



**NORTH CAROLINA**  
Department of Transportation



# Regional CTPs – Case Studies

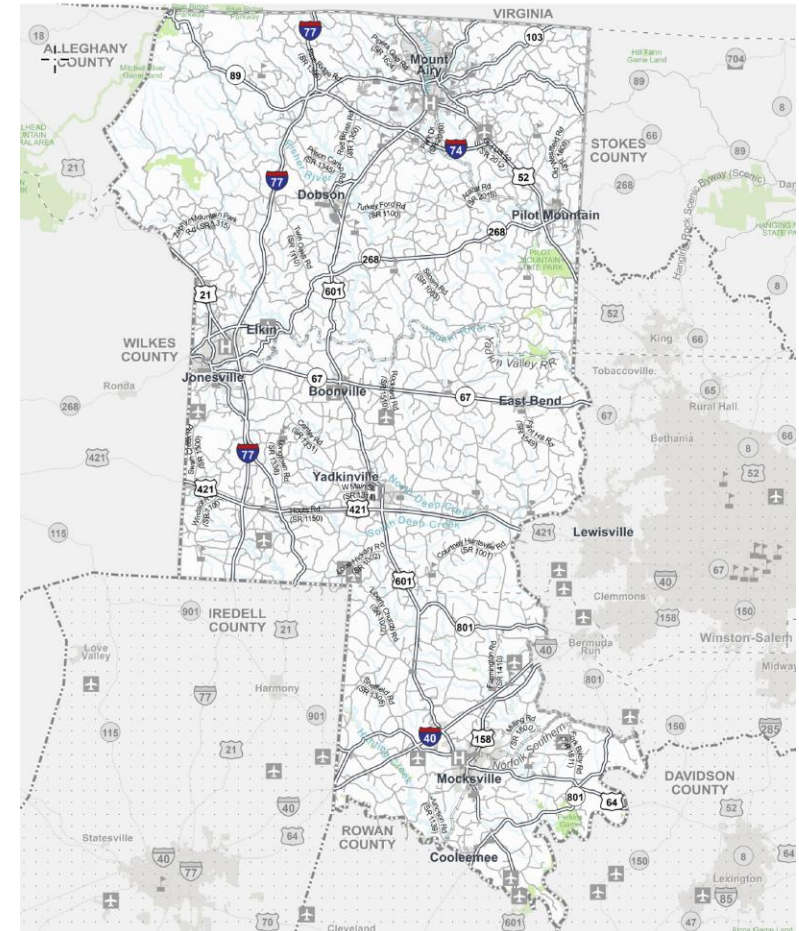
NCDOT – Transportation Planning Division, Foothills Rural Planning Organization and Northwest Piedmont Rural Planning Organization

July 31, 2024

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# Outline

- NC Rural Planning Org. 101
- Long-Range Transportation Planning in NC
- Initial Regional CTP Approach
- Benefits/Challenges
- Take Aways
- Future CTPs?



# North Carolina – Rural (Transportation) Planning Organizations

## Formed in 2002-2003

- Currently, 18 RPOs across North Carolina

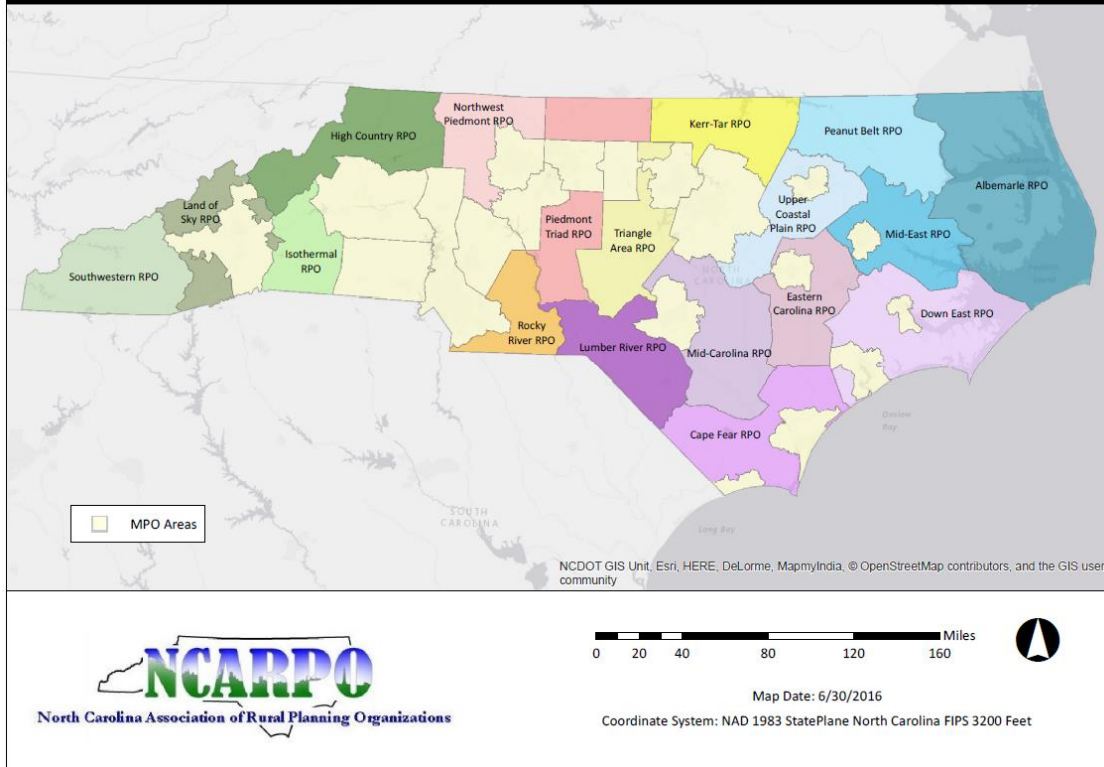
## N.C.G.S. 136-212 identifies the following four primary duties for RPOs:

- Developing, in cooperation with the Department (NCDOT), long-range, local and regional multimodal transportation plans;
- Providing a forum for public participation in the transportation planning process;
- Developing and prioritizing suggestions for transportation projects the organization believes should be included in the Statewide Transportation Improvement Program (STIP); and
- Providing transportation-related information to local governments and other interested organizations and persons.



# Rural (Transportation) Planning Organizations

## Rural Planning Organizations in North Carolina



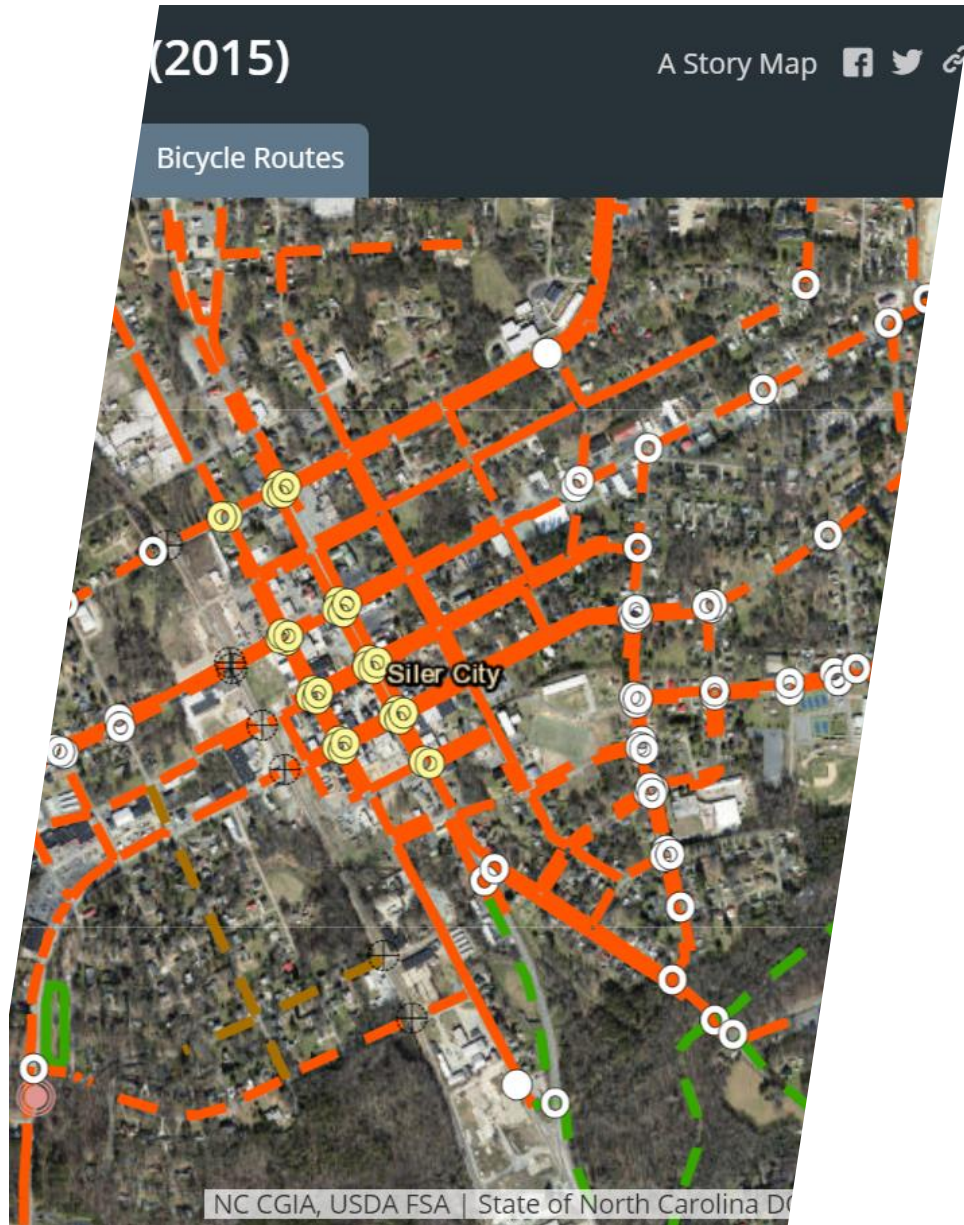
- ▶ Annual budget from around \$125,000-180,000, depending on population and number of counties
- ▶ Develop a Planning Work Program each spring to guide spending for upcoming year – budget primarily pays for staff time/resources
- ▶ Active participant in North Carolina Association of RPOs, which meets quarterly

## What do North Carolina's RPOs do?

- ▶ Long-range Transportation Planning
- ▶ Transportation Funding Prioritization
- ▶ Providing input/feedback during project development
- ▶ Serving as a liaison between NCDOT and local governments
- ▶ Participating in various statewide initiatives
- ▶ Administration of program



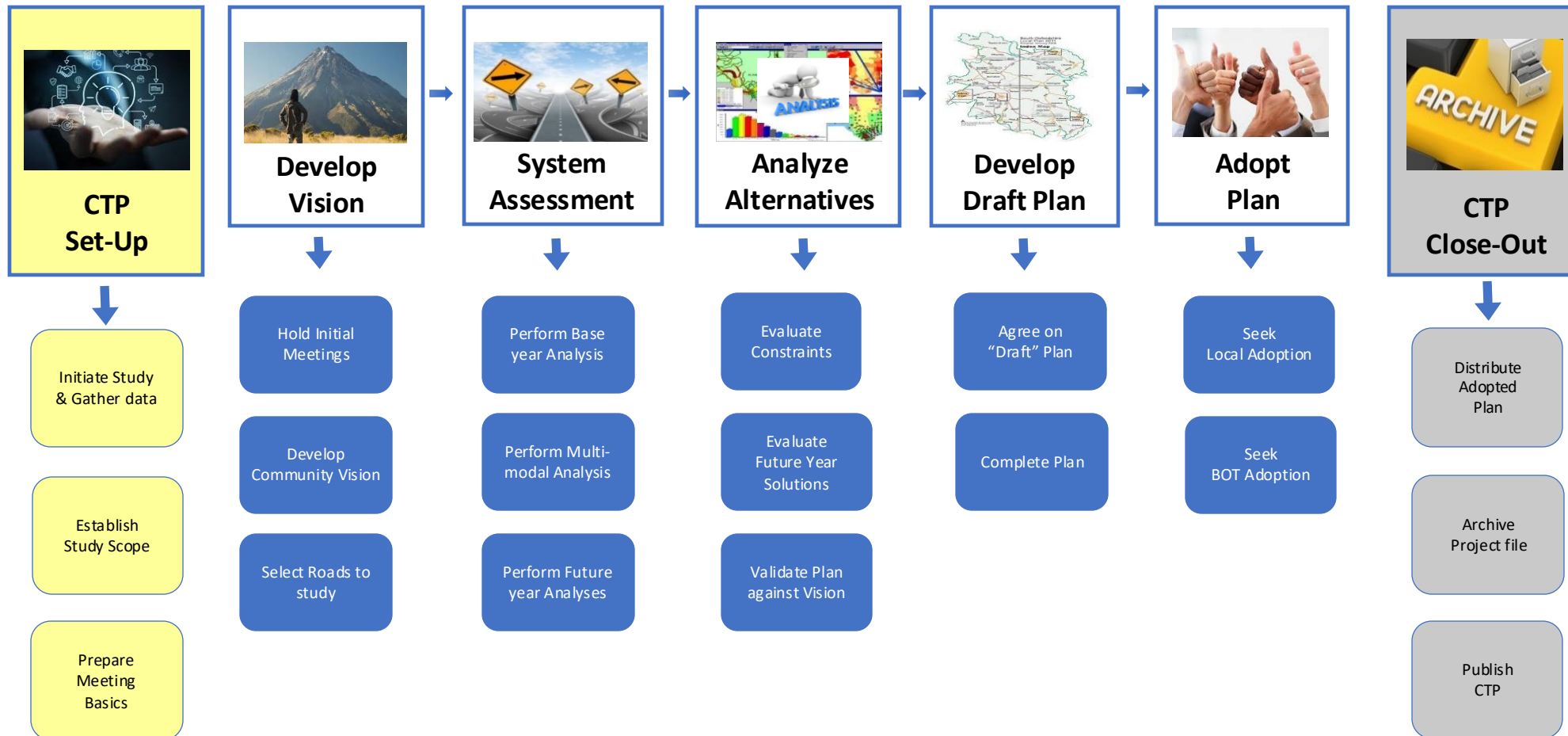




# Long Range Transportation Planning

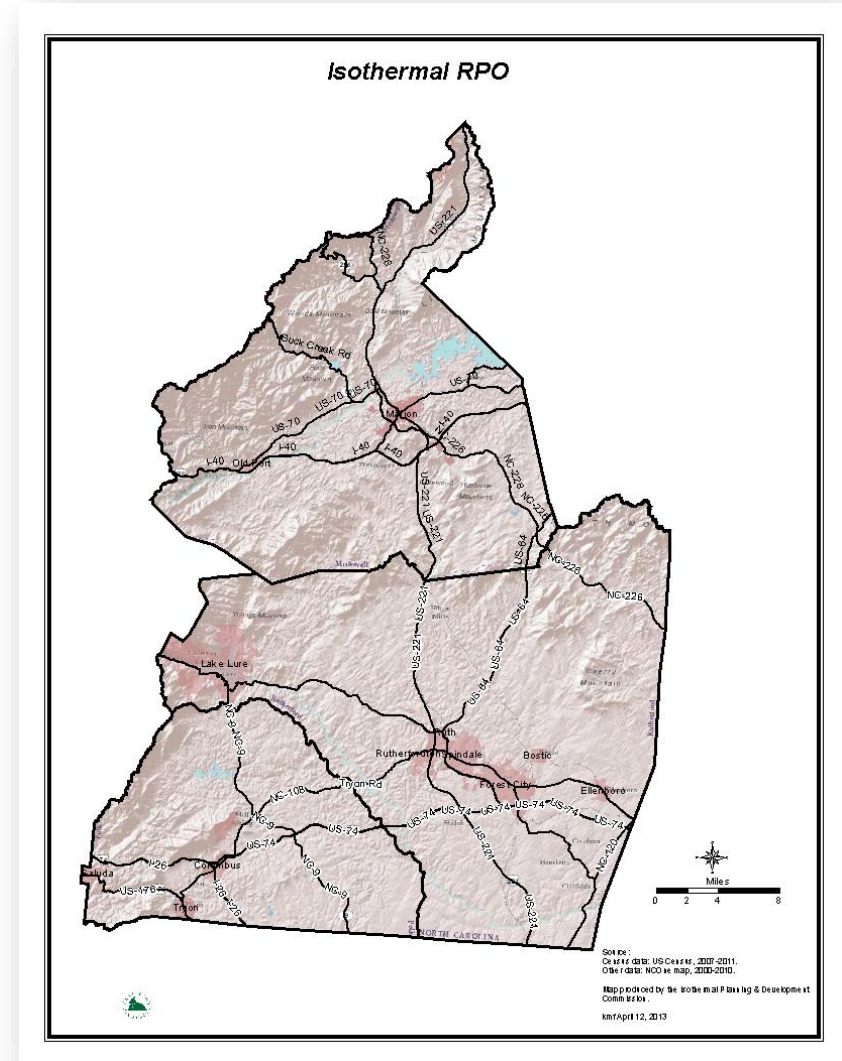
- ▶ **Comprehensive Transportation Plans (CTPs)** – these are plans that aim to identify likely problems and agreed-upon solutions for expected transportation conditions over the next 20-30 years, and are usually done at the county level
  - ▶ State law requires CTP
  - ▶ CTP also requires a local land development plan
  - ▶ RPO role is to participate in and help guide the process
  - ▶ NCDOT typically takes lead technical role
  - ▶ Adoption of plan is by local cities/counties, and by NCDOT
- ▶ **Bicycle and Pedestrian Plans** – these are developed locally by counties and municipalities (with or without NCDOT funding), or regionally by NC RPOs
- ▶ **Transit Plans** – these are developed by each county's transit agency
- ▶ **Corridor Studies** – these are more detailed plans on specific improvements along a particular corridor, and could be led by NCDOT, a local government, or an MPO or RPO

# CTP Phases/Steps



# Regional CTP History

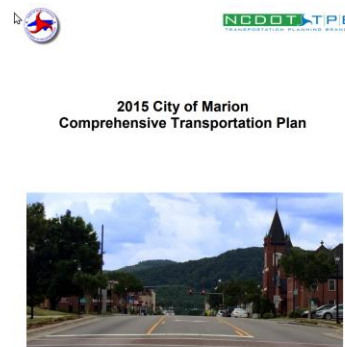
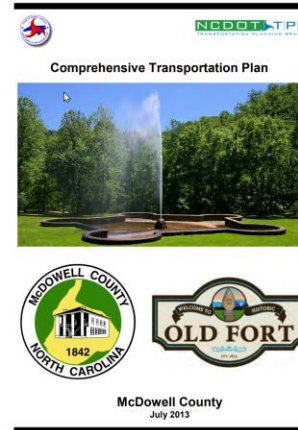
- NCDOT Initiative
- Improve efficiencies (one study versus multiple)
- Similar Timeframes
- Foothills (formerly Isothermal) and Northwest Piedmont (Davie, Surry, and Yadkin Counties) RPOs agreed to be the pilots





# History – Foothills (formerly Isothermal)

- The region had 5 CTPs
  - McDowell Co. – 2013
    - Marion – 2015
  - Polk Co. – 2008
  - Rutherford Co. – 2018
- Lake Lure/Chimney Rock Village – 2014



# History – Davie-Surry-Yadkin Co.

- The region had 6 CTPs
  - Davie Co. – 2012
    - Mocksville – 2011
  - Surry Co. – 2012
    - Elkin-Jonesville – 2012
  - Yadkin Co. – 2014
    - Yadkinville – 2010



NCDOT-TPB  
TRANSPORTATION PLANNING BOARD

Comprehensive Transportation Plan



Davie County

June 2012



NCDOT-TPB  
TRANSPORTATION PLANNING BOARD

Comprehensive Transportation Plan



Town of Mocksville

October 2011



NCDOT-TPB  
TRANSPORTATION PLANNING BOARD

Comprehensive Transportation Plan



Surry County

April 2012



NCDOT-TPB  
TRANSPORTATION PLANNING BOARD

Comprehensive Transportation Plan



Towns of Elkin and Jonesville

July 2012



NCDOT-TPB  
TRANSPORTATION PLANNING BOARD

Comprehensive Transportation Plan



Town of Yadkinville



NCDOT-TPB  
TRANSPORTATION PLANNING BOARD

2014 Yadkin County  
Comprehensive Transportation Plan



# Regional CTP Context

- Foothills
  - Relatively distant from two smaller MPO regions (Asheville, Gastonia)
- Davie-Surry-Yadkin
  - Just west of the Triad Region (Greensboro, Winston-Salem, High Point)

	2020 Census Population	2022 Population Estimates
<b>County</b>		
McDowell	44,471	44,369
Polk	19,363	19,559
Rutherford	64,301	64,176
Total	128,135	128,104
<b>County</b>	<b>2020 Census Population</b>	<b>2022 Population Estimates</b>
Davie	42,818	43,694
Surry	71,169	71,250
Yadkin	37,140	37,329
Total	151,127	152,273



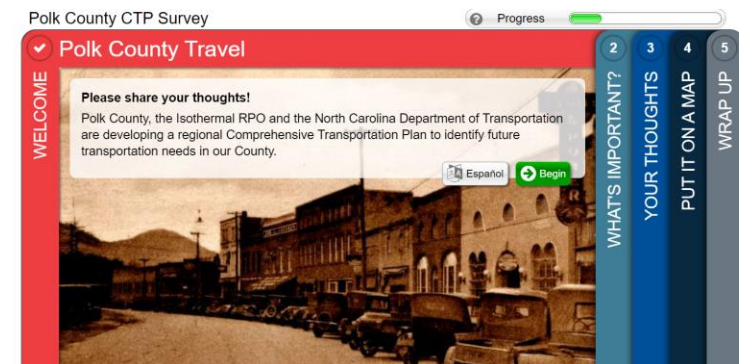
# Initial Approach



- **Foothills**
  - Bring 3 Counties together, deep dive on Polk County
  - Consideration of other regional multi-model plans adopted since previous CTPs (Isothermal Regional Bicycle Plan, local plans)
- **Davie-Surry-Yadkin**
  - Bring 3 Counties together, validate previous information (Previous CTPs were adopted ~ around the same time period)
  - Consideration of other regional multi-modal plans adopted since previous CTPs (Yadkin Valley Regional Bicycle Plan local plans)

# How – Foothills

- Regional CTP Steering Committee and Polk County Sub-Steering Committee
- Vision, Goals, & Objectives (3 Counties, Polk specific)
- Public Survey
  - Online via MetroQuest for all 3 ~200
  - Polk Co. – mailed ~ 8,000 surveys to all (tax record) residential addresses, >16% return rate



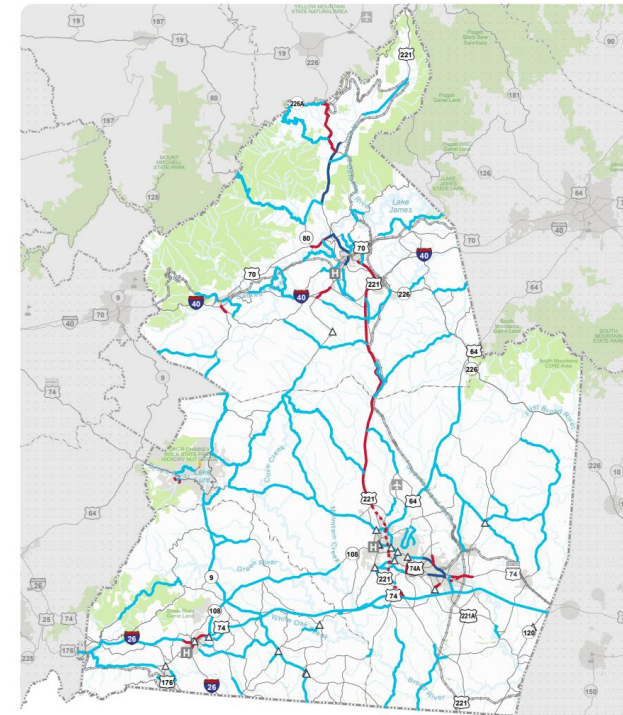
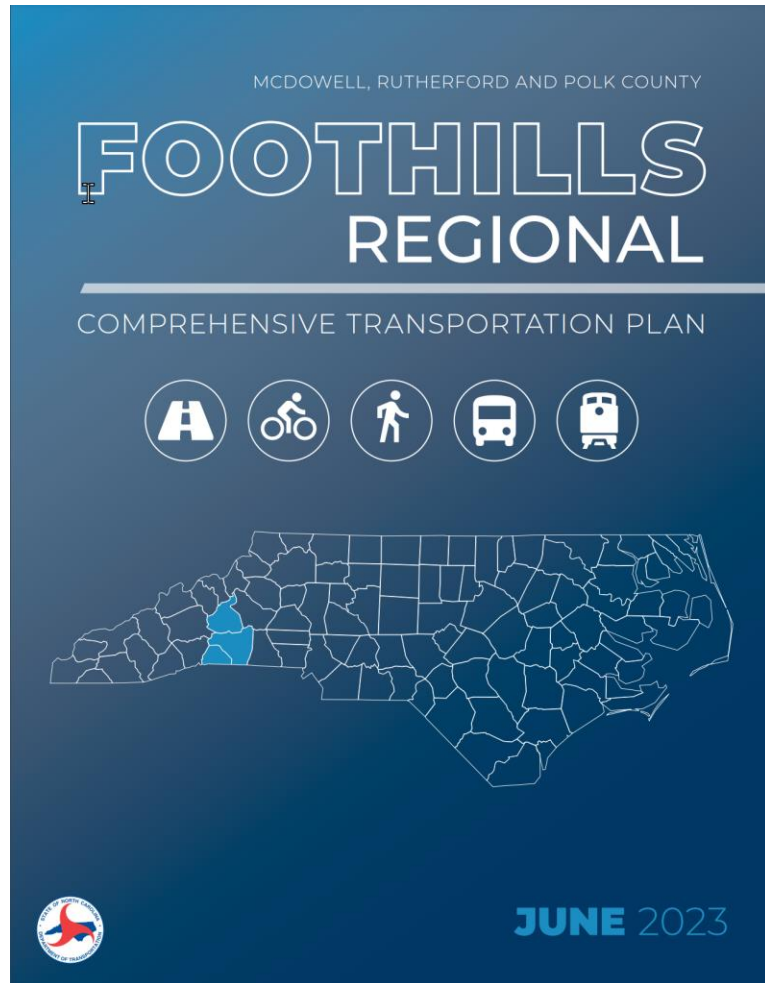
<https://metroquest.com/>

## How – Foothills (continued)

- CTP Public Workshops after Initial Draft CTP Recommendations were developed (3 in Polk Co and 1 in each of the other 2 counties) – hybrid option available
- Updates to recommendations based on public feedback/steering committee consensus
- Public Hearings and Local/RPO/NC BOT Adoptions (Adopted June 6<sup>th</sup> by NC Board of Transportation)



# Products – Foothills



**HIGHWAY RECOMMENDATIONS**  
Proposals that address identified needs through 45

**FOOTHILLS RPO**  
Regional Comprehensive Transportation Plan  
**RECOMMENDED**  
Plan Date: June 6, 2023

**Highway Features**

Proposed CI# Improve New Location

- Congestion / Mobility (e.g., add lanes)
- Access Management / Operations (e.g., add median)
- Modernization (e.g., wider lanes, add turn lanes)
- Other (e.g., safety, economic development)
- Interchange
- Bridge / Overpass
- Intersection

**Other Features**

- Studied Roads
- MPO Boundary
- RPO Boundary

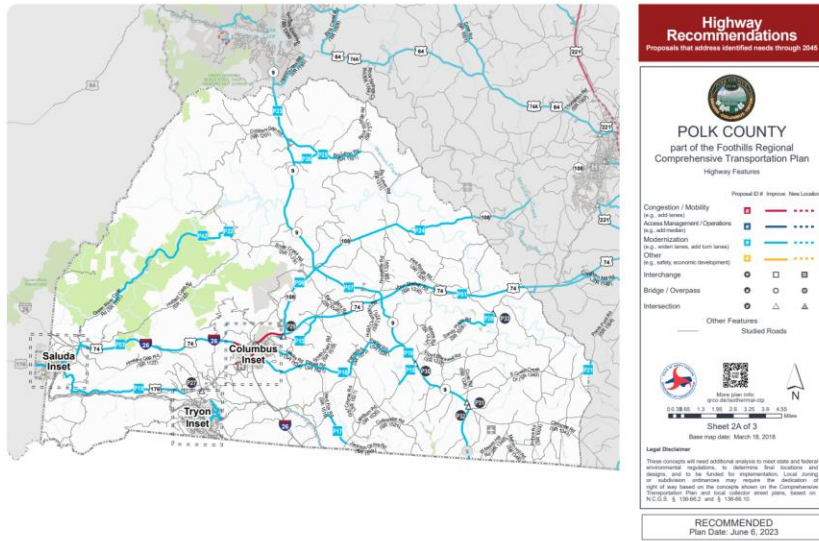
Scale: 0 0.75 1.5 3 4.5 6 7.5 9 Miles

Sheet 2 of 4

Base map date: November 28, 2019

**Legal Disclaimer**  
These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right of way based on the concepts shown on the Comprehensive Transportation Plan and local collector street plans, based on N.C.G.S. § 136-61.2 and § 136-61.10.

# Products – Foothills (continued)



CHAPTER THREE CTP PROJECT RECOMMENDATIONS

**FOOTHILLS REGIONAL COMPREHENSIVE TRANSPORTATION PLAN**

## Polk County Highway Recommendations

**P01 US-74:**  
*From: NC-108 | To: Polk/Rutherford Line | 10.33 miles*  
Upgrade to Interstate standards: add paved shoulders and upgrade bridges where needed to enhance mobility and safety.

**P02 US 74 Eastbound:**  
*From: I-26 (Exit 67) | To: NC-108 | 2.31 miles*  
Upgrade to Interstate standards: add paved shoulder. Replace or widen existing bridges over Houston road to extend merging lanes on US 74 westbound from NC 108 to I-26 westbound; restore 2-lane ramp from I-26 eastbound to US 74 eastbound to improve mobility.

**P03 I-26:**  
*From: Holbert Cove Rd (SR 1142) | To: US 74 | 6.51 miles*  
Modernization: Intelligent Transportation Systems (ITS) enhancements to improve safety, mobility, and emergency incident management. Extend merge lane from US 74 westbound to the start of the climbing lane.

**P04 NC-108, I-4729B:**  
*From: Columbus Town Limit | To: Weaver St | 0.86 miles*  
Add center turn lane and sidewalks within Columbus town limits; replace bridge over I-26; reconstruct new, wider roundabouts with I-26 ramps to improve mobility and safety, and relieve congestion. Currently programmed in the 2020-2029 STIP for ROW in 2020 and construction in 2029.

**P05 NC-108:**  
*From: I-26 WB Roundabout | To: Walker St/Houston Rd (SR 1137) | 0.39 miles*  
Access Management to relieve congestion and improve mobility along the corridor, particularly around the Food Lion/Weaver St area due to traffic from the number of driveways and type of businesses.

Highway Class: ■ Congestion ■ Access Management ■ Modernization ■ Other (Safety, etc.) ● Bridge/Intersection

HIGHWAY RECOMMENDATIONS  
TABLE OF CONTENTS JUNE 2023

**FOOTHILLS REGIONAL COMPREHENSIVE TRANSPORTATION PLAN**

**P06 NC 108:**  
*From: Columbus east Town Limit | To: NC 9 | 3.51 miles*  
Modernization: 12-foot lanes, paved shoulder and straighten curves to improve safety and mobility; add Sidepath (part of Great Trails State network).

**P07 NC 9, R-5840:**  
*From: US 74 | To: NC 108 | 3.07 miles*  
Modernization: 12-foot lanes with paved shoulder to improve safety and mobility; maintenance project will replace bridge over S. Branch Little White Oak Creek; 2020-29 STIP - ROW 2022, Con. 2026.

**P08 US-176:**  
*From: Henderson/Polk Line | To: Ervin St (SR 1177) | 0.51 miles*  
Modernization: add paved shoulder to improve safety and mobility; sidewalk from Pace St to Ervin St.

**P09 US-176:**  
*From: Pearson Falls Rd (SR 1102) | To: Saluda Town Limit | 0.53 miles*  
Modernization: 12-foot lanes and add paved shoulder to improve safety and mobility; improve and/or widen existing sidewalk from Pearson Falls Rd to Frost Rd.

**P10 US-176:**  
*From: Saluda Town Limit | To: Hamon Field Rd (SR 1121) | 6.19 miles*  
Modernization: add paved shoulder to improve safety and mobility.

**P11 Ozone Dr:**  
*From: Main St (US 176) | To: Green River Cove Rd (SR 1151) | 1.3 miles*  
Modernization: add paved shoulder to improve safety and mobility; add sidewalk from Main St to I-26 EB Ramp.

Highway Class: ■ Congestion ■ Access Management ■ Modernization ■ Other (Safety, etc.) ● Bridge/Intersection

HIGHWAY RECOMMENDATIONS  
TABLE OF CONTENTS JUNE 2023



# Products – Foothills (continued)


Foothills RPO Regional CTP

**NC-108**  
From: I-26 WB Roundabout | To: Walker St/Houston Rd (SR 1137)

Local ID: POLK30003-H  
Purpose: Access  
Improvement: Improve Existing

**Identified Need**  
NC 108 (Mills St) is both currently and projected to be over capacity. The main areas of traffic are around Weaver St and the shopping center which has inhibited mobility.

**Recommendation**  
Access Management to relieve congestion and improve mobility along the corridor, particularly around the Food Lion/Weaver St area due to traffic from the number of driveways and type of businesses.




**Legend:**

Congestion / Mobility	Local ID #	Improve	New Location	Interchange
Access Management / Operations	Local ID #	Improve	New Location	Bridge / Overpass
Modernization	Local ID #	Improve	New Location	Intersection
Other	Local ID #	Improve	New Location	

Proposal At A Glance		2017 Base Year		2045 Future Year	
Highway Class	Access Management & Operation	Improved Route	Existing	Without Proposal	With Proposal
Facility Type	Major Thoroughfare 2-lane	Major Thoroughfare 2-lane	Major Thoroughfare 2-lane	Major Thoroughfare 2-lane	Major Thoroughfare 2-lane
Typical Section	03 B	Travel Lanes	2	2	2
Section Options	03 B	Volume (vpd)	14000	15300-18700	15300-18700
Length (miles)	0.39	Capacity (vpd)	13200	13200	13200
Existing ROW (feet)	60				
Safety Risk Score	67				

Capacity Data:	Year
Facility will be Approaching Capacity (>80%)	2017
Facility will be Over Capacity (>=100%)	2017

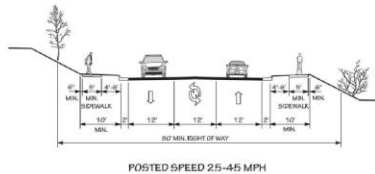


Foothills RPO Regional CTP

NC-108

**Typical Section Options:** 03 B

**TYPICAL SECTION No. 3B**  
2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER, AND SIDEWALKS



POSTED SPEED 25-45 MPH

**Project Overview**  
Multimodal Considerations  
At least some part of this recommendation includes proposed sidewalk.

CTP Goal Analysis  
Vision and Goals  
The aim of the Foothills Regional CTP is to provide a safe, efficient, well-connected, accessible, multi-modal transportation system that enhances the mobility of its residents, supports economic development, sustainable land use patterns and a healthy lifestyle while preserving the region's natural beauty and heritage. This recommendation accomplishes this by enhancing mobility, which will provide a safer and more efficient transportation system.

Public Involvement and Survey Response  
During the initial survey, the segment of NC 108 within Columbus by itself was commented on 66 times, noting need for bike/ped infrastructure, addressing congestion near the shopping centers, and overall safety. Other key intersections along this segment: the intersection at Weaver St/Food Lion shopping center was commented on a further 11 times; the intersection at Walker St/Houston Rd was commented on a further 11 times.

Potential Impacts  
Impacts to Natural and/or Human Environment  
Within a 150-foot radius of this recommendation, the following human and/or natural environment features can be found:

- The Broad River watershed

Title VI Considerations

Relationship to Land Use  
Per the town of Columbus Land Use Plan (2009), this recommendation passes through or is directly adjacent to area(s) zoned: Highway Commercial, Central Business District. Note: the town of Columbus is as of July 2021 in the process of creating a new Unified Development Ordinance (UDO), and land use on this corridor is subject to change.

Additional Data  
Crash Data  
Between January 2014 and December 2018, there were 24 total crashes on the half-mile segments containing this recommendation. There were no fatal or severe injury crash(es), 3 moderate or minor injury crash(es), and 21 property damage only crash(es).

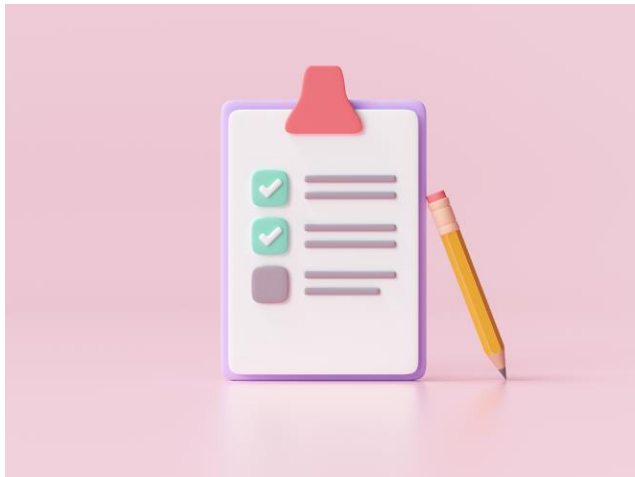
Deficient Bridges  
There are no structurally deficient or functionally obsolete bridges along this recommendation.

Foothills RPO Regional CTP



# How – Davie-Surry-Yadkin

- Regional CTP Steering Committee
- Vision, Goals, & Objectives (for the entire region)
- Public Survey
  - Online via MetroQuest for all 3 Counties, ~ 300-400



## How – Davie, Surry, Yadkin (continued)

- CTP Public Workshops after Initial Draft CTP Recommendations were developed (1 focused on each separate county – virtual option due to COVID restrictions)
- Updates to recommendations based on public feedback/steering committee consensus
- Public Hearings and Local/RPO/NC BOT Adoptions (local finished in late 2023, Board Adoption soon)

# Benefits



- Potential time efficiencies
- Provides cross-collaboration, other stakeholders/interest groups/SMEs
- Coordination on truly regional (2+ county) projects and interests
- More uniform product (same year, common data sources/usage and analysis approach) for regional area
- Education to officials/staff/public of other regional transportation plans

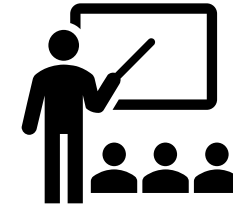


# Challenges



- More jurisdictions to coordinate and collaborate with at one time
- Longer time commitment
- Focus can sometimes shift to individual counties and/or modes and lose the attention of the larger committee
- Difficulty in reaching consensus at all levels with a larger, potentially more diverse group with varying interests, which may have existing plans that are not in alignment
- Length of time since last CTP adoption could impact level of analysis needed (Polk County v/s other two)

# Takeaways



- Can be flexible (high level and/or deeper dives)
- Good to have larger steering committee to foster collaboration across boundaries
- Innovative aspects – survey distribution, graphical representations
- Continuity is an issue (team member longevity)
- Good to have elective officials on committee with more sensitive issues, aware during the development, regular updates, local dynamics
- Schedule with cushion in mind (staff/elected official turnover, Regional Travel Demand Models, other events)

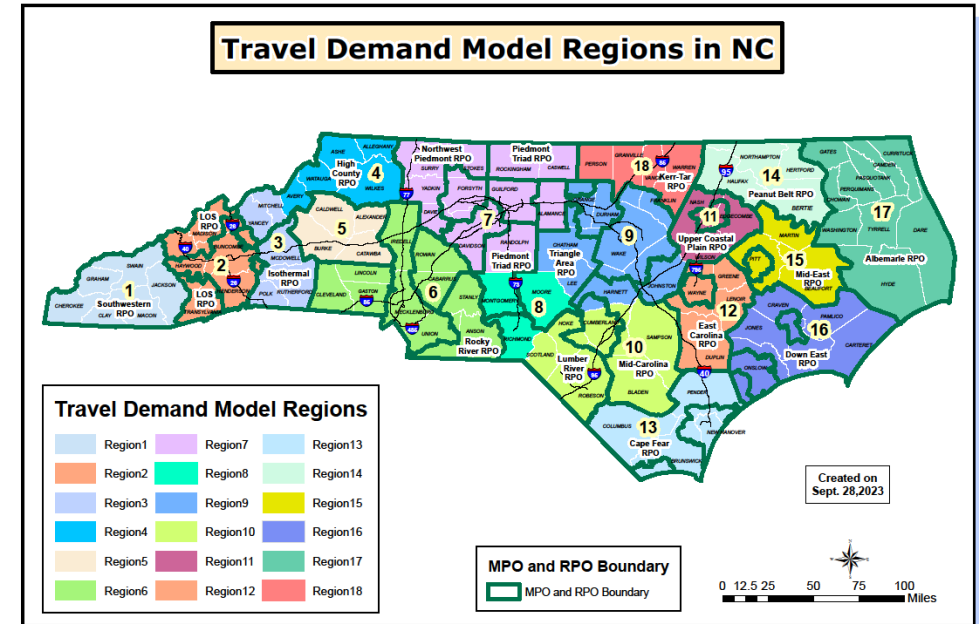
# Other Considerations



- Consider regional Travel Demand Model development. Both regional plans used existing models-where they existed. For example: Polk County updated only the SE data and it wasn't a model.
- Based on updated NC State Law, Regional CTPs may be easier to do now than in the past, because all places that have zoning need to have land use maps.
- Important for steering committee to be willing to work together.
- Also, consider educating all parties about CTPs early and bring to the locals often. For Polk County, we presented to the County Commissioners multiple times before they adopted.

# Future Regional CTPs?

- North Carolina has a Statewide Travel Demand Model as well as 3 multi-MPO models (expanding to cover surrounding rural county)
- Regional Travel Demand Models
  - Region 17 almost complete (includes seasonal factors)
  - Regions 1, 16, 18 under development
- Kerr-Tar RPO counties (Region 18)?
  - Franklin, Granville, Person, Vance, Warren





# Contacts

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  - 919-707-0991
  - [jabailey@ncdot.gov](mailto:jabailey@ncdot.gov)



Search “[NCDOT CTP](#)”

[https://connect.ncdot.gov/projects/planning/Pages/CTP-Details.aspx?study\\_id=McDowell-Polk-Rutherford%20\(Foothills\)%20Regional%20CTP](https://connect.ncdot.gov/projects/planning/Pages/CTP-Details.aspx?study_id=McDowell-Polk-Rutherford%20(Foothills)%20Regional%20CTP)

[https://connect.ncdot.gov/projects/planning/Pages/CTP-Details.aspx?study\\_id=Davie-Surry-Yadkin\\_Regional\\_CTP](https://connect.ncdot.gov/projects/planning/Pages/CTP-Details.aspx?study_id=Davie-Surry-Yadkin_Regional_CTP)

# Quick Links

<https://studio.metroquest.com/#/Project?customer=365&project=6340> (Anson Co)

[https://connect.ncdot.gov/projects/planning/TPBCTP/McDowell-Polk-Rutherford%20\(Foothills\)%20Regional%20CTP/Foothills\\_CTP\\_REPORT.pdf](https://connect.ncdot.gov/projects/planning/TPBCTP/McDowell-Polk-Rutherford%20(Foothills)%20Regional%20CTP/Foothills_CTP_REPORT.pdf)

[https://connect.ncdot.gov/projects/planning/TPBCTP/Davie-Surry-Yadkin\\_Regional\\_CTP/DSY-CTP-Report.pdf](https://connect.ncdot.gov/projects/planning/TPBCTP/Davie-Surry-Yadkin_Regional_CTP/DSY-CTP-Report.pdf)