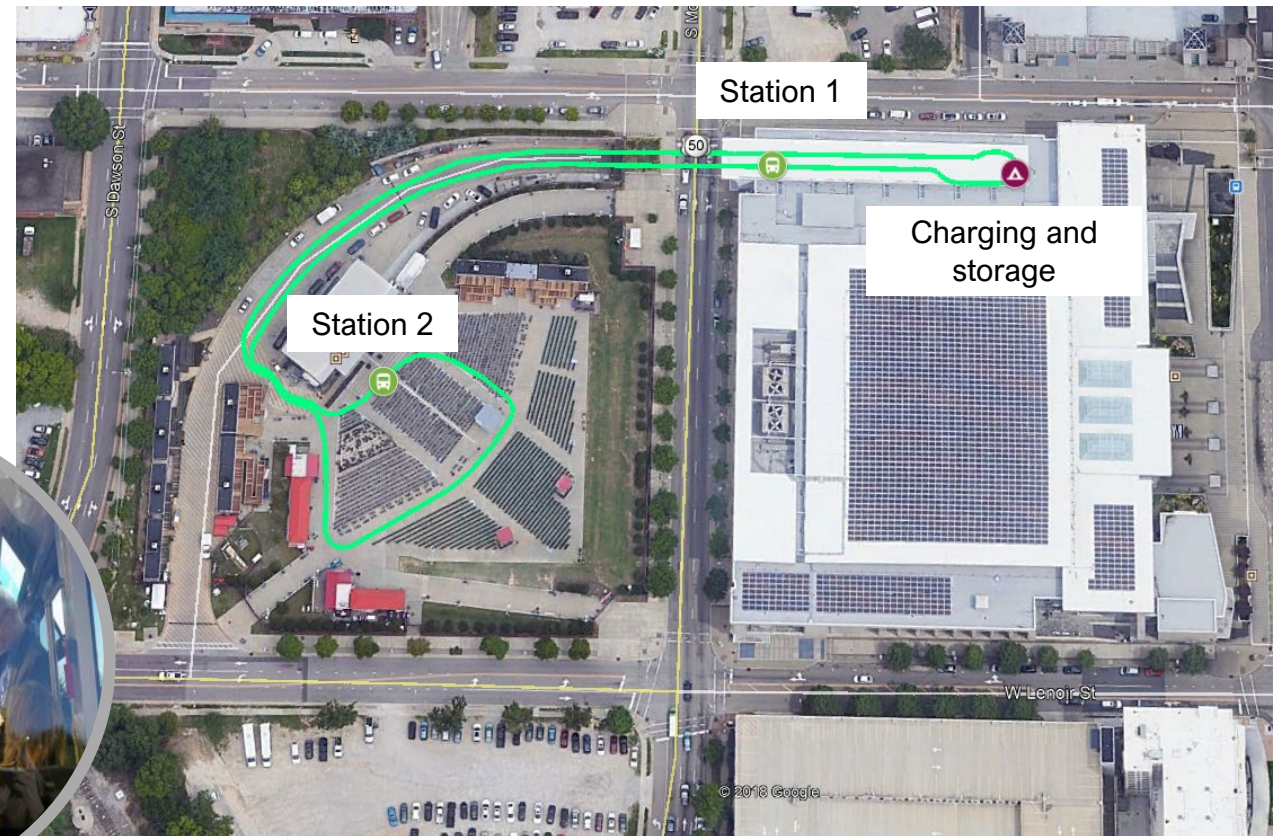
Dates: January 8-9, 2020

Ridership: around 300

Length: 2,000 feet

Speed: 7-8 mph

*Available for Transportation
Summit attendees*



Deployment 2: NCSU Centennial Campus



Dates: Jan 21-Feb 25, 2020
(operations for 3 weeks)

Feb 25, 2020
(NHTSA suspension)

March 10, 2020
(Governor's COVID-19 SOE)

Ridership: 260

Length: 0.8 mi

Speed: 10 mph

Open to public



Deployment 3: Wright Brothers National Memorial



Dates: April 20-July 16, 2021 (operations for 13 weeks)

Ridership: 3,335 (with COVID-19 capacity restrictions)

Length: 1.2 mi

Speed: 10-12 mph

Open to public



First autonomous shuttle deployment at a National Parks site



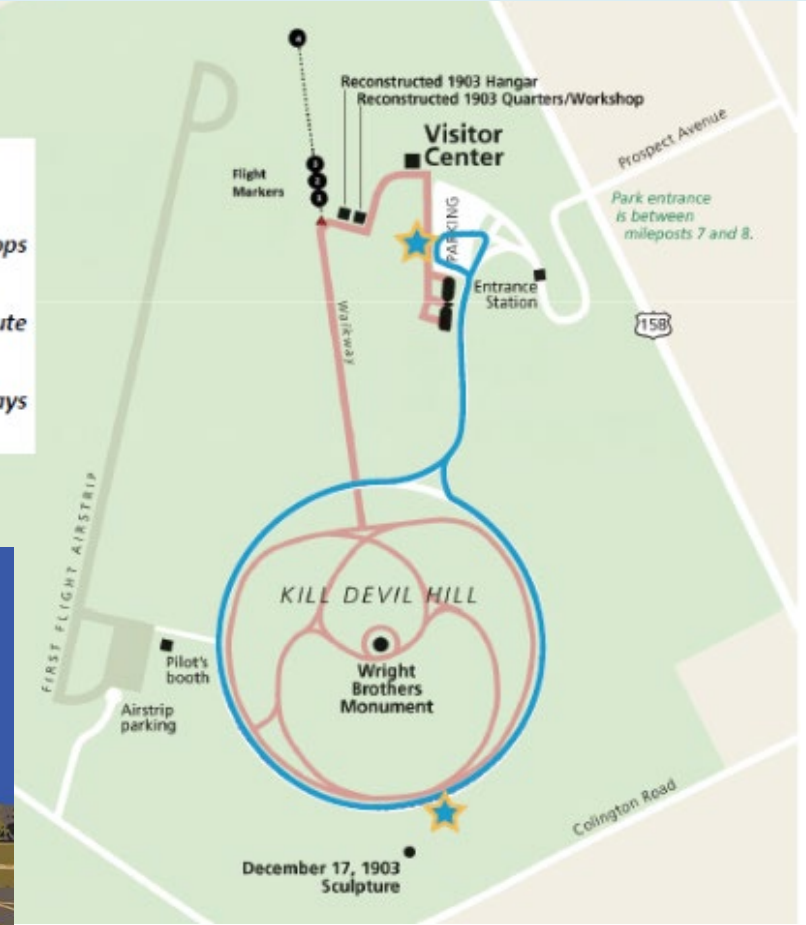
Survey responses: 364

LEGEND

- ★ Shuttle Stops
- Shuttle Route
- Walkways

I rode the cassi shuttle
at Wright Brothers National Memorial

Tell us about your ride!
<http://go.ncsu.edu/wrbr>



Evaluation and Lessons Learned

- Technology
- Route Design
- Infrastructure
- Operations
- Regulatory
- Public Perception

First in Flight, First in Automation:
NCDOT and NPS Pilot an Automated Shuttle
at the Wright Brothers National Memorial

Joshua Cregger, Kendall Mahavier, Amalia Holub, Elizabeth Machek, Travis Crayton, Rahi Patel,
Stephanie Sudano, Amanda Good, Katie Wong, and Steve Suder

FINAL REPORT — May 2022
DOT-VNTSC-NPS-22-02
WRBR 361/180195

Prepared for:
National Park Service
Washington Support Office
Washington, DC

North Carolina Department of Transportation
Integrated Mobility Division
Raleigh, NC

U.S. Department of Transportation
Volpe Center

[Link to Report](#)

National Park Service
U.S. Department of the Interior

Park Planning, Facilities and Lands Directorate
Park Facility Management Division
Washington, D.C.

National Park Service

**Automation in Our Parks: Automated Shuttle Pilots at
Yellowstone National Park and Wright Brothers National
Memorial**



NATIONAL PARK SERVICE
June 2022

[Link to Report](#)

Innovations and Data Branch

Research, Demonstration, and
Evaluation

Mobility as a Service (MaaS)

Mobility as a Service (MaaS)

Mobility as a Service (MaaS) is “an **integrated** mobility concept in which travelers can access their **transportation modes** over a single **digital interface**. MaaS primarily focuses on passenger mobility, allowing travelers to seamlessly **plan, book, and pay** for travel on a pay-as-you-go and/or subscription basis.”

Source: National Center for Applied Transit Technology’s “Mobility as a Service: Now and in the Future” White Paper
Free Download: <https://n-catt.org/resources/mobility-as-a-service-now-and-in-the-future/>

IMD's Transit Technology Vision

- Anyone can plan, book, and pay for travel across all modes of transportation in one place
- On-demand transit (day-of or hour-of pickup) statewide with seamless cross-jurisdiction trips
- Statewide advanced scheduling software connected by Mobility-as-a-Service (MaaS)



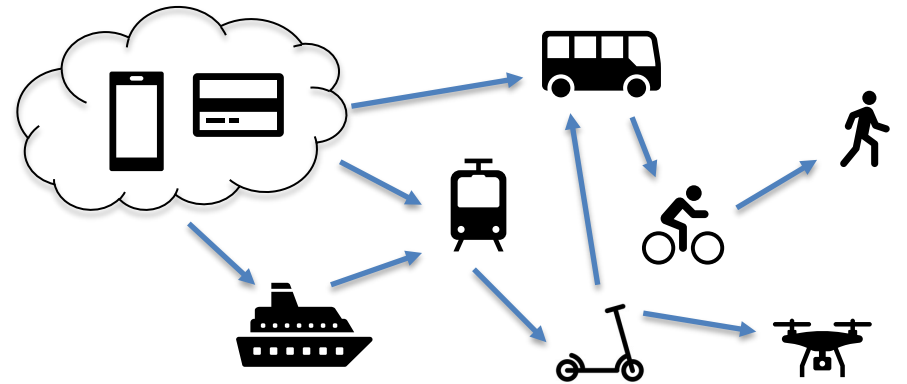
Mobility as a Service (MaaS) Levels



Source: Jana Sochor, Hans Arby, MariAnne Karlsson, and Steven Saranini, "A topological approach to Mobility as a Service: A proposed tool for understanding requirements and effects, and for aiding the integration of societal goals," 1st International Conference on Mobility as a Service, Tampere, Finland, November 28-29, 2017.

IMD's Mobility as a Service (MaaS) Initiatives

- Level 1 MaaS Virtual Training
- Request for Information (RFI)
- Statewide Feasibility Study
- Statewide Transit Software Solution RFP



Innovations and Data Branch

Research, Demonstration, and
Evaluation

Microtransit

Microtransit Overview

A technology-enabled transit service that typically uses shuttles or vans to provide pooled on-demand transportation with dynamic routing.

While it uses similar technology such as a mobile app for requesting and scheduling rides, microtransit is different than a rideshare like Uber or Lyft:

- Typically subsidized
- Operates in defined service zones
- Combines trips rather than serving single trips
- Provides lower fares
- Employs professional drivers and dedicated vehicles



Service Models



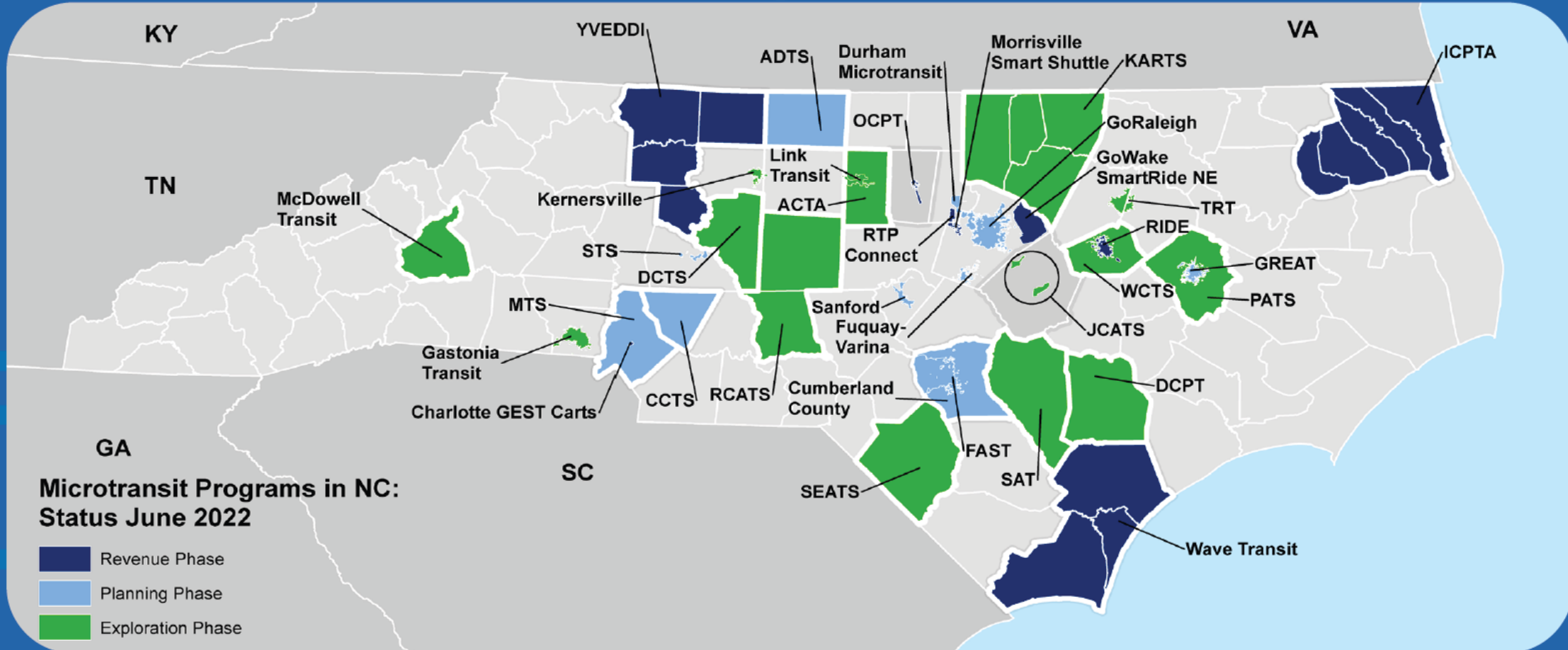
Software as a Service (SaaS)

Provides the software and the transit agency provides the drivers, vehicles, and operations management.

Transportation as a Service (TaaS) / Turnkey

Provides the drivers, vehicles, software, and operations management as a turnkey solution on behalf of the transit agency.

Where is microtransit being implemented?



Subject to change as additional projects are initiated and implemented.

North Carolina Examples



IMD's Key Roles in Wilson Microtransit

Funding

- State and federal support through NCDOT
- September 2020 – FTA awarded NCDOT and Wilson a competitive grant for \$250,000 as part of the Accelerating Innovation Mobility program

Technical Assistance

- Ensuring compliance with federal and state requirements



IMD's Microtransit Initiatives

- Feasibility/Service Planning Studies
- Research Study – *Public Microtransit Pilots in the State of North Carolina: Benefits, Costs and Lessons Learned* (ITRE/NC State University)
- USDOT Rural Surface Transportation Grant Application – [Mobility for Everyone, Everywhere in North Carolina \(MEE NC\)](#)

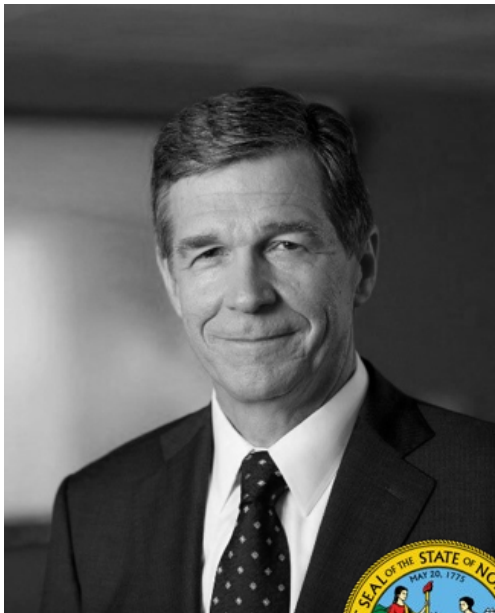
Innovations and Data Branch

Research, Demonstration, and
Evaluation

Zero Emission Vehicles (ZEV)

NC Clean Transportation Plan
Fleet Transition Plans

Executive Orders



Gov. Roy Cooper



2018

EO 80

Reduce economy wide emissions by 40% below 2005 levels by 2025

Increase total number of registered ZEVs to at least 80,000 by 2025

Reduce energy consumption in state-owned buildings by 40% below 2002-2003 levels

2022

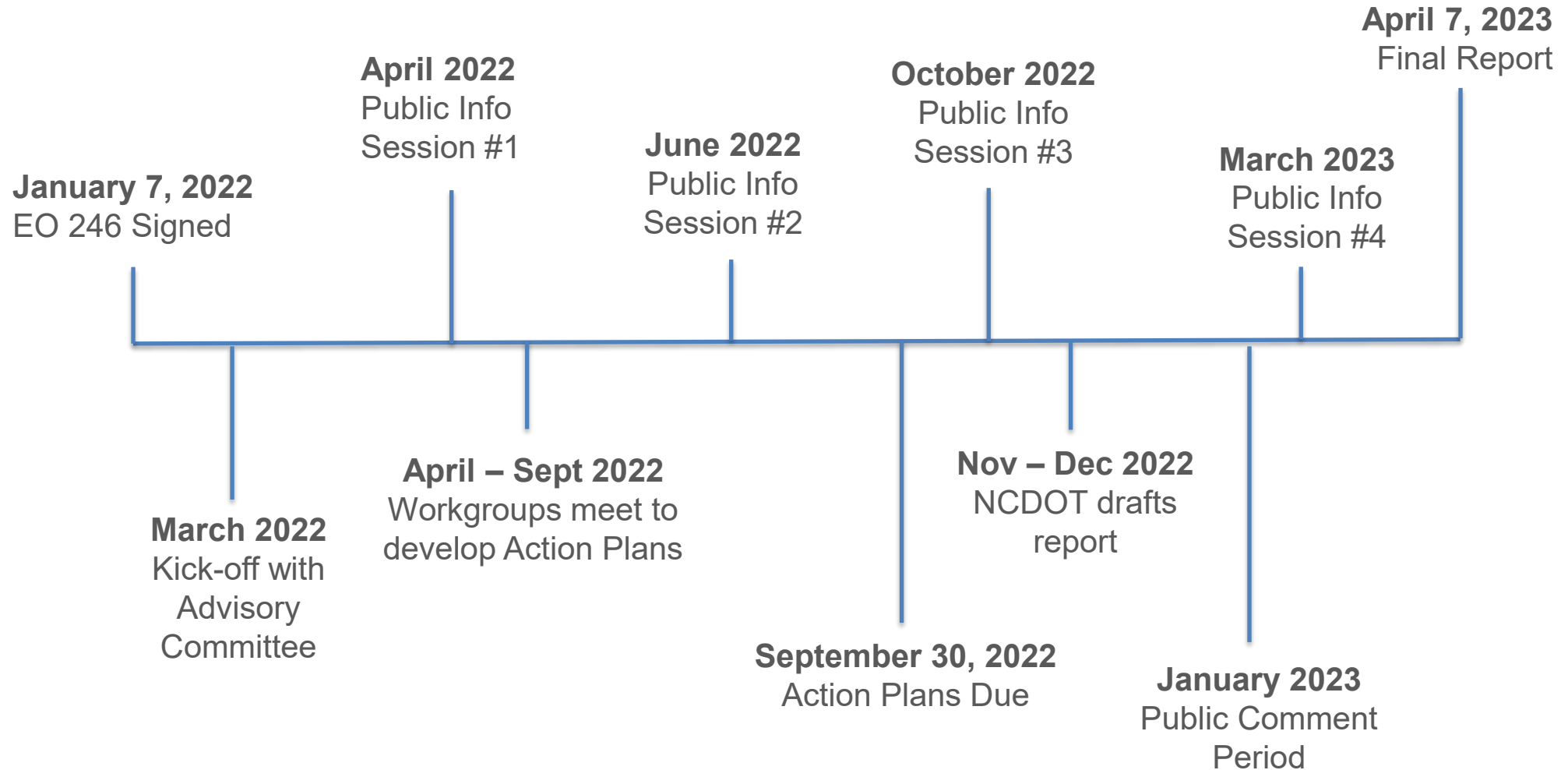
EO 246

Reduce economy wide emissions by **50%** below 2005 levels by **2030**

Increase total number of registered ZEVs to at least **1.25 million by 2030**

Increase the sale of ZEV so that **50% of in-state sales** are zero emission by 2030

NCCTP Timeline





Working Group Topic Areas

Light Duty ZEV

- Focus on light duty vehicle transition
- Vehicle availability and consumer education
- Incentives and affordable financing options

Medium/HD ZEV

- Builds off the multistate M/HD MOU
- Environmental Justice outreach to impacted communities
- Includes low-carbon fuels

Fleet Transition

- Public entities (state and local fleets)
- Private entities
- School buses

Vehicle Miles Traveled

- Builds off existing VMT Task Force
- Includes transit, bike-ped, passenger rail and other non-vehicle transportation modes

Clean Transportation Infrastructure

- EV Charging Infrastructure
- Alternative fuels infrastructure
- mapping, siting and identification of gaps

Fleet Transition Work Group

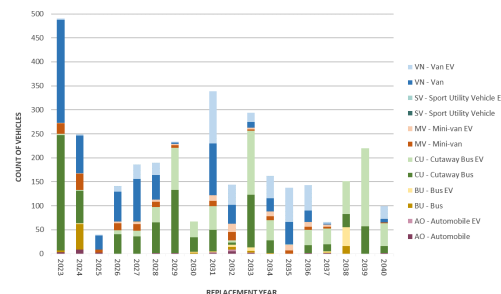
- **Action:** Work with public and private entities to accelerate the transition to zero- and low-emission fleet vehicles – includes public (state and local) and private fleets and school buses
- **Goal:** Develop aspirational targets with corresponding actions that address future purchase and replacement of internal combustion engine (ICE) fleet vehicles with fully electric plug-in or plug-in-hybrid electric vehicles and investment in charging infrastructure
- **Six workgroup meetings** (two hours each) with a co-creation approach to author an Action Plan
 - Working group creates the content
 - Staff and consultant support to wrap the content in narrative using a consistent outline

ZEV Transit Fleet Transition Plans

FTA Requirement under the Bipartisan Infrastructure Law (BIL)

- The BIL requires that any application for projects related to zero-emission vehicles under the FTA's Grants for Buses and Bus Facilities Competitive Program (49 U.S.C. § 5339(b)) and the Low or No Emission Program (49 U.S.C. § 5339(c)) include a Zero-Emission Transition Plan.
 - ITRE assisted to develop a statewide plan that meets the minimum requirements to use for grant submittals that was finalized in May 2022.

2025	5% ZEV
2030	50% ZEV
2040	75% ZEV
2050	100% ZEV



HOPE Grant – “Mountains to Sea: Electrifying North Carolina’s Transit Fleets”



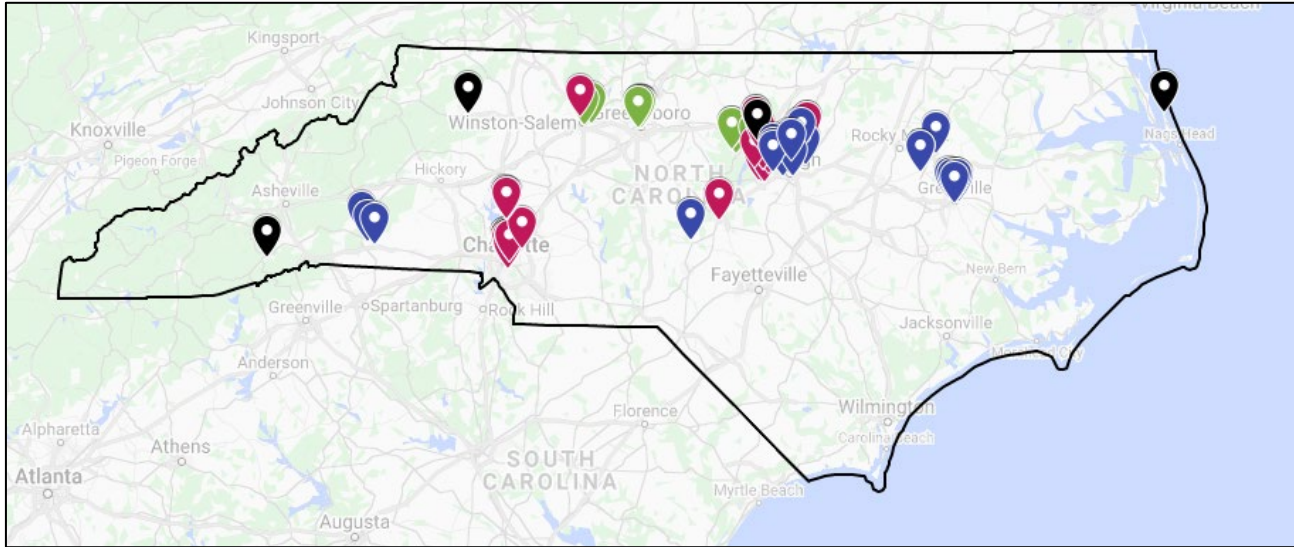
- The Center for Transportation and the Environment (CTE) will assist the Division to develop plans for AppalCART in Watauga County and the Hoke Area Transit Service (HATS) in Hoke County.

Innovations and Data Branch

Data Programs

Bicycle & Pedestrian

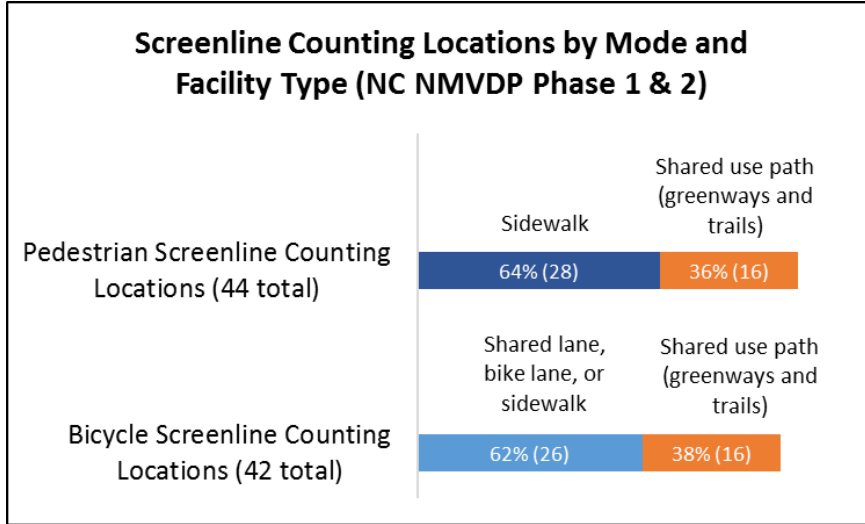
North Carolina Non-Motorized Volume Data Program (NC NMVDP)



NCDOT-Purchased Counters in the NC NMVDP:

- **Eco-Counter MULTI Systems**
 - Passive infrared pedestrian sensors and inductive loop bicycle sensors
- **48 Counting Locations (Stations)**
- **71 Counting Systems (Loggers)**
- **141 Total Sensors**









20+ additional counting locations were onboarded into the program that were purchased/installed by local agencies in the state.



Phase 1 & 2 Agencies

- Winston-Salem
- Greensboro
- DCHC MPO
- *Durham*
- *Brevard*
- *North Wilkesboro*
- *Duck*
- Charlotte
- Davidson
- Sanford
- CAMPO

Bicycle and Pedestrian Counting Technologies

Technology Type	Common Manufacturers	User Type	Duration	Typical Uses
Infrared (Active and Passive)	<ul style="list-style-type: none"> • TRAFx • EcoCounter • TrailMaster 	 <p><i>Does not automatically distinguish between peds/bikes.</i></p>	Short or long	Sidewalk or shared-use path
Pneumatic Tubes	<ul style="list-style-type: none"> • EcoCounter • MetroCount • TRAFx • Road Sys 		Short	On-road
Inductive Loop	<ul style="list-style-type: none"> • EcoCounter • Road Sys 		Long	On-road or paved shared-use path
Magnetometer	<ul style="list-style-type: none"> • TRAFx 		Long	Shared-use path
Piezoelectric	<ul style="list-style-type: none"> • MetroCount 		Long	On-road
Radar Sensors	<ul style="list-style-type: none"> • Sensys Networks 		Long	On-road
Thermal Imaging	<ul style="list-style-type: none"> • FLIR 		Long	On-road
Video Imaging	<ul style="list-style-type: none"> • Miovision 		Short or long	On-road



Louch, H., David, B., Voros, K., O’Toole, K., & Piper, S. (2016). Innovation in Bicycle and Pedestrian Counts: A Review of Emerging Technology. Alta Planning and Design.

Counters used in the NC NMVDP

Eco-Counter MULTI Systems

- Passive infrared pedestrian sensors and inductive loop bicycle sensors

Learn more about counting technologies and field test results from North Carolina



go.ncsu.edu/bikepedcounters

North Carolina Non-Motorized Volume Data Program (NC NMVDP)

NC STATE UNIVERSITY

[COVID-19 UPDATES](#)
[RESOURCES](#)
[search nc state](#)

Institute for Transportation Research and Education

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North Carolina Non-Motorized Volume Data Program

About

ITRE manages the North Carolina Non-Motorized Volume Data Program (NC NMVDP) for the North Carolina Department of Transportation (NCDOT). The NC NMVDP began as a research project to test a bicycle and pedestrian count protocol for replication across the state. The program currently includes one of the most extensive statewide networks of continuous bicycle and pedestrian counting sensors and provides data management and reporting support for multiple local agency partners. The bicycle and pedestrian counting systems are installed on sidewalks, bike lanes, shared lanes, and shared use paths across the state. The program is a team effort that involves cooperation and collaboration between local agency partners (municipalities and regional planning agencies), NCDOT, ITRE, and our counting technology vendor, Eco-Counter.

The data produced from this program can be used to evaluate facility usage over time, inform the project prioritization process, provide quantifiable evidence to support multi-modal Complete Streets policies, and improve municipal and regional active transportation planning. The data can be used in planning tools to measure existing patterns and model future trends at the site, corridor, and regional levels.

COVID-19 Impacts on Bicyclist and Pedestrian Activity in North Carolina

ITRE examined the impact of the COVID-19 pandemic on bicyclist and pedestrian activity in North Carolina by analyzing count data from the NC NMVDP.

Results from these analyses were shared in a presentation at the *Another Way to Get from Here to There: NCDOT Integrated Mobility Division Innovation & Technology Webinar Series* ([video](#) and [slides](#)).

Resources for Local Agency Partners

Additional Resources

BWNC 2020 Summit NMVD...



[2020 BikeWalk NC Summit: North Carolina Non-Motorized Volume Data Program \(NC NMVDP\) - An Update \[Link\]](#)

BWNC 2020 Summit Access

BWNC 2020 Summit Access



[2020 BikeWalk NC Summit: Accessing and Analyzing Public Count Data from NC's Pedestrian and Cyclist Counters \[Link\]](#)

Conversations with Colleagues

Conversations with Colleagues



[Conversations with Colleagues 02/23/19: Standardizing and Collecting Data with Local Partners \[Link\]](#)

An [ArcGIS StoryMap](#) is also available that highlights daily user volumes and hour of day patterns on trails in North Carolina during the COVID-19 pandemic from March through September 2020 and compares these to user volumes in previous years.

Analyses of bicyclist and pedestrian volumes between March and September 2020 showed that:

Apex - Beaver Creek Greenway, Bicycles

[Whole Period](#)


Disclaimer for Annual Data Use

The annual data stored and accessed in Eco-Count is verified and validated. These data have been subjected to the NC NMVDP quality control, quality assurance, and validation procedures and meet the criteria and standards of official NC NMVDP data. Invalid data resulting from equipment malfunction or other sources of error have been removed and site-specific correction factors have been applied to adjust for undercounting or overcounting that may have occurred at a site. These data can be used for official reporting purposes.

Disclaimer for Public Dashboard Use

The data and visuals provided in this dashboard are publicly accessible. Please do not edit the layout or content. Please provide any questions, comments, or feedback to Sarah Seery at NC State University (seerys@ncsu.edu; 919-616-8702).

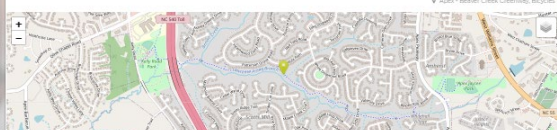
Location Diagram




Location Diagram Description

The figure to the right represents the counting sensor configuration at this location. Stars & counting systems; red triangles & pedestrian detection zones; blue & yellow diamonds & bicycle detection zones.

Count Locations



Annual Data



Apex - Beaver Creek Greenway, Bicycles

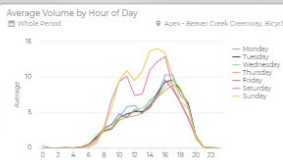
[Whole Period](#)

Tabular Data


Time	Apex - Beaver Creek Greenway, Bicycles
Jun 23, 2018 8:00 AM	0
Jun 23, 2018 8:00 AM	2
Jun 23, 2018 7:00 AM	0
Jun 23, 2018 8:00 AM	6
Jun 23, 2018 9:00 AM	10
Jun 23, 2018 10:00 AM	7
Jun 23, 2018 11:00 AM	1
Jun 23, 2018 12:00 PM	2
Jun 23, 2018 1:00 PM	10

Showing 1 to 10 out of 29,428 entries


Average Volume by Hour of Day



Average Volume by Day of Week



Average Daily Volume by Month



Average Daily Total Volume

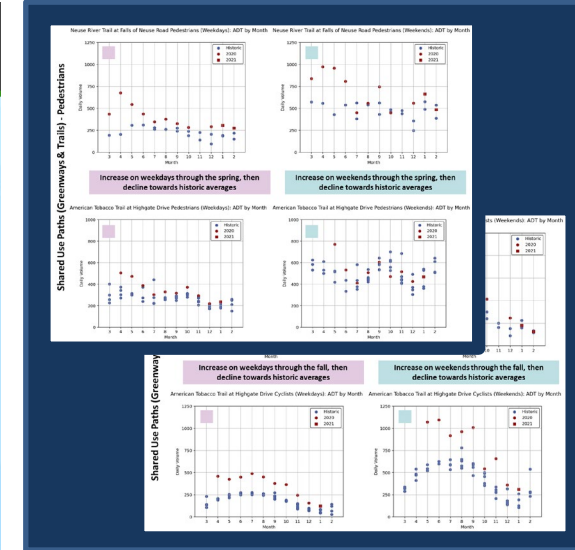
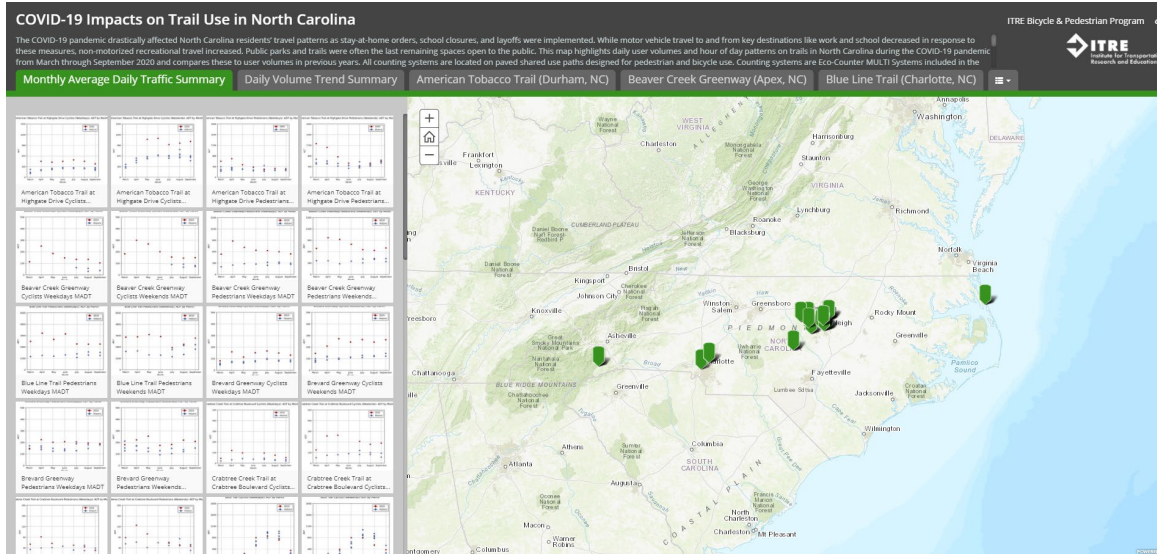
Daily Average: **84**

Access the quarterly and annual data reports from the NC NMVDP



go.ncsu.edu/nmvdp

NC NMVDP Count Data Applications



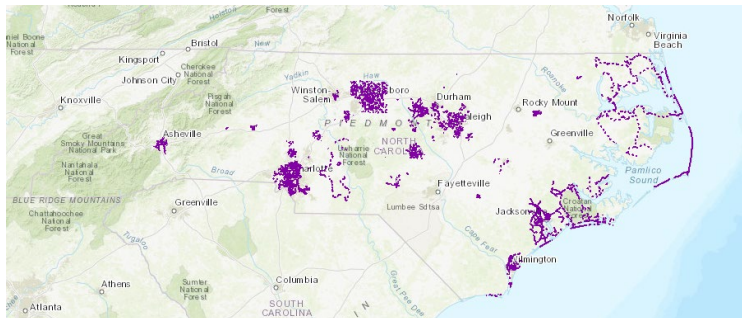
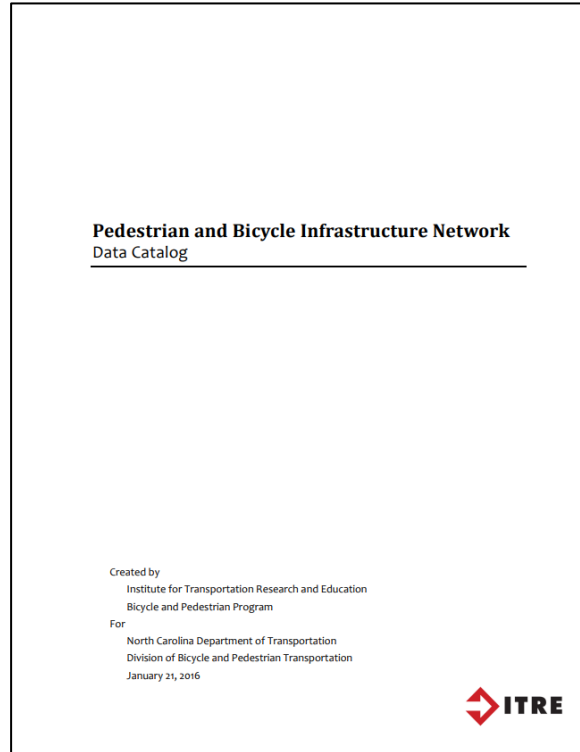
COVID-19 Impacts on Bicyclist and Pedestrian Activity in North Carolina

Objective:

Examine the impact of the COVID-19 pandemic on bicyclist and pedestrian activity in North Carolina by analyzing count data from the NC NMVDP

- Preliminary results were shared through presentations to NCDOT Integrated Mobility Division, during the 2021 National Bike Summit, and at the 2021 NC Traffic Safety Conference
- ArcGIS StoryMap also available that highlights daily user volumes and hour of day patterns on trails in NC during the pandemic from March through September 2020 and compares these to user volumes in previous years
- Analyses are currently being updated to reflect results through November 2021

Pedestrian and Bicycle Infrastructure Network (PBIN)



- Supported by NCDOT DPBT (prior to merger)
- Four-year study (2012-2016) to establish initial geodatabase
- Includes data on existing and proposed bicycle and pedestrian facilities throughout NC
 - Initial data was collected by ITRE during first two phases
 - Not comprehensive – updates to the geodatabase are ongoing based on data submission by municipalities using standardized geodatabase template and terminology
 - Third phase occurred in 2019 with the launching of NCDOT's ATLAS project – involved both data solicitation efforts and extensive digitization of bicycle and pedestrian facilities along roadway corridors throughout the state

[Link to Resources](#)

North Carolina Pedestrian and Bicycle Crash Data Tool (PBCAT)

North Carolina Pedestrian and Bicycle Crash Data Tool

Use our online database to learn about these North Carolina police reported bicycle and pedestrian crashes. Information for almost 40,000 bicycle and pedestrian crashes with motor vehicles in North Carolina has been compiled to create an interactive database. You can look for standard data tables for certain years or geographic areas, or create your own using our online query tool. Select bicycle data or pedestrian data below to begin.

NOTE: Injury severity definitions used in crash reporting changed in 2016.
 "A: Disabling-type Injury" was changed to "A: Suspected Serious Injury" and "B: Evident Injury" was changed to "B: Suspected Minor Injury." The data query results will show the latter label for all years for consistency. However, these definition changes likely affect the comparisons of Bicyclist Injury, Pedestrian Injury, Driver Injury, and Crash Severity variables across years.

Pedestrian Data
 Get information on nearly 53,000 NC police-reported pedestrian-motor vehicle crashes for 2000 through 2019.

Bicycle Data
 Get information on more than 19,000 NC police-reported bicycle-motor vehicle crashes for 2000 through 2019.

Resources

- NC Bicycle Crash Facts Summary Report – 2015-2019
- NC Bicycle Crash Types Summary Report – 2015-2019
- NC Pedestrian Crash Facts Summary Report – 2015-2019
- NC Pedestrian Crash Types Summary Report – 2015-2019

North Carolina Bicycle and Pedestrian Crash Data Tool

Home » Division of Bicycle and Pedestrian Transportation » Research & Reports » Crash Data Tool

Statewide Pedestrian Crash Data - County by Road Classification
 For Years 2019

- Supported by NCDOT DPBT (prior to merger)
- Online, interactive database with information for nearly 40,000 bicycle and pedestrian crashes with motor vehicles in the state

[Link to Resources](#)

County by Road Classification	Interstate	US Route	NC Route	State Secondary Route	Local Street	Public Vehicular Area	Private Road, Driveway	Total
Alamance	1	3	5	1	9	9	0	28
Alexander	0	0	2	1	0	0	0	3
Alleghany	0	1	0	0	0	1	0	2
Anson	0	3	2	1	1	0	0	7
Ashe	0	1	0	1	0	0	0	2
Avery	0	0	0	1	0	0	0	1
Beaufort	0	4	1	0	3	4	1	13
Bertie	0	0	2	1	0	0	0	3
Bladen	0	2	1	2	3	4	0	12

Safety Data Maps and Dashboards

Detailed Crash Maps

Link	Description
Fatal and Serious Injury Crashes	Locations of fatal and serious injury crashes that occurred on public roadways in the past 10 years
Animal Crashes	Locations of crashes involving animals during the past five years
Alcohol Crashes	Locations of crashes involving alcohol with one or more parties during the past five years
Motorcycle Crashes	Locations of crashes involving motorcycles during the most recent five years
Pedestrian and Bicycle Crashes	Locations of crashes involving a pedestrian or bicyclist since 2007
Teen Driver Crashes	Locations of crashes involving teenage drivers (15-19 years old)
Older Driver Crashes	Locations of crashes involving older drivers (65+ years old)

[Link to Resources](#)

Dashboards

Link	Description
Statewide Crash Dashboard	Dashboard for the latest 5 years of statewide crashes in North Carolina.
Pedestrian and Bicyclist Crash Dashboard	Dashboard for pedestrian and bicyclist crashes for North Carolina.
MPO Safety Performance Dashboard	Dashboard for MPO (Metropolitan Planning Organization) safety performance on fatal, injury, and pedestrian/bicyclist crashes compared to target values.

- NCDOT's Traffic Safety Unit regularly produces and updates online maps to provide the public with information on crashes and other safety related information
- All maps are updated annually, unless otherwise noted

NC Vision Zero Analytics – Crash Query Tool and Safety Dashboard

NC VISION ZERO CRASH QUERY TOOL

Crash Data | Vehicle Data | Person Data | PDF | Choose a Table to Download: ▾

Data Available Through: 12/31/2020

Crash Year: 2020 | Geographic Area: State | Geo: NC | Max. Crash Date: 12/31/2020 | Crashes: ▾ | Filter By: All Crashes ▾

One-Way Table

Category	Count
Null	29
Disabling Injury(A)	4,023
Evident Injury(B)	21,221
Fatal(X)	1,549
No Injury(O)	229,667
Possible Injury(C)	46,855
Unknown	22,706
Grand Total	326,050

Two-Way Table

Day of the Week	Speed Involved	Speed Not Involved	Grand Total
Sunday	2,187	31,899	34,086
Monday	2,504	44,446	46,950
Tuesday	2,321	44,213	46,534
Wednesday	2,617	45,510	48,127
Thursday	4,215	46,831	51,046
Friday	3,032	52,660	55,692
Saturday	2,403	41,212	43,615
Grand Total	19,279	306,771	326,050

Total Yearly Crashes by Area

Map showing crash density by county in North Carolina. Legend: 0 to 40,758 crashes.

Unexpected response from 'GetSessionInfo' command when fetching online analytics server info.

Tutorial

5 Year Trends

411 Persons Involved (2022) vs 4,228 (2018)

Unhelmeted: 140 Persons Involved

Speed Involved: 107 Persons Involved

Distracted: 38 Persons Involved

Alcohol: 92 Persons Involved

Drugged: 4 Persons Involved

Drugs: 33 Persons Involved

Younger Drivers: 28 Drivers Involved

Lone Departure: 239 Persons Involved

Bicycle: 4 Persons Involved

Older Drivers: 48 Drivers Involved

Large Truck / Bus: 29 Persons Involved

Pedestrian: 76 Persons Involved

School Bus: 3 Persons Involved

Motorcycle: 26 Persons Involved

Workzones: 8 Persons Involved

Intoxication: 84 Persons Involved

DATE OF LAST AVAILABLE DATA: 3/31/2022

*Crash data depicted on the NC Vision Zero website is intended to provide the public with general overview of traffic safety trends, should not be used for planning purposes, and is not considered authoritative. Any questions regarding specifics of crash data accuracy, frequency, location, etc., should be directed to NCDOT.

Crash Query Tool

- View and export crash data based on a yearly snapshot provided by NC DMV

Safety Dashboard

- View and export crash data based on NCDOT TEAAS data snapshots

[Link to Resources](#)

Innovations and Data Branch

Data Programs

Transit

Transit Data Warehouse



Institute for Transportation
Research and Education

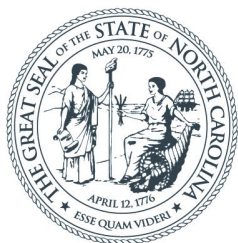
Data Warehouse

ITRE's Public Transportation Group (PTG) is the data warehouse for the transit industry in North Carolina. We collect and maintain a vast array of transportation related information which includes asset utilization, asset management, operating statistics, service areas, urbanized areas, and many more datasets. Our warehouse includes spatial and non-spatial data that is contained in the appropriate database for easy access and retrieval of information. We continuously analyze each dataset and develop reports and other analytical documents based on these datasets.

- > [Economic Benefits of Transit](#)
- > [Intercity Bus](#)
- > [Trip Planner Development \(GTFS\)](#)
- > [Enterprise Asset Management](#)
- > [NTD Reports](#)
- > [Op Stats](#)
- > [VUD](#)
- > [Trip Maker](#)
- > [Technology Implementation and Support](#)

Looking to the Future

- Build capacity in the Innovations & Data Branch
- Explore the next frontier of CAV technology by evolving the CASSI project
- Advance Mobility as a Service (MaaS) through feasibility studies and pilots
- Support microtransit implementation in the state
- Establish a data inventory and develop a plan to consolidate and streamline data collection, warehousing and analysis
- Engage on state and national committees about emerging mobility trends and innovations



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