



NC Capital Area **Metropolitan Planning Organization**

CAPITAL AREA MPO

**Technical Coordinating Committee
Meeting**

April 6, 2017

10:00 AM

1. Welcome and Introductions
2. Adjustments to the Agenda
3. Public Comments

This is an opportunity for comments by those in attendance.

Please limit comments to three minutes for each speaker.

4.1 Minutes

Minutes from the March 2, 2017 meeting

Requested Action:

Approve Minutes from March 2, 2017 meeting

5.1 Wake Transit Implementation Update and Master Participation Agreement

Wake Transit Master Participation Approval Schedule

ACTION	DATE
TCC Received MPA as Information Only	February 2, 2017
Executive Board Received MPA as Information Only	February 15, 2017
TPAC Releases MPA for Signing Party Consideration of Participation	March 29, 2017
CAMPO Staff Released MPA for 30-Day Public Comment Period	March 31, 2017
CAMPO TCC Considers Recommendation of FY 2018 Work Plan to Executive Board	April 6, 2017 or May 4, 2017
CAMPO 30-Day Public Comment Period Ends	April 30, 2017
CAMPO Executive Board Considers Approval of FY 2018 Work Plan	May 17, 2017

5.1 Wake Transit Implementation Update and Master Participation Agreement

Purpose and Provisions of Participation Agreement

- Set parameters for parties expecting to receive funding
- Parties: Any agency expecting to benefit from Wake Transit tax revenues in the implementation of the Wake Transit Plan
- Parties can choose to participate in agreement now or later
- Term = ~ 25 years
- Acknowledgement/confirmation of party participation through the TPAC and TPAC's responsibilities
- Eligibility and requirements for Wake Transit funding:
 - Requires parties to participate in Master Agreement, TPAC, and vehicle registration tax ILA to receive funding
 - Acknowledgement of subsequent agreements with minimum standard provisions
- Compliance with state law re: supplementation vs supplantation

5.1 Wake Transit Implementation Update and Master Participation Agreement

TPAC Minority Perspective on MPA

- **MPA Released by TPAC not Unanimous**
- **Opposition from Town of Cary on Section 5.03**
 - **Cary: Delete Section 5.03 entirely**
 - **TPAC Decision: Leave Section 5.03 as written**
- **Cary issue with lack of detail on what Section 5.03 means**

5.1 Wake Transit Implementation Update and Master Participation Agreement

On-Call Transit Planning Tasks

Task	Start	End
Public Engagement Strategy	Underway	End of July
Staffing Plan	April	End of August
Community Funding Area Program Management Plan	April/May	Sept/Oct
Multi-Year Bus Service Implementation Plan	April	July 2018
Transit Corridors Major Investment Study	April/May	TBD
Customer Surveys	July	Ongoing

5.1 Wake Transit Implementation Update and Master Participation Agreement

Requested Action:

Recommend the Executive Board consider approval of and participation as a party in the Wake Transit Master Participation Agreement

5.2 Memorandum of Understanding for the Sub-Allocation of Federal Transit Administration Formula Grants to the Raleigh Urbanized Area

MOU Updates/Amendments

- **Wake County Added – NTD reporting**
- **CAMPO Added – Role of administering allocation calculations and concurring with designated recipients on split of funds**
- **Include Section 5339 and 5340 programs**
- **Include low-income component of Section 5307 funding formula**
- **Include Section 5307 fixed guideway tier**
- **Clean-up of other technical language in previous MOU**

5.2 Memorandum of Understanding for the Sub-Allocation of Federal Transit Administration Formula Grants to the Raleigh Urbanized Area

Requested Action:

Recommend the Executive Board consider approval of the MOU for the Sub-Allocation of Federal Transit Administration Formula Grants to the Raleigh Urbanized Area.

5.3 Review of Transportation-Related Ordinance Provisions

Ordinance Provisions

<p>III.</p> <p>Promote Multimodal and Affordable Travel Choices</p>	<p>A. Enhance transit services, amenities and facilities</p> <p>B. Improve bicycle and pedestrian facilities</p> <p>C. Increase utilization of affordable non-auto travel modes</p>	<p>A—</p> <ol style="list-style-type: none"> 1. Local per capita expenditures on transit operations 2. Per capita transit service hours 3. Total transit boardings per capita 4. Proportion of bus stops that meet their defined facility threshold 5. Percent of boardings at stops with shelters, as compared to all boardings 6. Number of miles of transit service facilities implemented in high-frequency bus corridors, hi transit infrastructure stations, and lo transit infrastructure stations (as determined by CommunityViz), and along BOSS corridors. 7. Percent of ridership in high-frequency bus corridors, hi transit infrastructure stations, and lo transit infrastructure stations (as determined by CommunityViz), and along BOSS corridors 8. Proportion of bus stops with sidewalks or a concrete pad. 9. Proportion of bus stops that are ADA compliant <p>B—</p> <ol style="list-style-type: none"> 1. Local per capita expenditures on bicycle and pedestrian facilities 2. Proportion of jurisdictions that have an ordinance requiring developers to build or pay in lieu for sidewalks. 3. Ratio of miles of continuous connected greenway trails to overall miles of greenway trails. 4. Sidewalk-to-roadway ratio: number of sidewalk feet for every hundred feet of roadway. (If greater than 100 there are sidewalks on both sides of road). 5. Percent of city/area that is within 2 miles of a low-stress bicycle route. 6. Proportion of audible pedestrian traffic signals to all pedestrian traffic signals
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“Families”

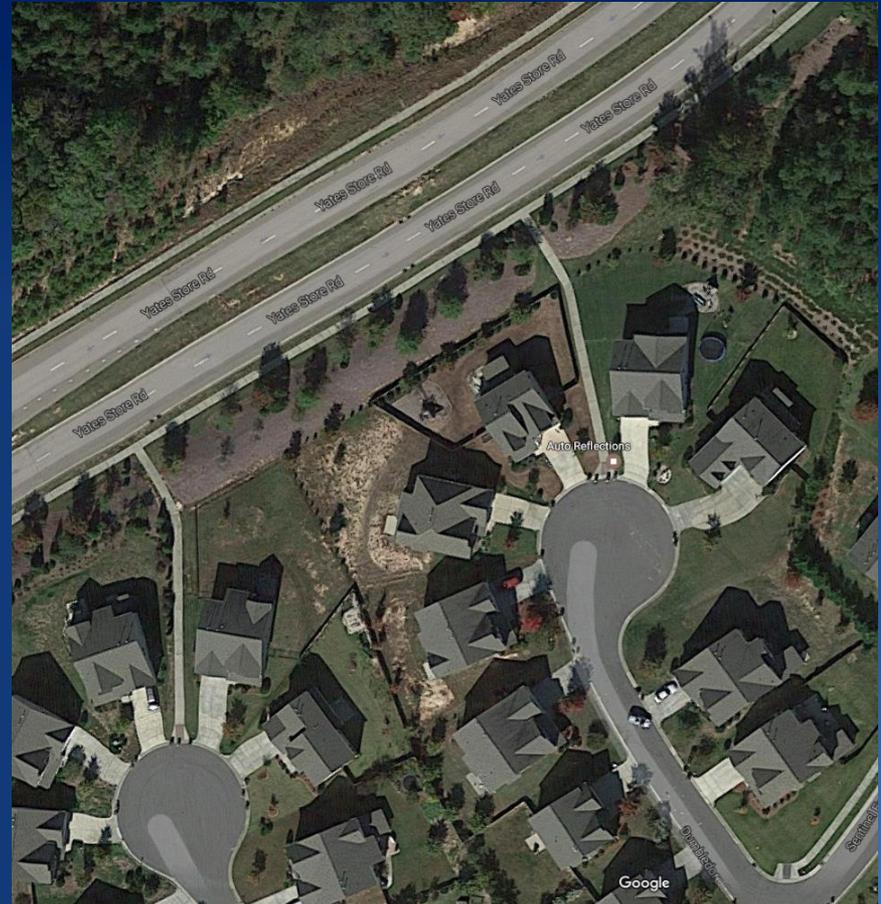
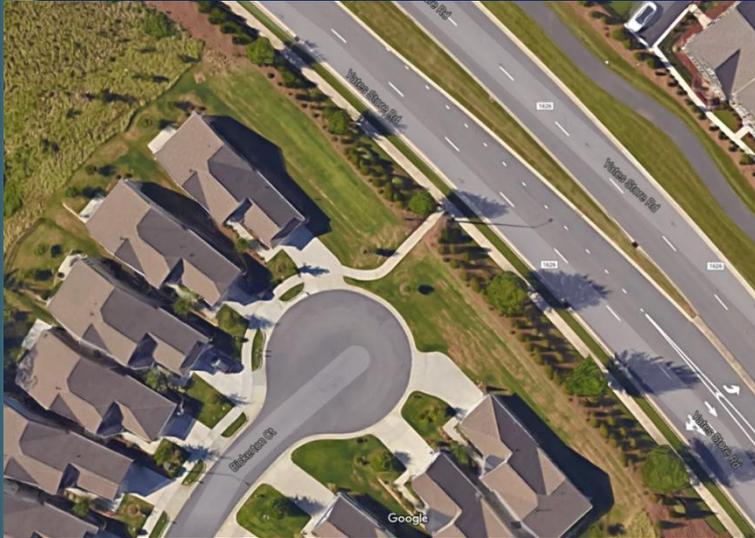
- Access: Connections, Barriers, Parking, Bike, Ped, Transit
- Mobility: Connections, Impact
- Process: Link ordinance to plans

Sidewalk Requirement

The Town Council shall require that the subdivider construct sidewalks along both sides of all major and minor thoroughfares, all collectors, and on one side of all other streets within and bordering the subdivision property boundaries. Such sidewalks shall provide direct pedestrian connections to adjacent properties outside the subdivision.

- a) Consideration will be given to a greenway trail/sidewalk system in lieu of some or all sidewalks within a development if an equal or better pedestrian system will be provided.
- b) Where street interconnectivity is not provided (such as but not limited to cul-de-sacs) within the development plan, the developer shall construct five-foot (5') wide Concrete Paved Paths according to the following:
 - (i) The developer shall construct the required Concrete

Ped Connectors



Similar Requirements

- Bike Lane/Facility
- Greenway
- ADA (Usually ramps & associated signals)
- Crosswalks—staff were looking for specific provisions calling for crosswalks outside of parking areas

No Bike Sidewalk Ban

- Specific areas of ban that have been thought out were ok—often downtowns. Otherwise staff were looking for permissive policies

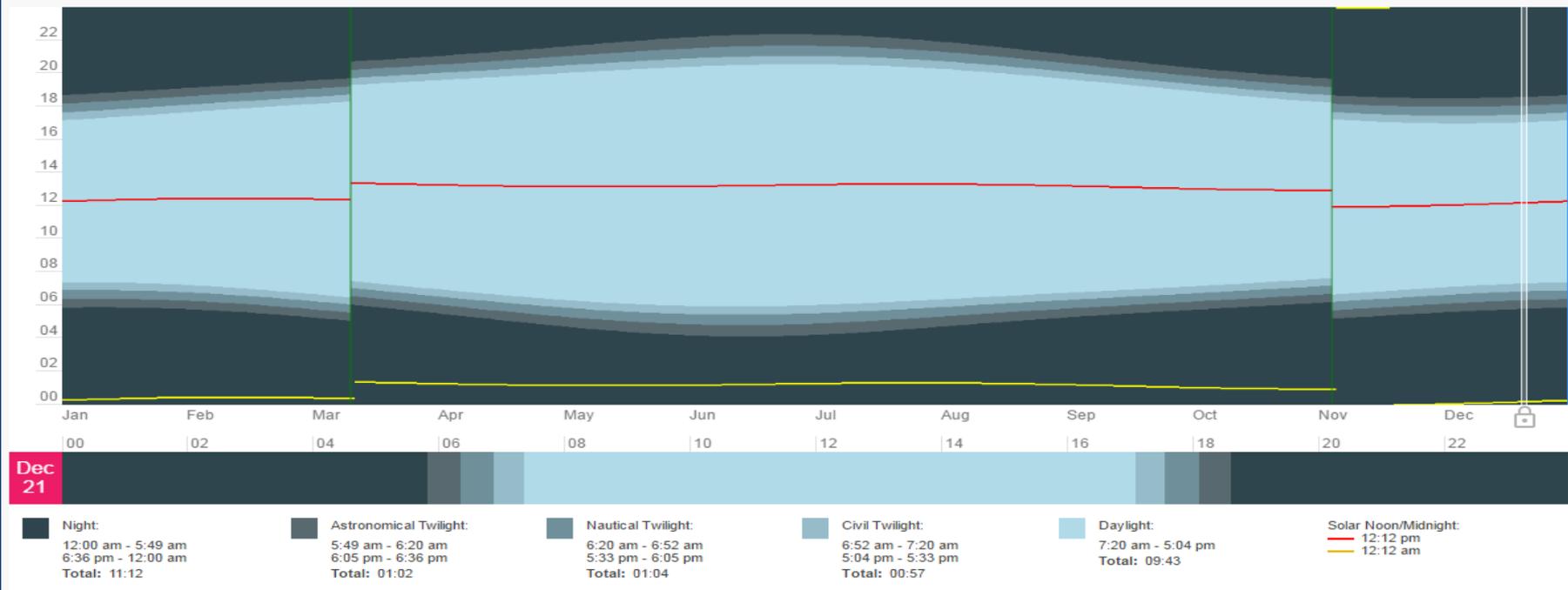


Greenway Commuter Exception

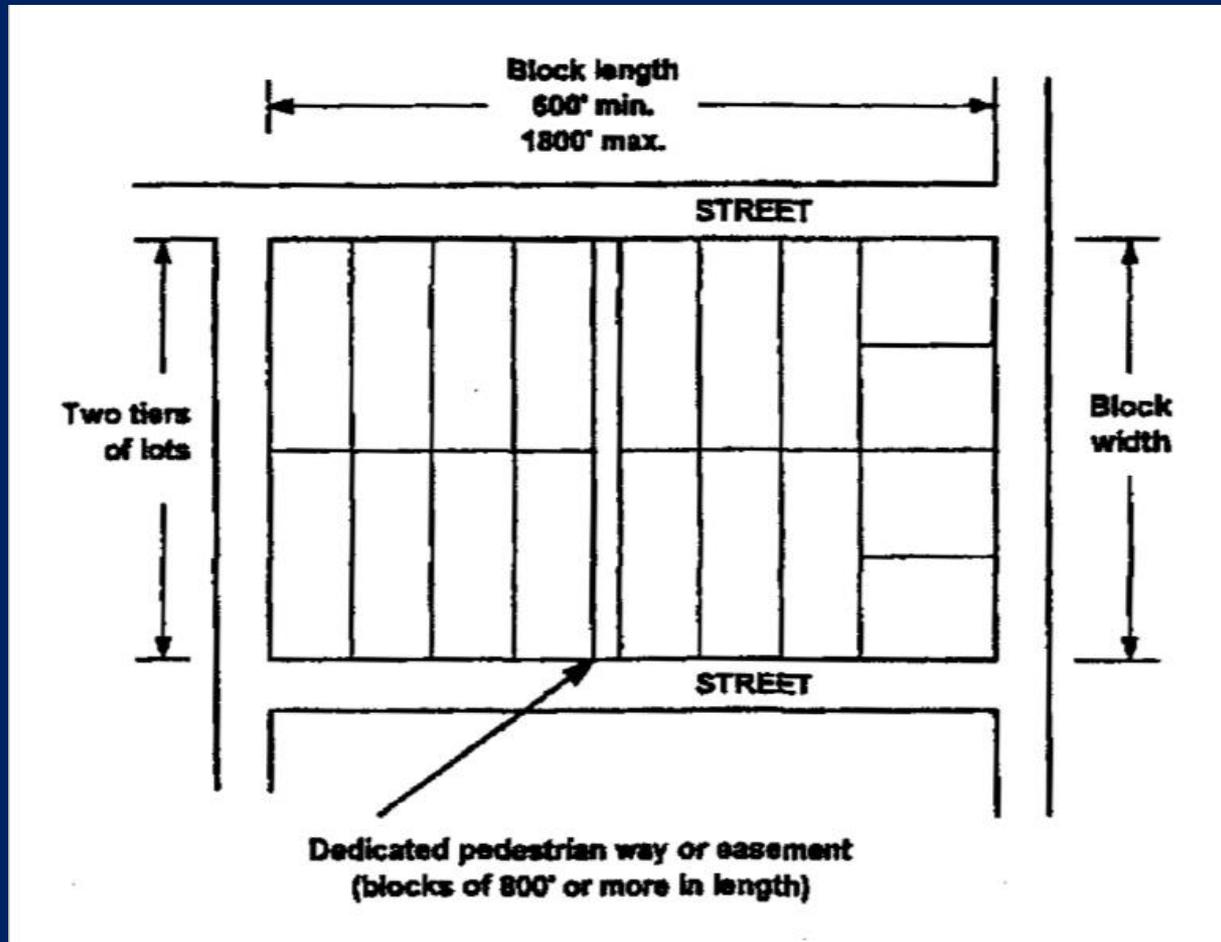


Yearly Sun Graph for Raleigh

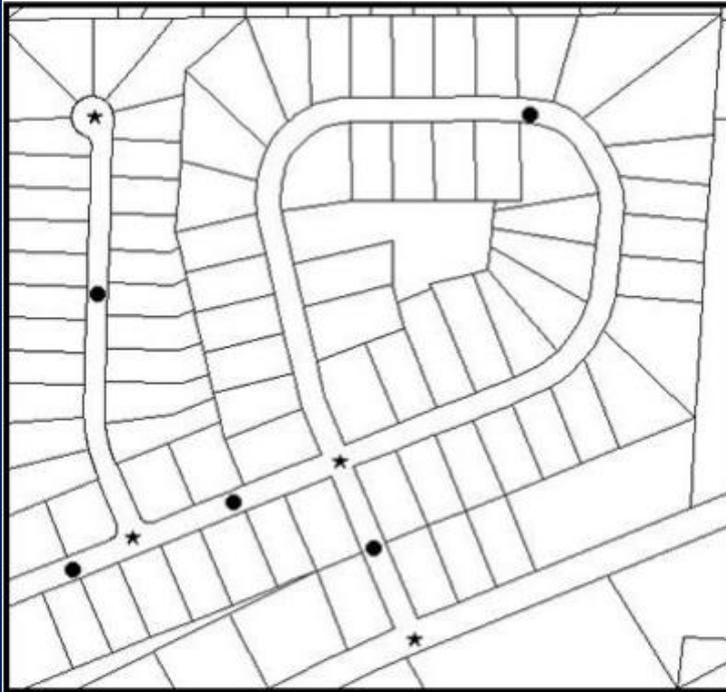
Rise/Set Times Day/Night Length



Block Length



Connectivity Index



The measure of connectivity is the number of street links divided by the number of nodes.

Nodes are street intersections and cul-de-sac bulbs.

Links are the stretches of road that connect nodes. Stub outs are considered as links.

In this example, there are 5 links (circles) and 4 nodes (stars) = connectivity index of 1.25.

Multiple Ingress/Egress



Stub Out



Cross Access



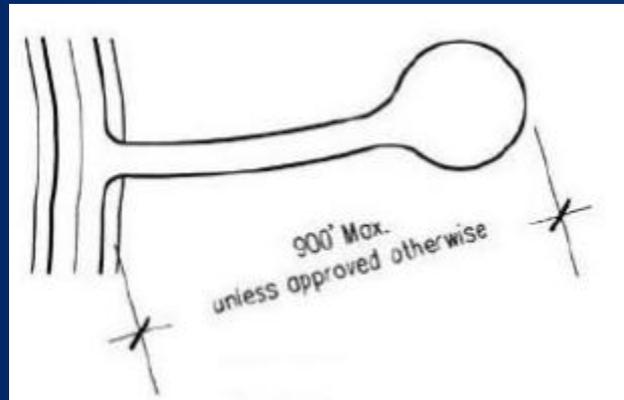
- Cul-de-Sac by Exception

“Cul-de-sac streets shall be laid out only in limited instances where they are required to provide access to land which cannot be served by a loop or other street design solution.”



Healthiest city designs, from best to worst
(*Journal of Transportation and Health*)

Max Cul-de-sac Length



Cumulative Length



Private Street Ban

- Often allowed in “complexes” where they are really just glorified driveways (townhouses, apartments, offices)—we were looking for streets above this threshold.

“A proposed development shall not be designed to include a mix of public and private streets.”

“A public street is required based on the adopted Community Transportation Plan or adopted plans...”



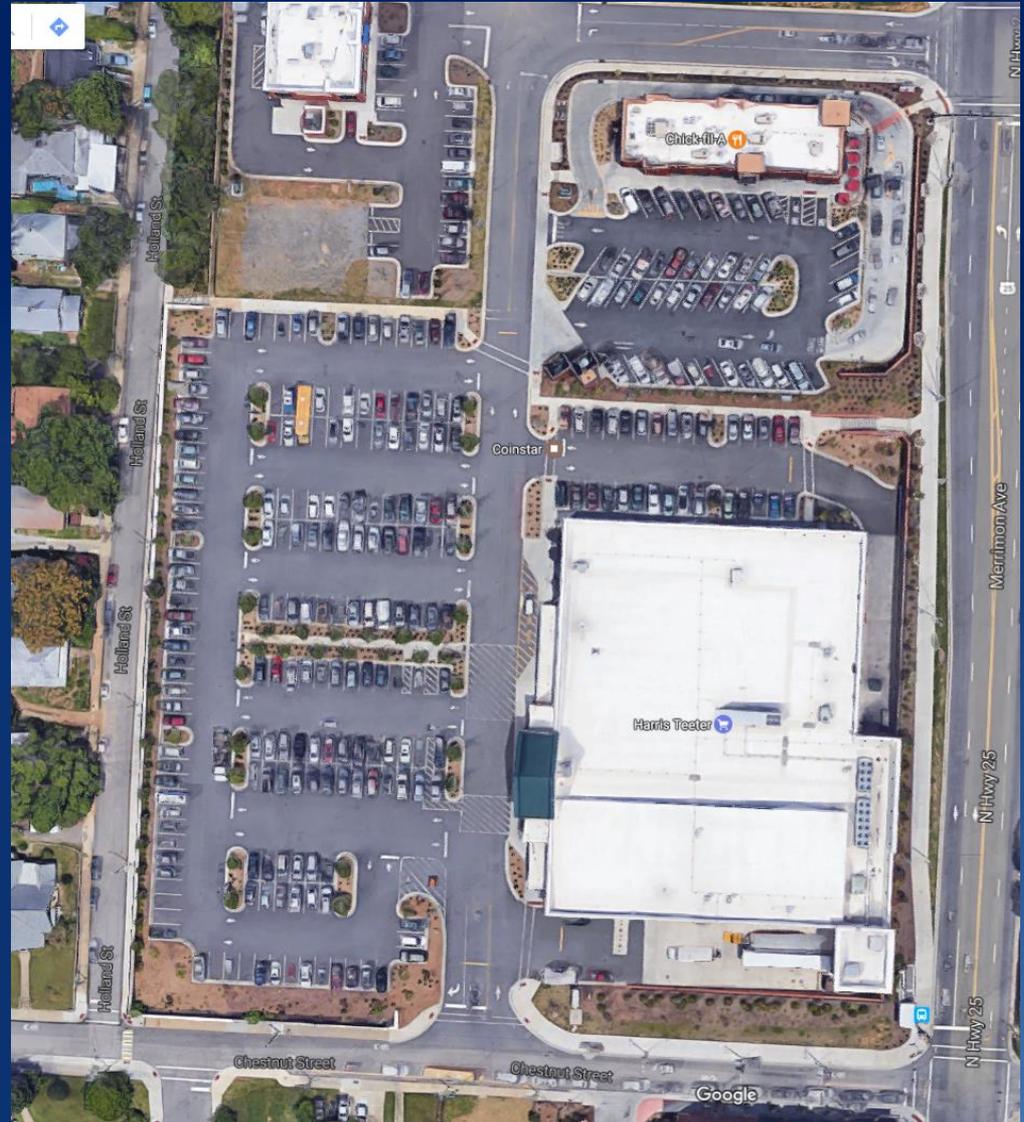
Front Load Parking

- This is what we are trying to avoid.



Not Front Load Parking

- This is friendlier to non-motorized travel.



Mixed Use Parking NOT Max

SHARED PARKING FACTOR

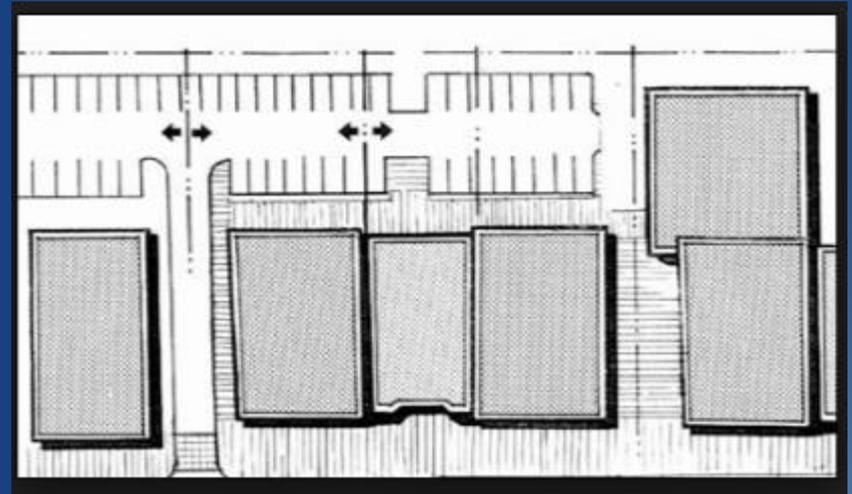
Function	with		Function
RESIDENTIAL			RESIDENTIAL
LODGING			LODGING
OFFICE		1	OFFICE
RETAIL	1.1	1.1	RETAIL
	1.4	1	
	1.2	1.7	1.4
	1.3	1	1.3
	1.2	1.2	
	1		

- Same as shared parking in principle, but as part of the same site plan.

Shared Parking



Where uses with complimentary hours share parking capacity—not on the



Require spaces or give reductions/bonuses for:

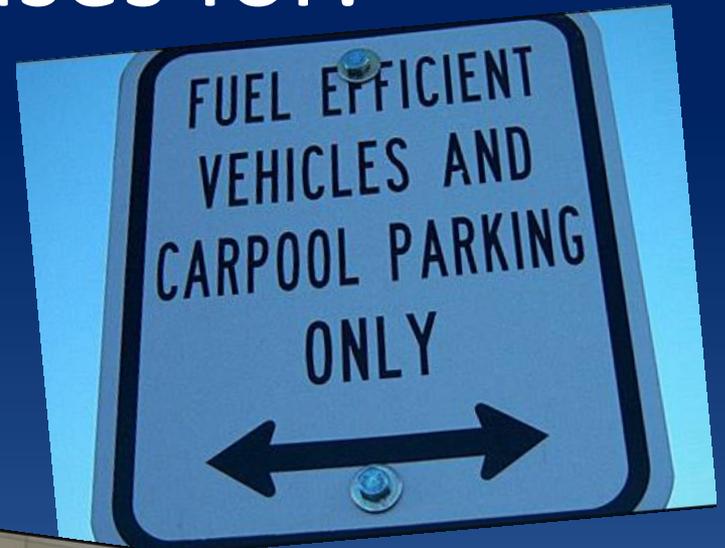
EV Spaces

Carpool/Vanpool Space

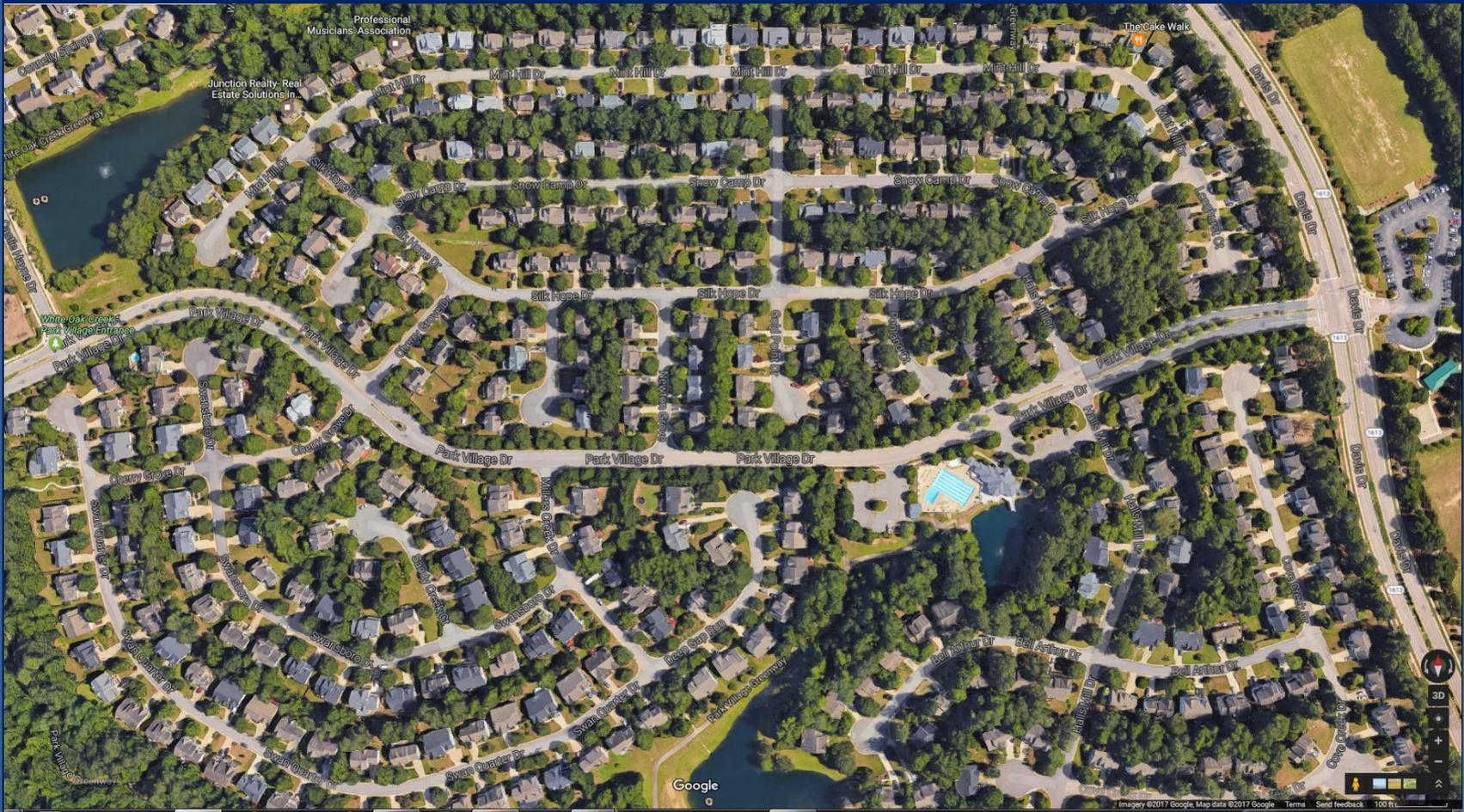
Transit Infrastructure

Bikes (parking + bonus)

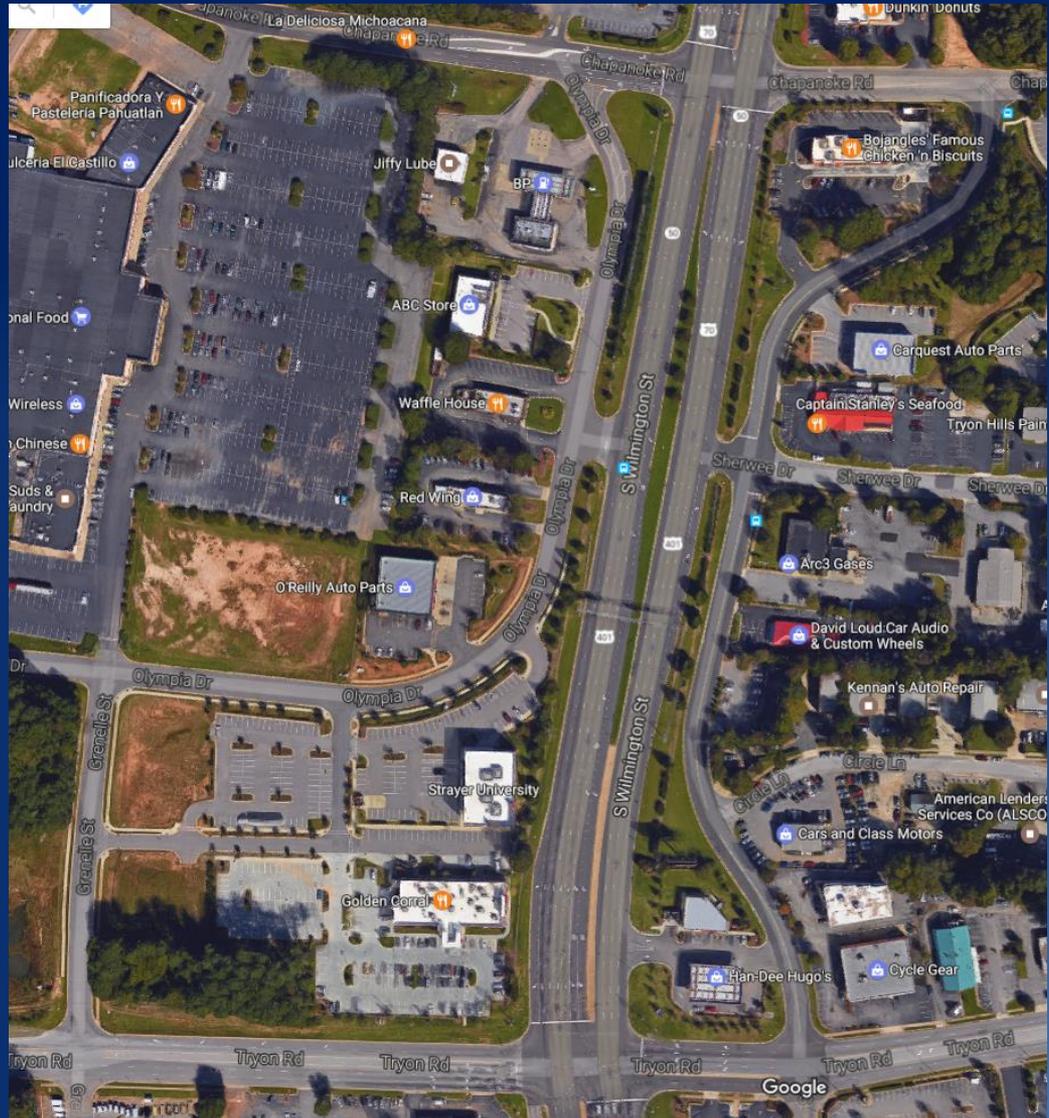
Transit Connection (bonus)



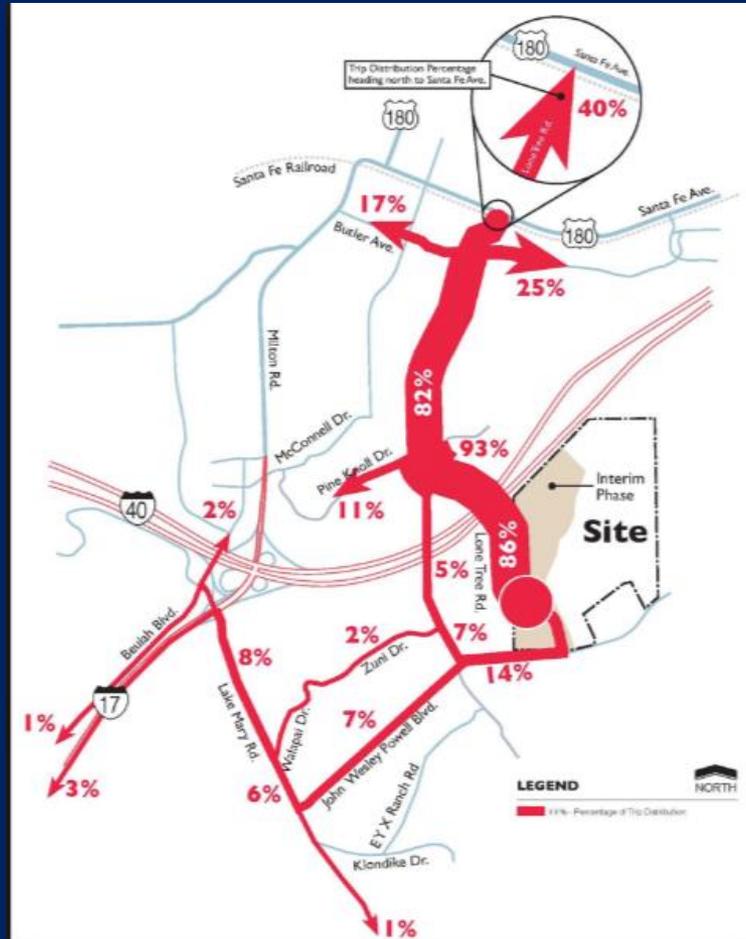
T'fare Driveway Restriction

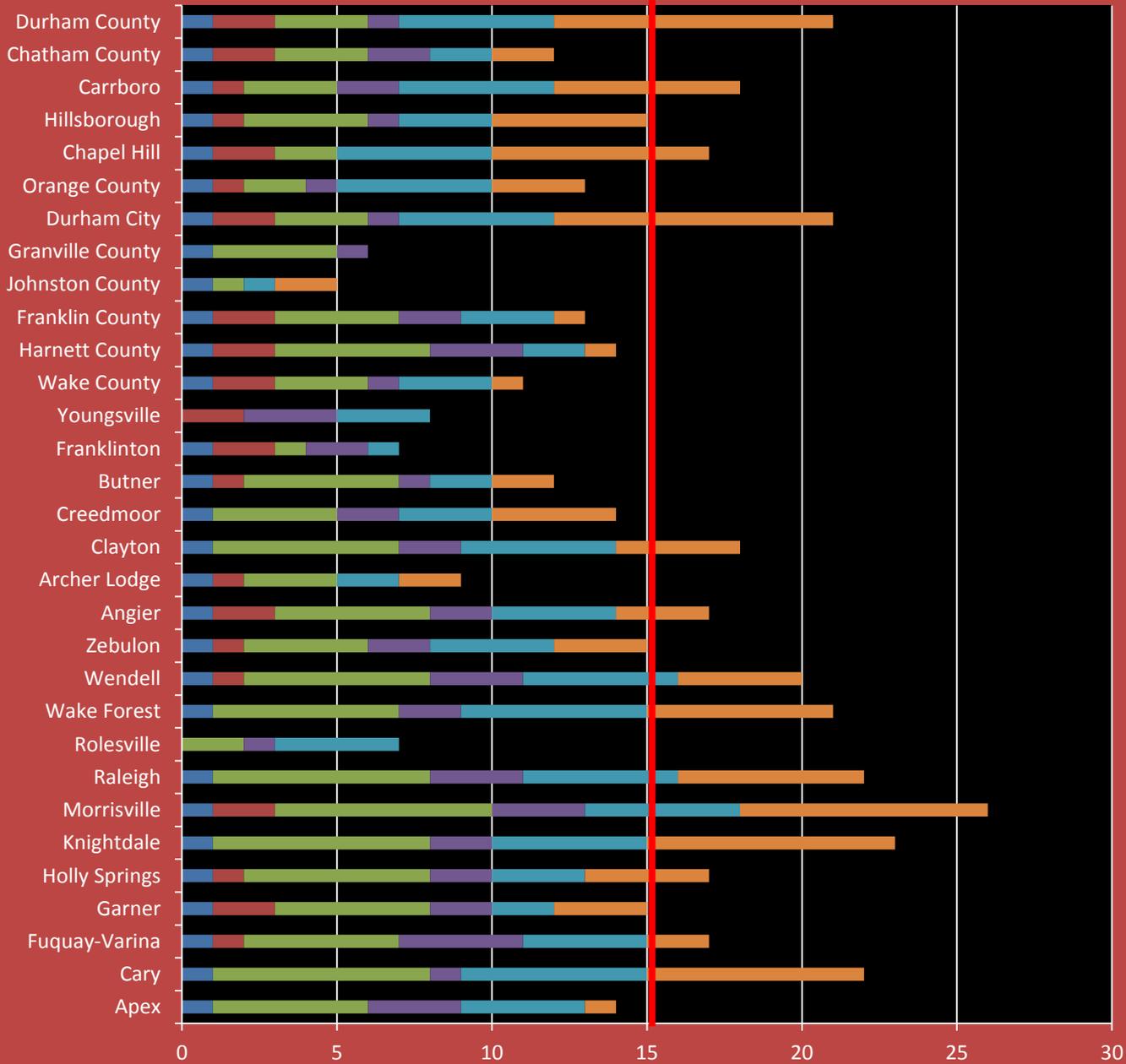


Frontage Road Provision



TIA Requirement





- Basis-Related Facilities to Plan
- Thoroughfare Preservation
- Blocks and Connectivity
- Connectivity Barriers
- Non-Motorized Provisions
- Parking

Overall Regional
Average 15.2

Requested Action:

**Please review and return with any changes by the
May TCC meeting**

5.4 Southeast Area Study

CAMPO Staff and Kimley-Horn consultants will present the findings and recommendations of the Southeast Area Study.

SEAS

S O U T H E A S T A R E A S T U D Y

Archer Lodge • Benson • Clayton • Four Oaks • Garner
Kenly • Micro • Raleigh • Selma • Smithfield • Wilson's Mills
Johnston County • Wake County



Presentation Overview

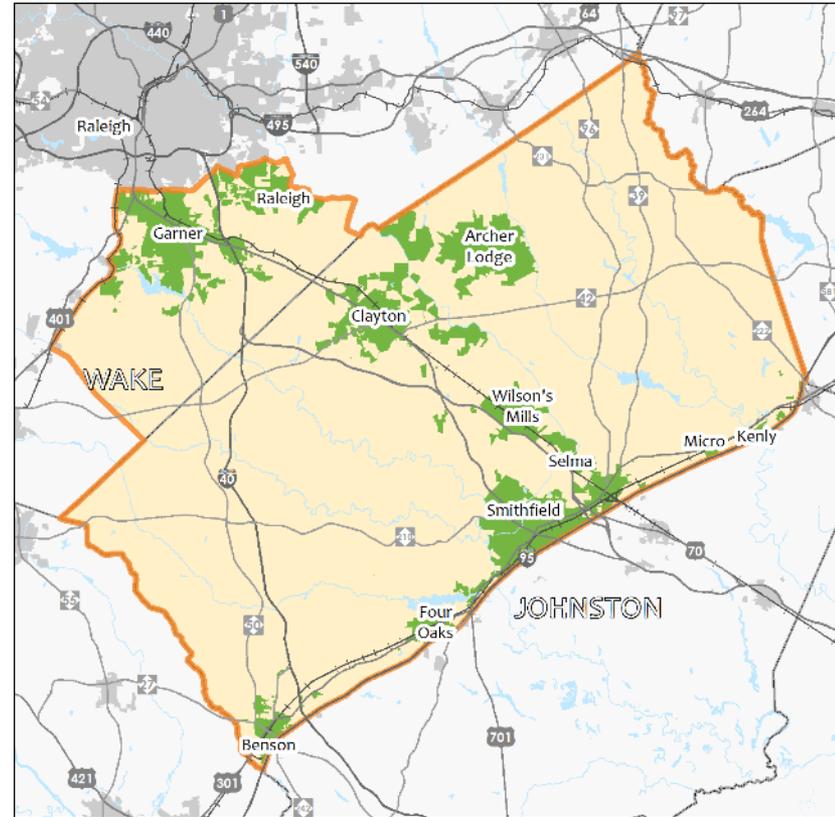
- Project Purpose and Timeline
- Outreach Efforts
- Recommendations
- Best Practices
- Questions

PROJECT PURPOSE AND TIMELINE

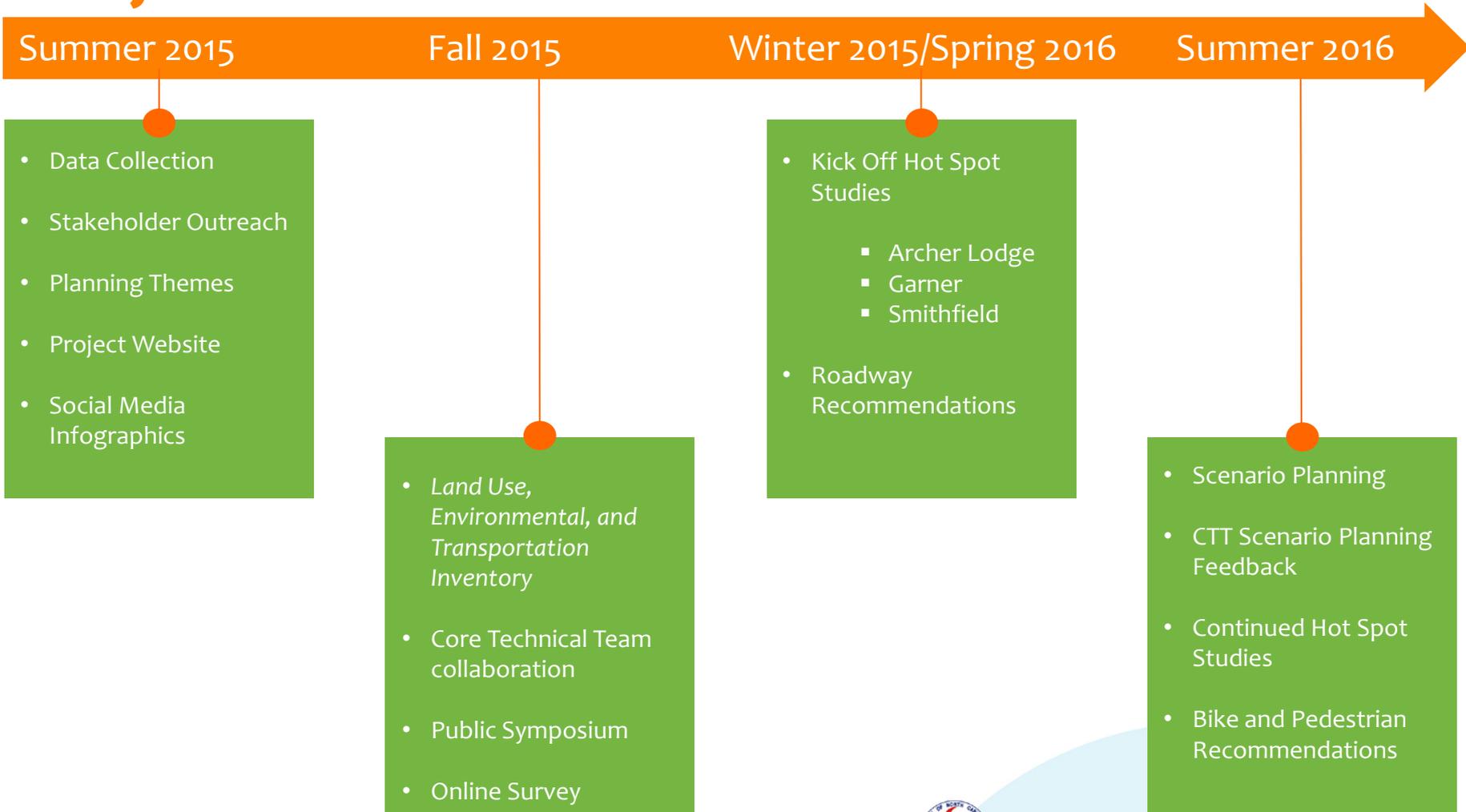
Project Purpose

What will the study do?

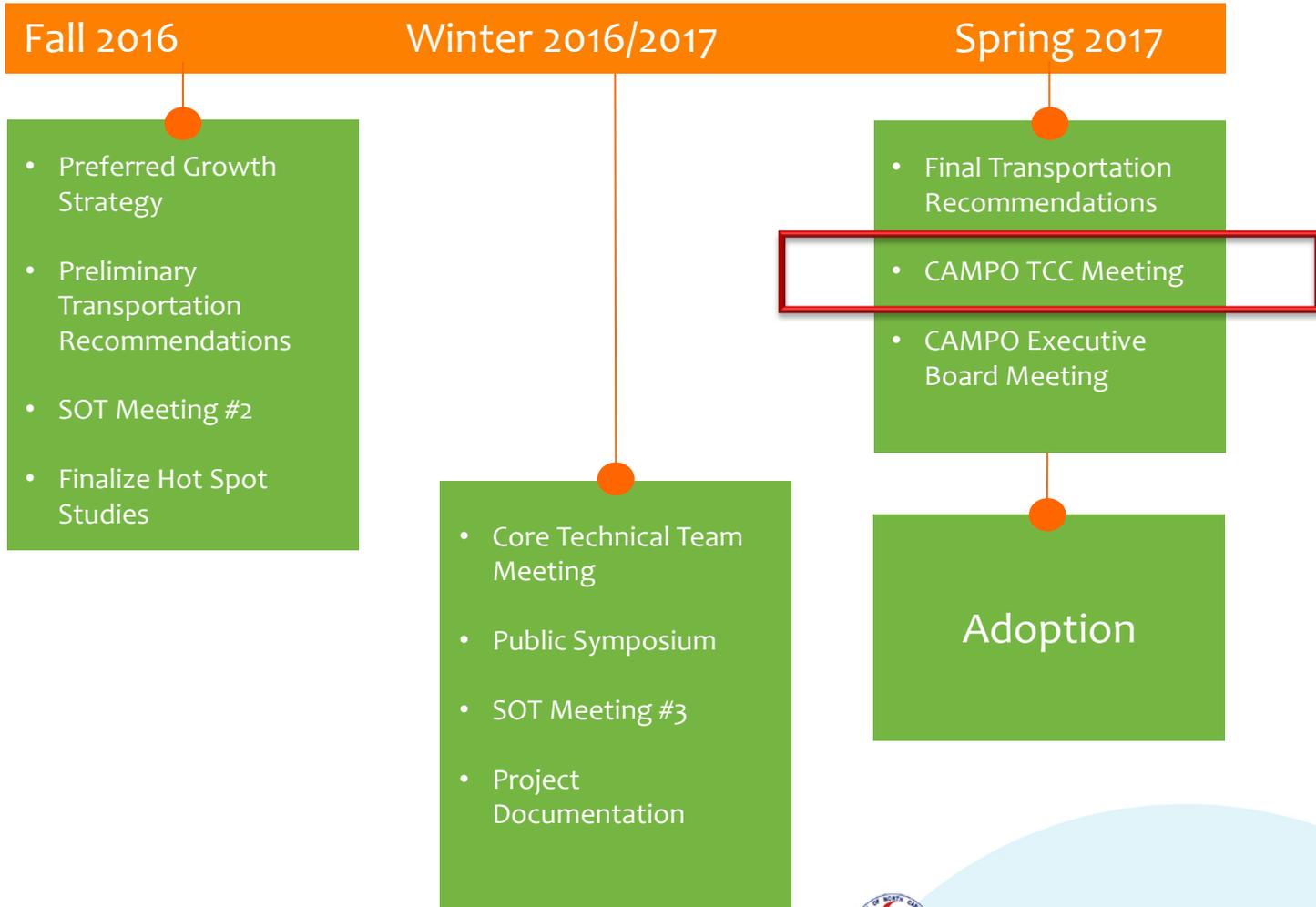
- Update CAMPO's Comprehensive Transportation Plan
- Influence the development of CAMPO's Metropolitan Transportation Plan
- Identify transportation priorities for UCPRPO
- Provide data for future project prioritization efforts



Project Timeline



Project Timeline



- Core Technical Team
- Stakeholder Oversight Team
- Public Symposia

OUTREACH EFFORTS

Project Committees

- Core Technical Team (9 meetings)
- Stakeholder Oversight Team (3 meetings)
- Composed of representatives from:
 - Archer Lodge
 - Benson
 - CAMPO
 - Clayton
 - Four Oaks
 - Garner
 - Johnston County
 - NCDOT
 - Raleigh
 - Selma
 - Smithfield
 - TJCOG
 - UCPRPO
 - Wake County
 - Wilson's Mills



Two Public Symposia

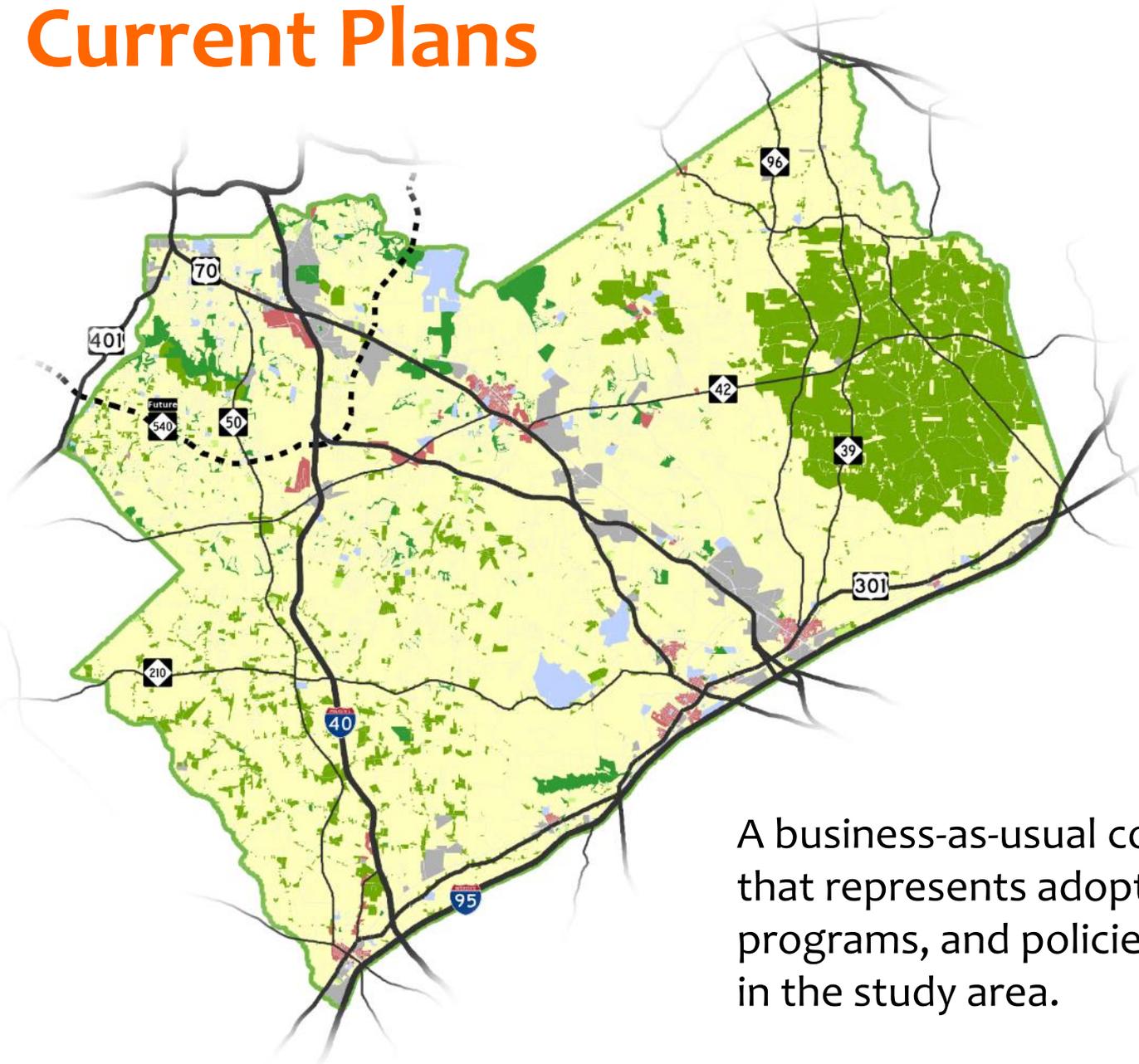
- October 8, 2015
- January 12, 2017



- Preferred Growth Strategy
- Hot Spot Recommendations
- Multimodal Recommendations

TRANSPORTATION RECOMMENDATIONS

Current Plans



Community Types

Rural

Suburban

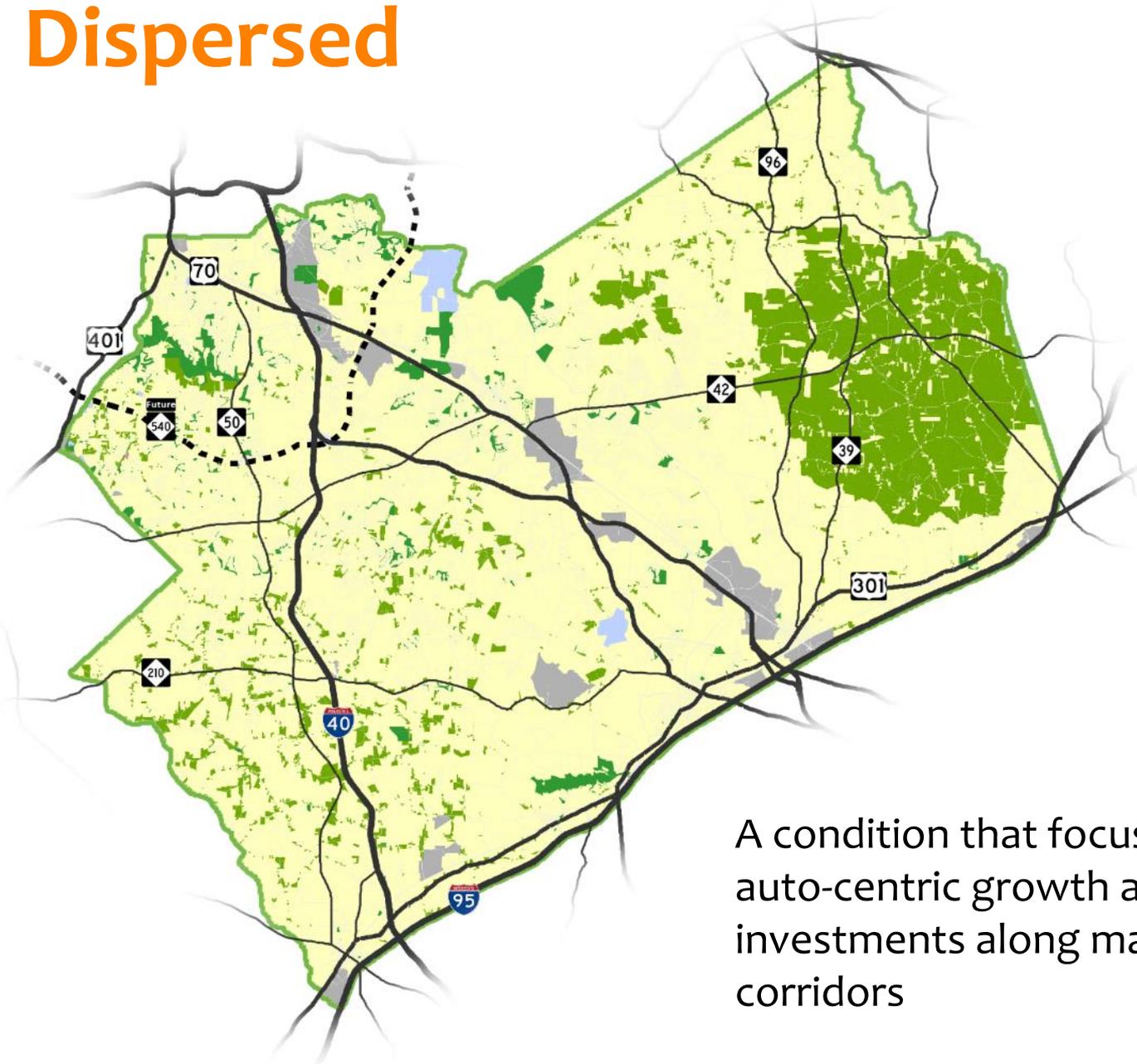
City and Town

Industrial

Special

A business-as-usual condition that represents adopted plans, programs, and policies in the study area.

Dispersed

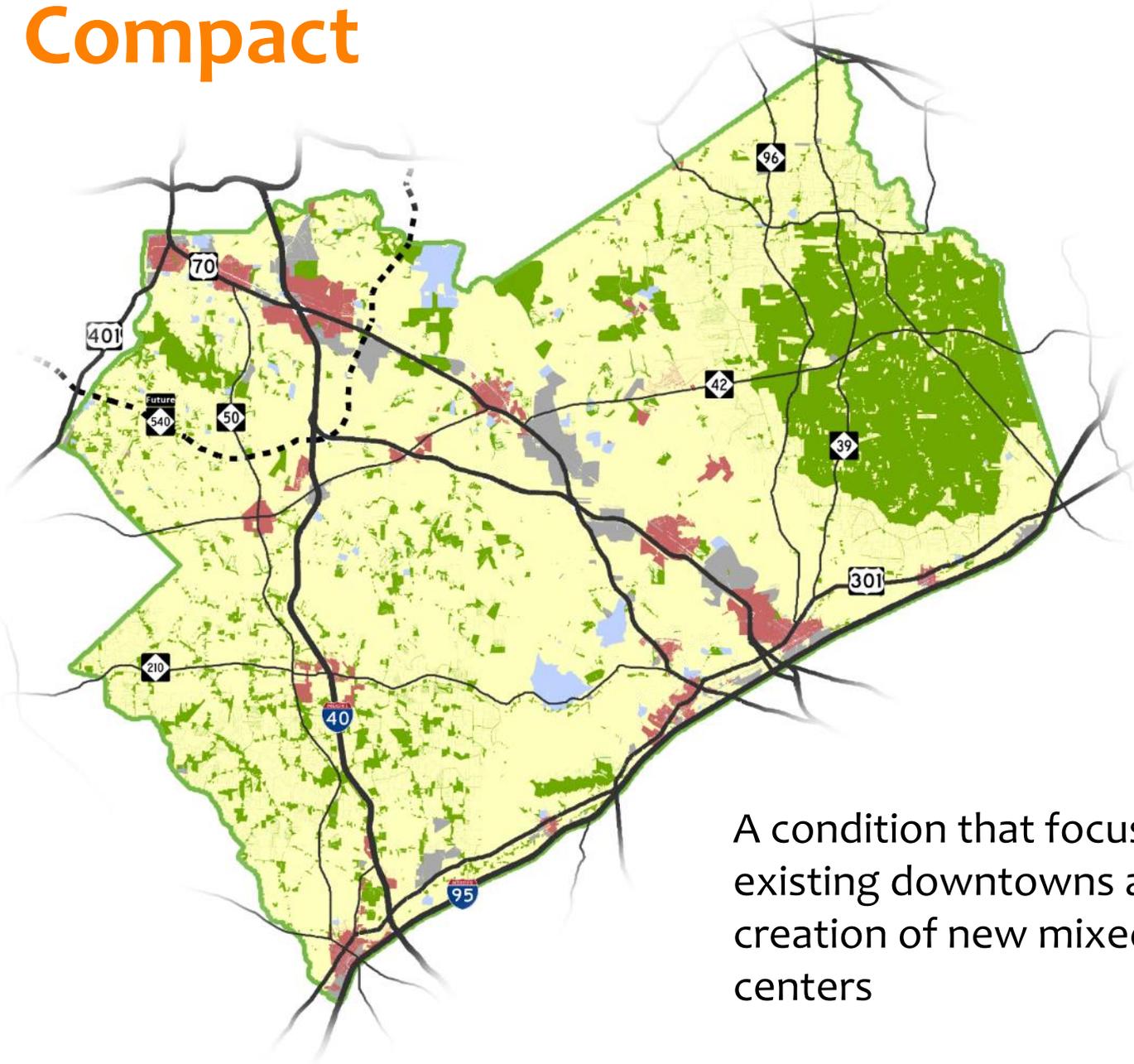


A condition that focuses on auto-centric growth and investments along major corridors

Community Types

Rural
Suburban
City and Town
Industrial
Special

Compact



A condition that focuses on existing downtowns and the creation of new mixed-use centers

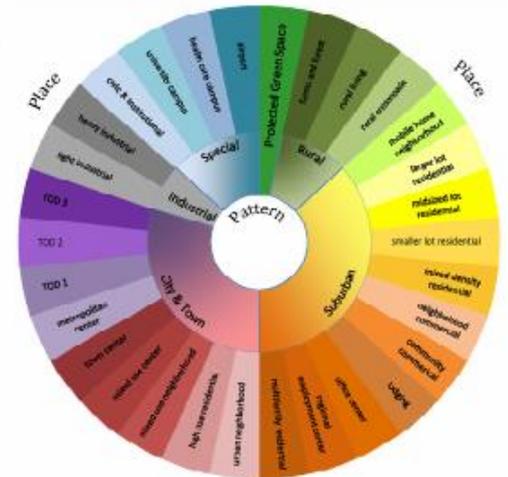
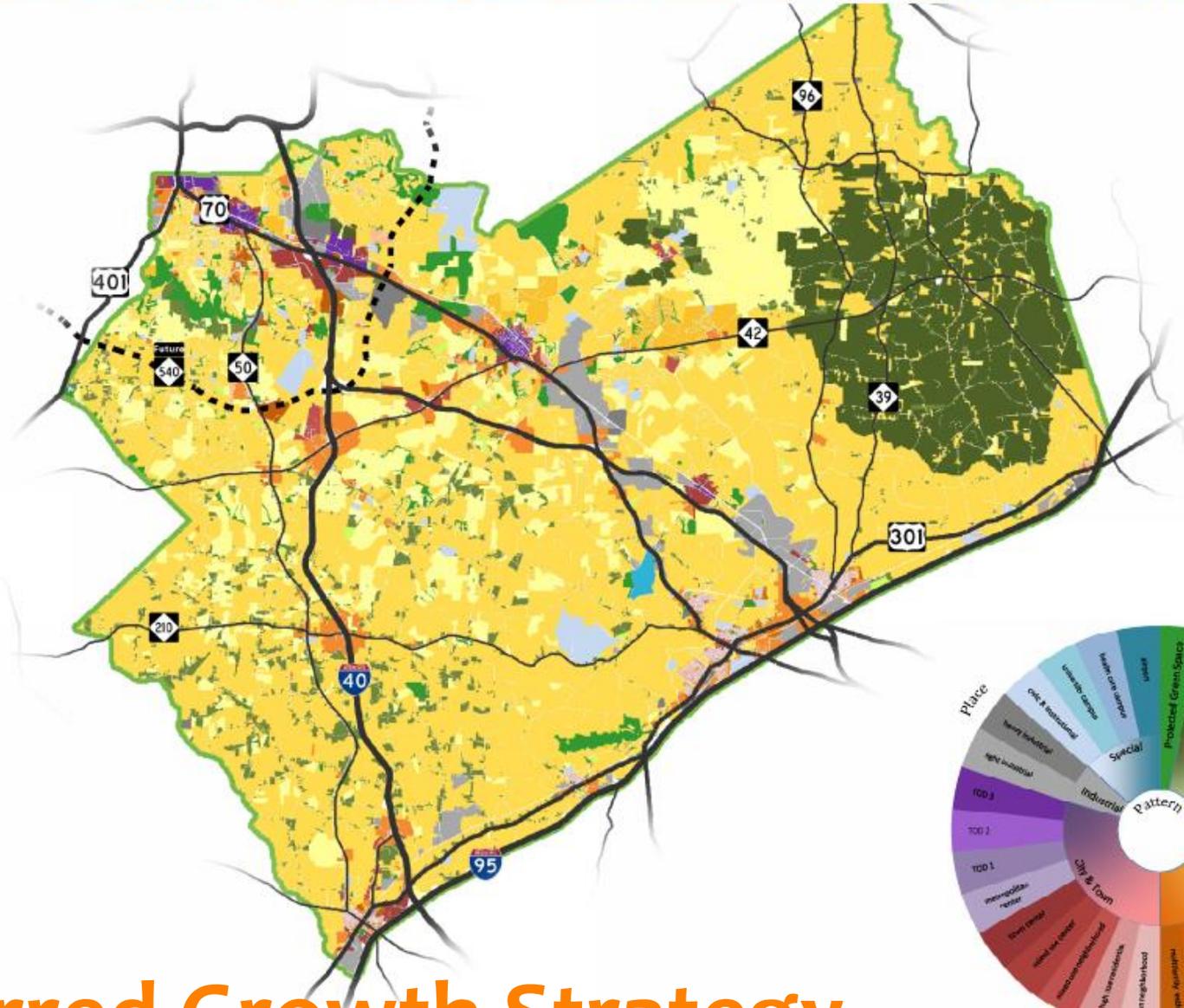
Community Types

Rural
Suburban
City and Town
Industrial
Special

SEAS

SOUTHEAST AREA STUDY

Archer Lodge • Benson • Clayton • Four Oaks • Garner • Kenly • Micro • Raleigh • Selma • Smithfield • Wilson's Mills • Johnston County • Wake County



Preferred Growth Strategy

Preferred vs. Current

Quality of Place

Learning Centers <i>Proximity to libraries and schools</i>	■ → →
Housing Diversity <i>Mix of dwelling unit types within the study area</i>	■ → →
Access to Parks and Greenways <i>Proximity to parks and greenways</i>	■ →
Jobs and Housing Balance <i>Ratio of jobs to households within urban place types</i>	■ →
Walkability <i>Dwelling units within walkable place types</i>	■ →

Sustainable Growth

Urban Footprint <i>Growth in urban place types</i>	■ →
Urban Density <i>Density within urban place types</i>	■ →
Water Consumption <i>Average water consumption</i>	■ →
Energy Consumption <i>Average energy consumption</i>	■

Regional Transportation

Vehicle Miles Traveled <i>Vehicle miles traveled (Triangle Regional Model)</i>	■ →
Vehicle Hours Traveled <i>Vehicle hours traveled (Triangle Regional Model)</i>	■ → →
Congested Corridors <i>Miles of congested corridors</i>	■ →

Growth Distribution

Context Distribution

Percent of land area by community type

	Current Plans	Preferred Scenario
City & Town	1.6%	2.8%
Suburban	74.4%	75.2%
Rural	15.7%	14.1%
Protected Green Space	2.8%	2.3%
Other	5.6%	5.6%

Household Distribution

Percent household growth allocated by community type

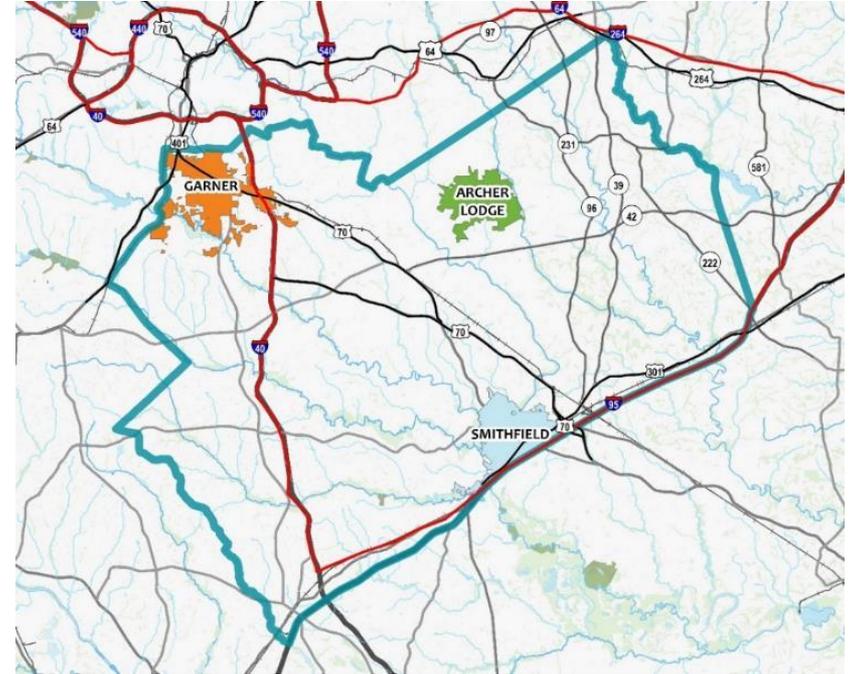
	Current Plans	Preferred Scenario
City & Town	4.2%	18.2%
Suburban	90.9%	73.7%
Rural	2.0%	1.4%
Protected Green Space	1.1%	1.3%
Other	1.8%	5.3%

Employment Distribution

Percent employment growth allocated by community type

	Current Plans	Preferred Scenario
City & Town	15.2%	43.8%
Suburban	55.0%	31.8%
Rural	1.5%	1.2%
Protected Green Space	1.2%	1.4%
Other	26.7%	21.8%

- Archer Lodge Collector Street Plan
- Garner 40/70 Catalyst Site
- Smithfield Interchange Analysis



HOT SPOT STUDIES

Planning for a Town Center

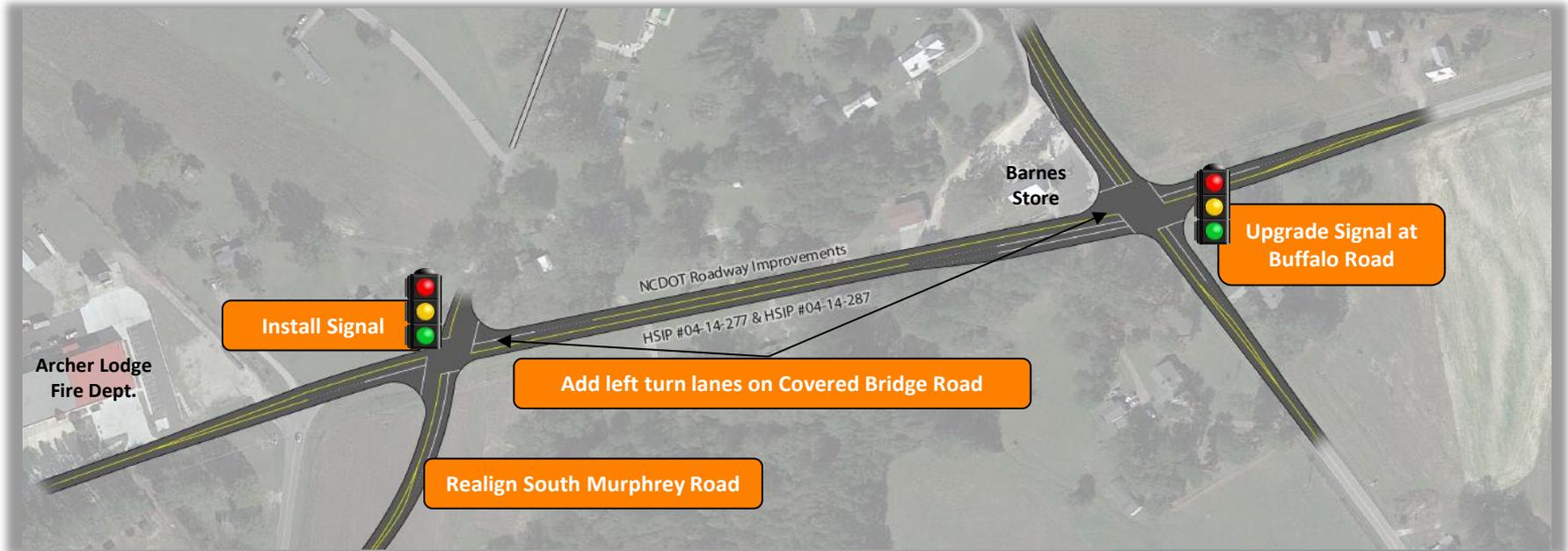
Vision Plan

- New Civic facilities
- Complete Streets approach to Buffalo Road
- Enhanced mobility from new multi-use side path
- Improved streetscape and pedestrian environment
 - Street trees
 - High visibility cross-walks
 - Potential future signalization
 - Intersection gateway enhancements



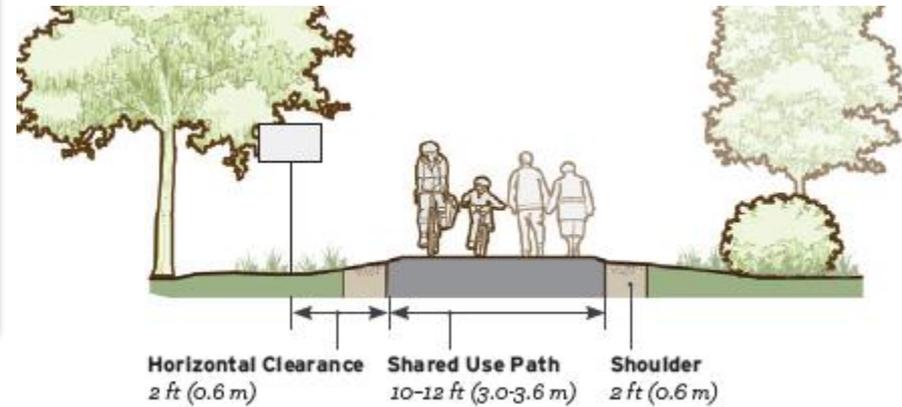
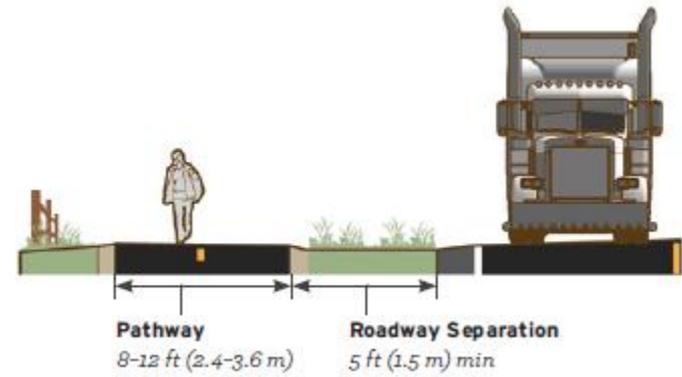
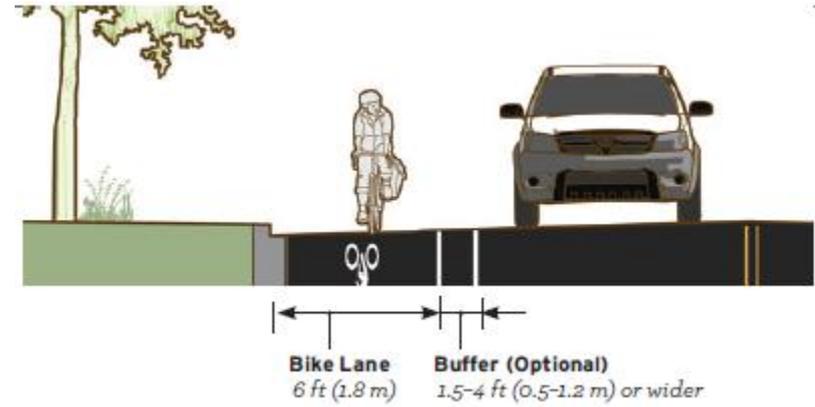
NCDOT Safety Improvements

February Start	2017		2018
	Design	August Start	
		Right-of-way	August Start
			Construction



Archer Lodge Collector Street Plan

Greenways and Trails



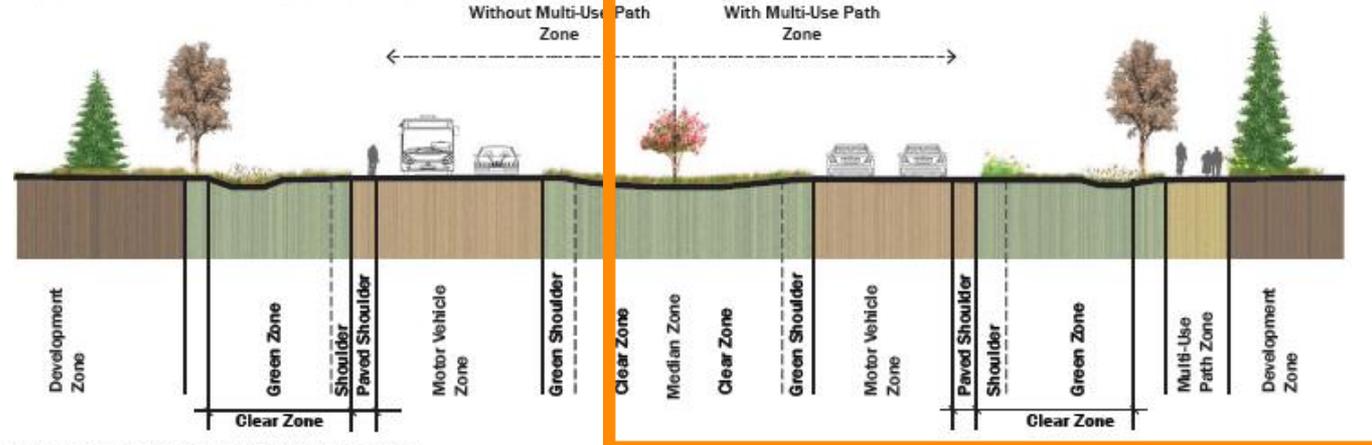
Archer Lodge Collector Street Plan

Completing the Streets

4 Lane Divided with Sidepaths

Buffalo Road

ILLUSTRATIVE STREET CROSS - SECTION



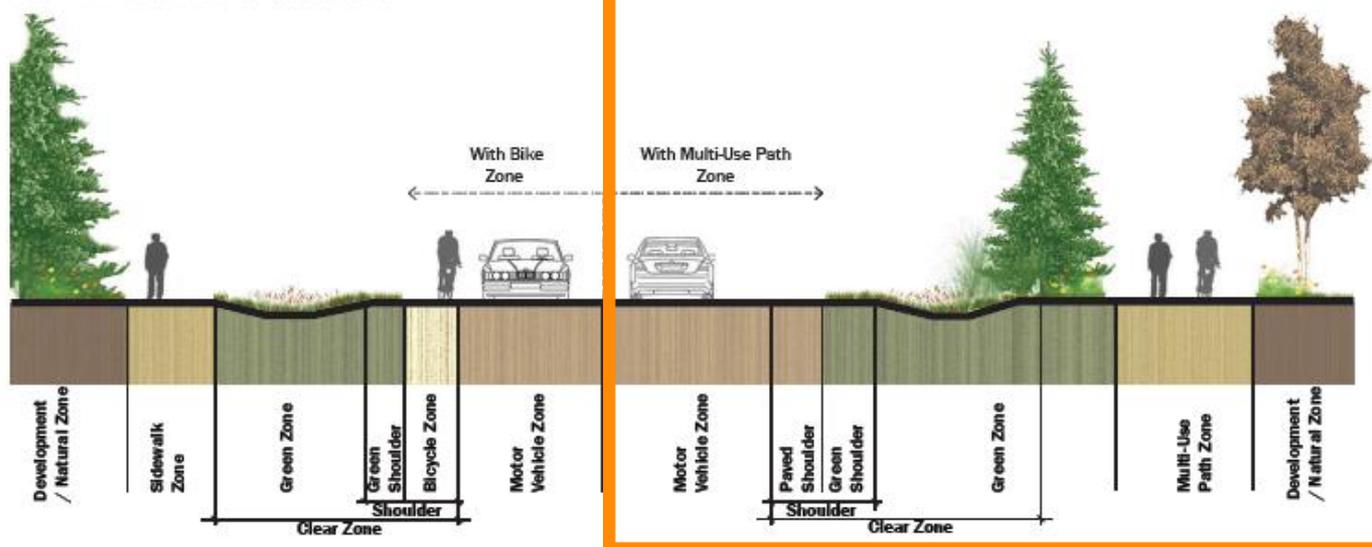
2 Lane with Sidepaths

Covered Bridge Road

Archer Lodge Road

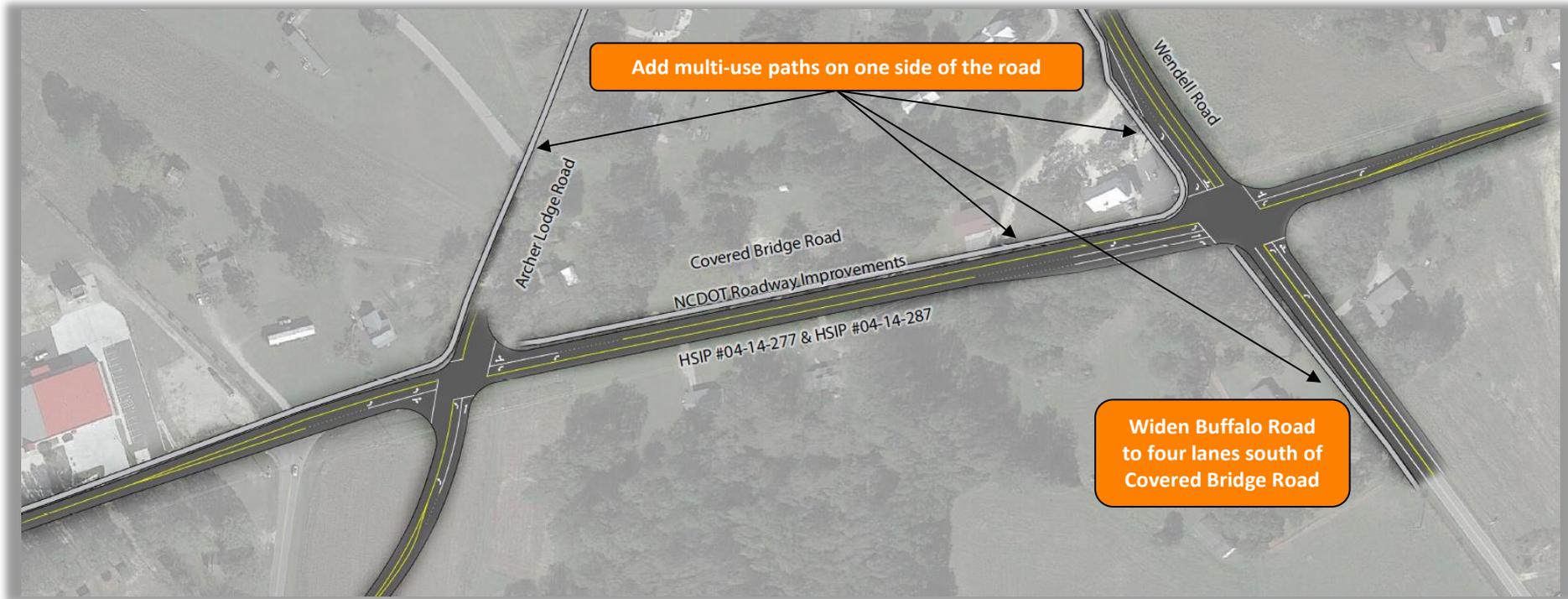
S Murphrey Road

ILLUSTRATIVE STREET CROSS-SECTION



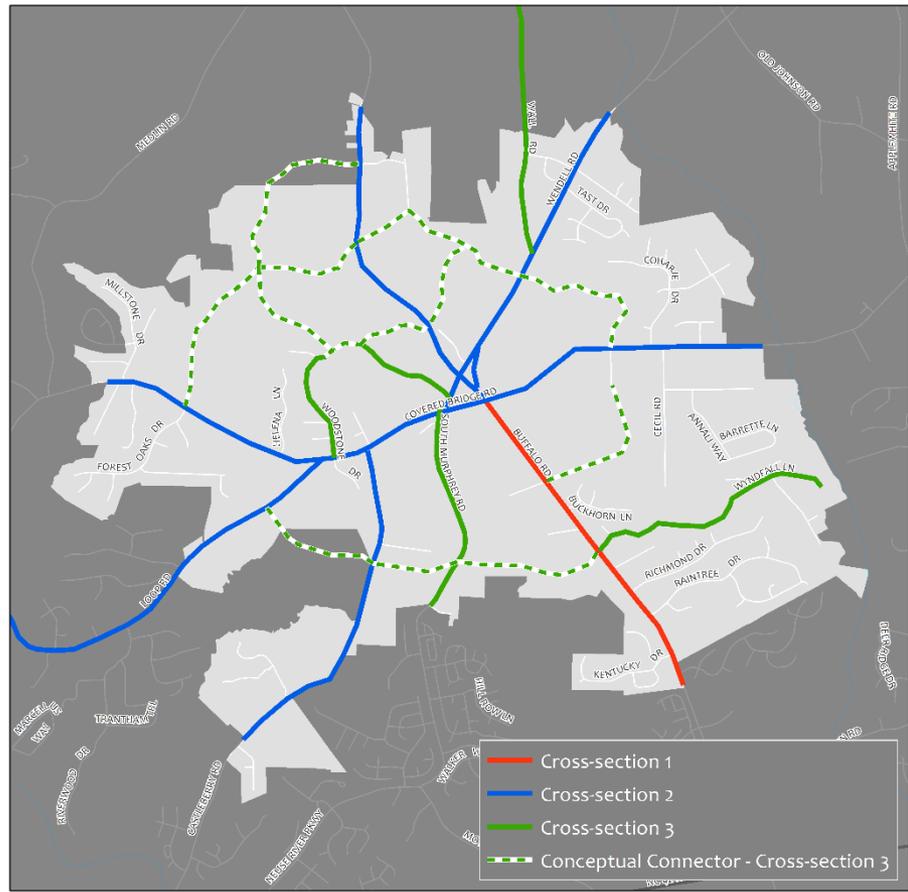
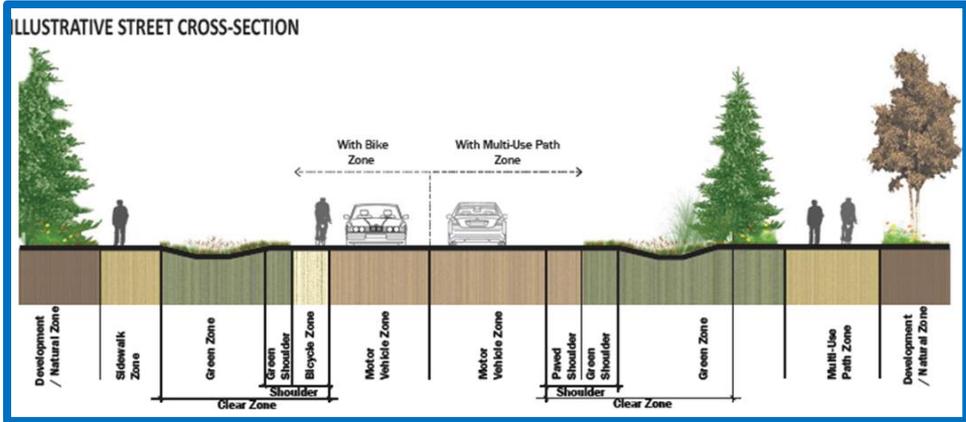
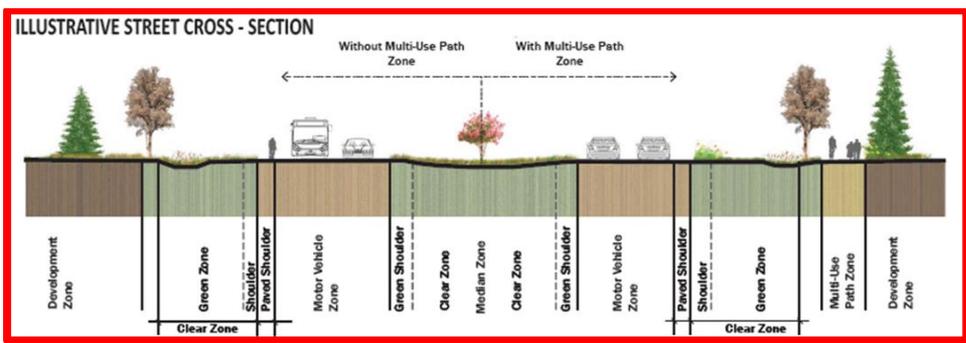
Archer Lodge Collector Street Plan

Completing the Streets

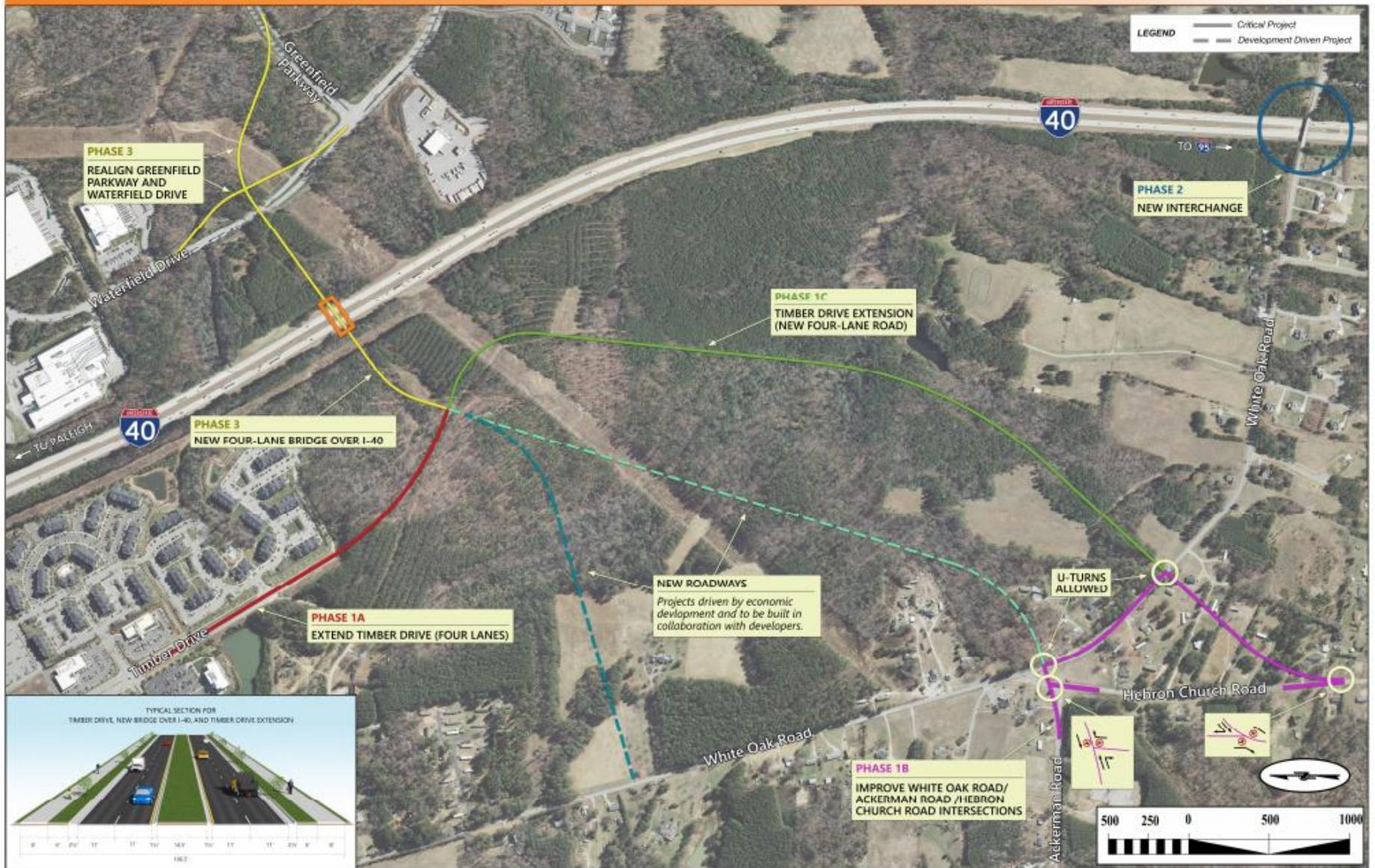


Archer Lodge Collector Street Plan

Putting the System Together



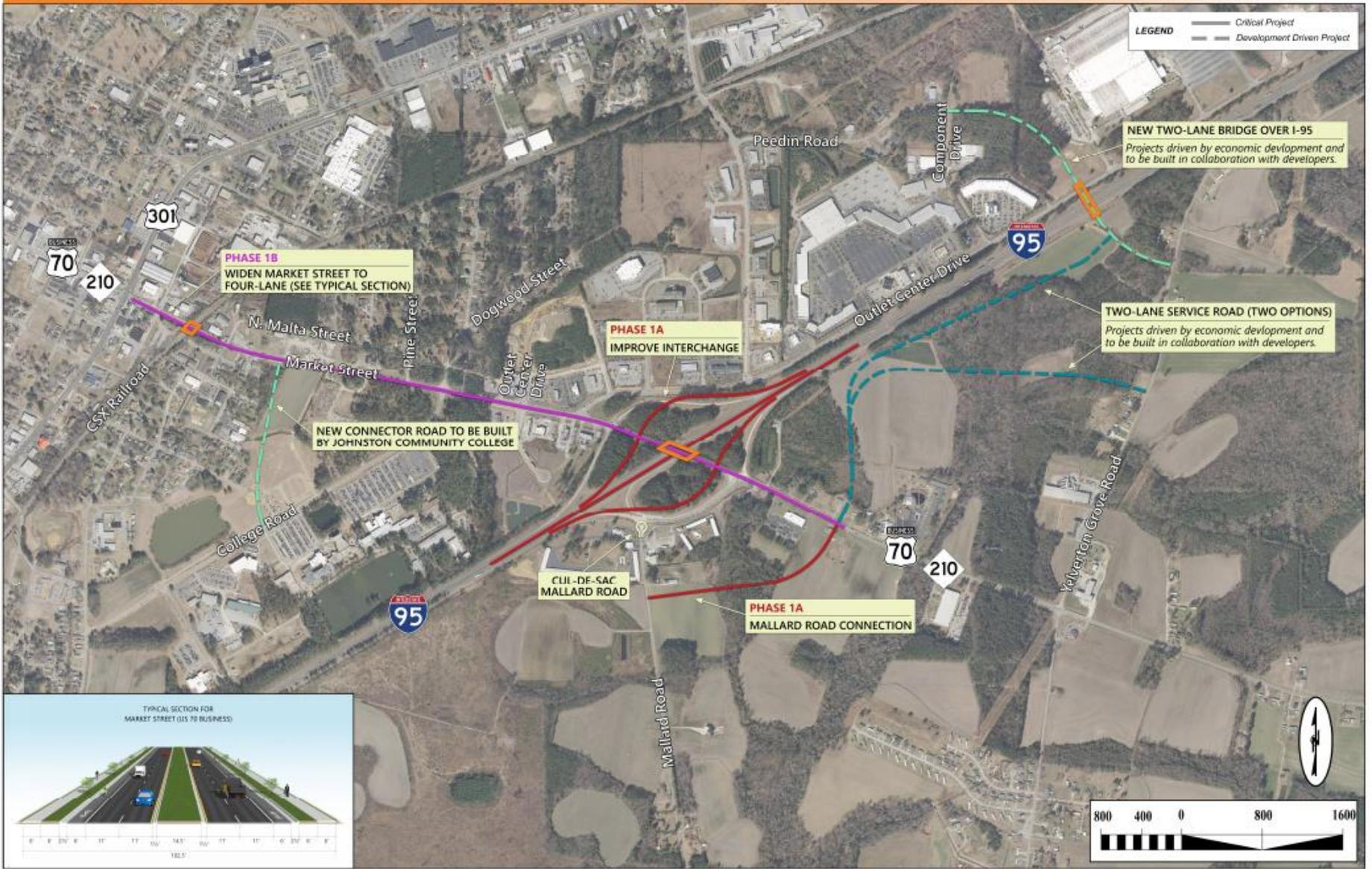
Garner 40/70 Catalyst Site



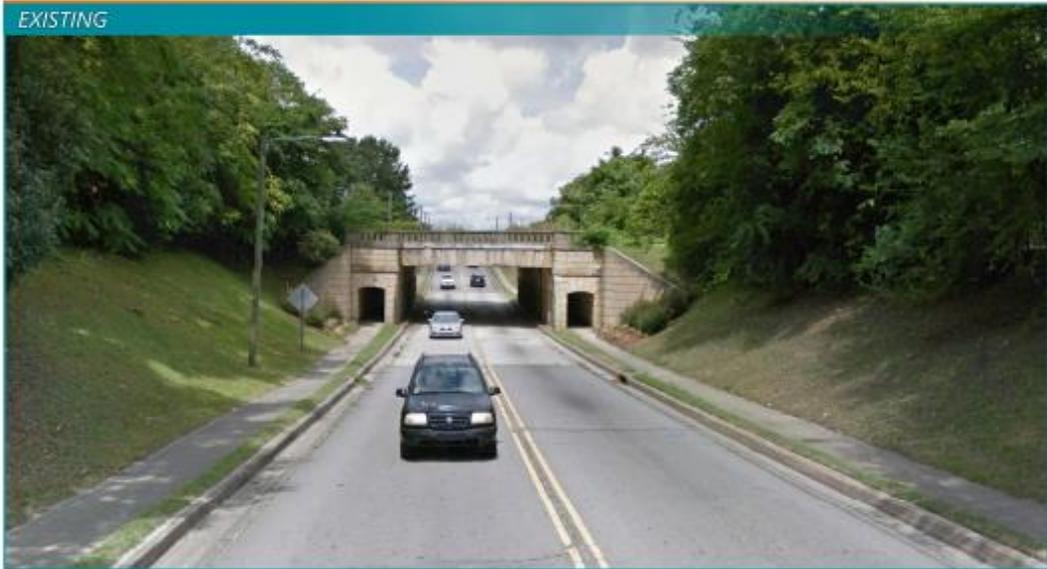
Garner 40/70 Catalyst Site



Smithfield Interchange Analysis



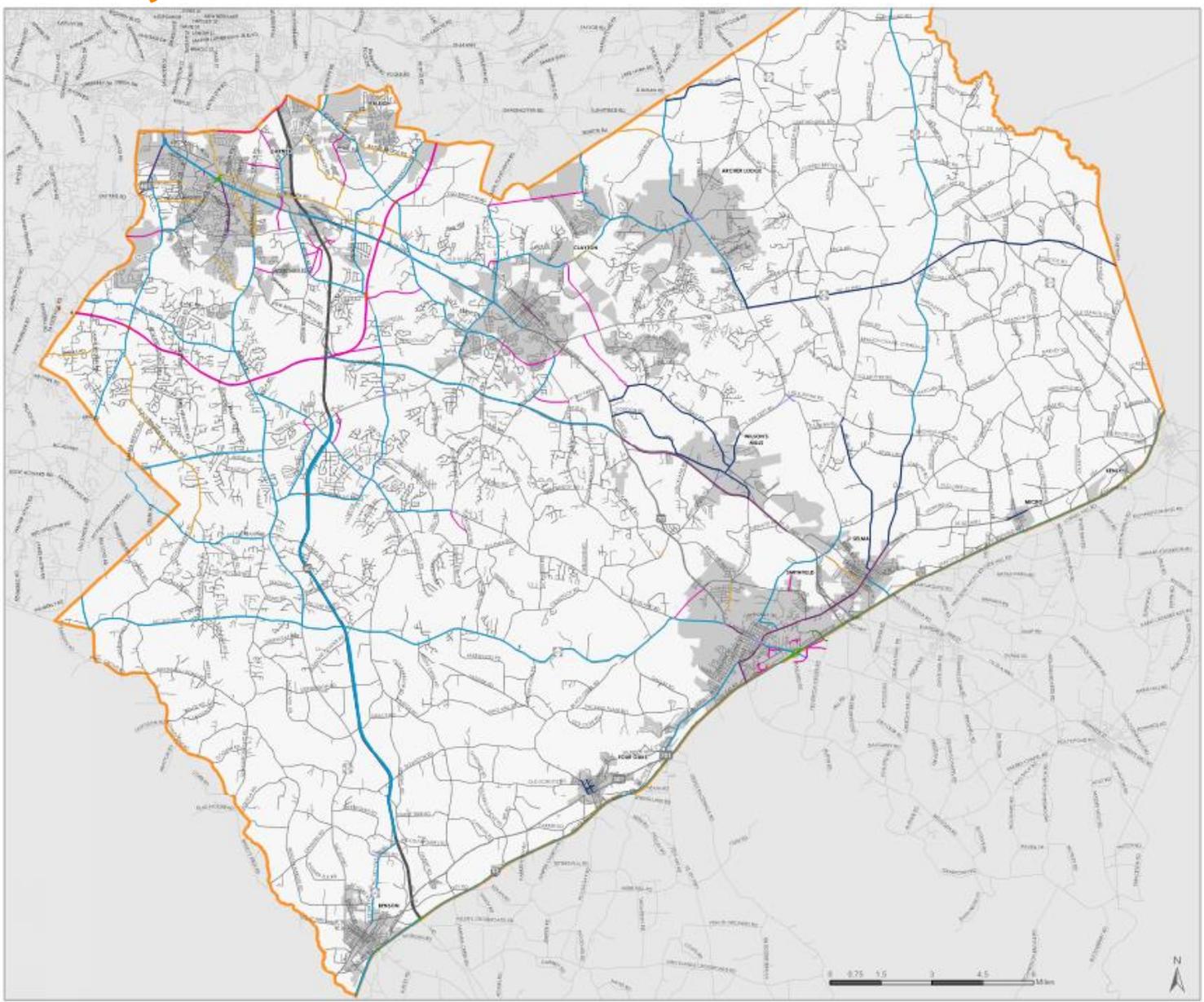
Market Street (US 70 Business) Photosimulation



- Roadway Recommendations
- Bicycle and Pedestrian Recommendations
- Transit Recommendations

FINAL RECOMMENDATIONS

Project Universe



SEAS SOUTHEAST AREA STUDY

Southeast Area Study

Project Universe

- Bridge Replacement
- Interchange Improvement
- Intersection Improvement
- Modernization
- New Grade Separation
- New Interchange
- New Location
- Operational Improvement
- Turn Lane
- Widening
- Study Area

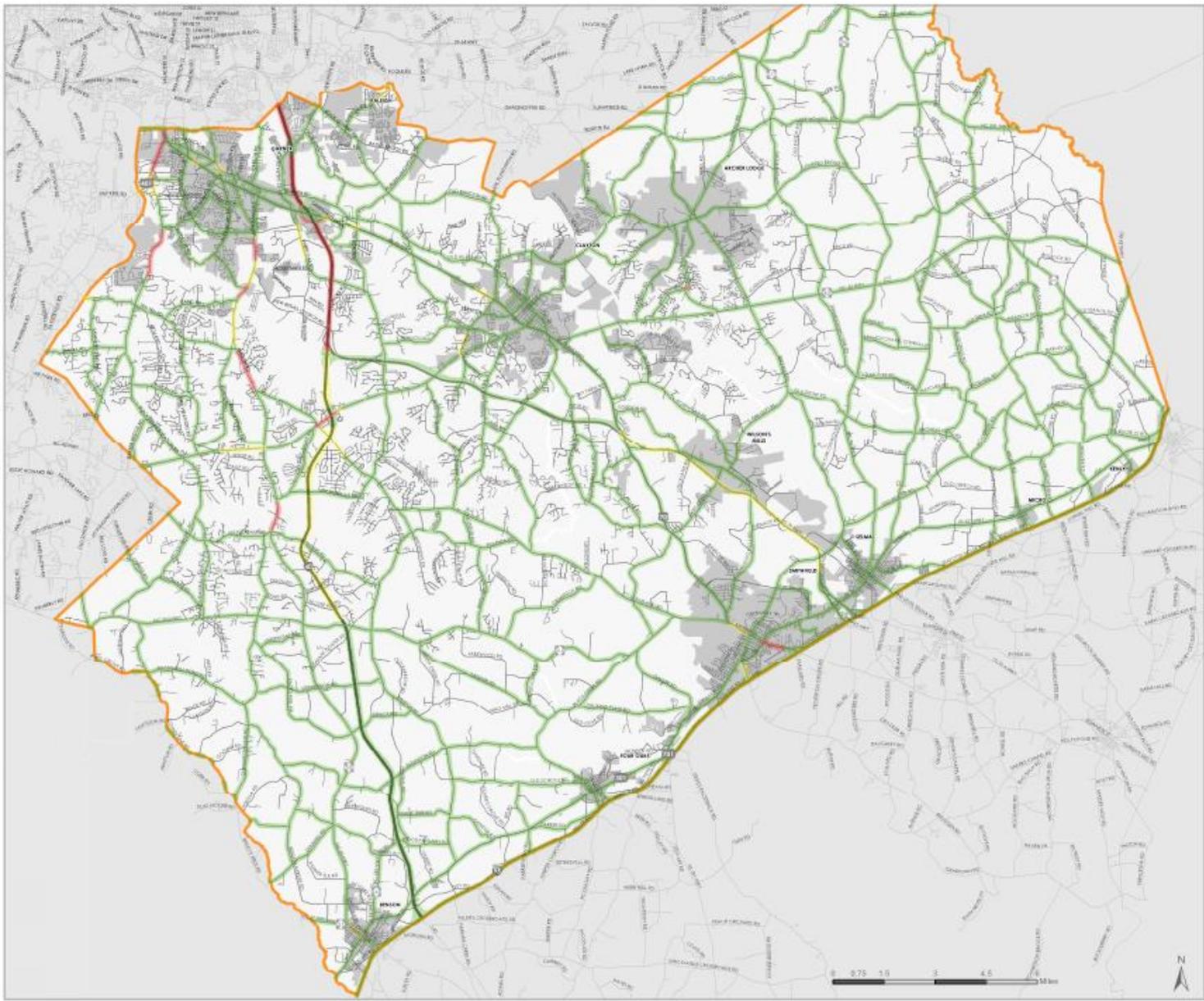


2010 Volume-to-Capacity Ratios

SEAS SOUTHEAST AREA STUDY

Southeast Area Study
2010 Volume-to-Capacity Ratios

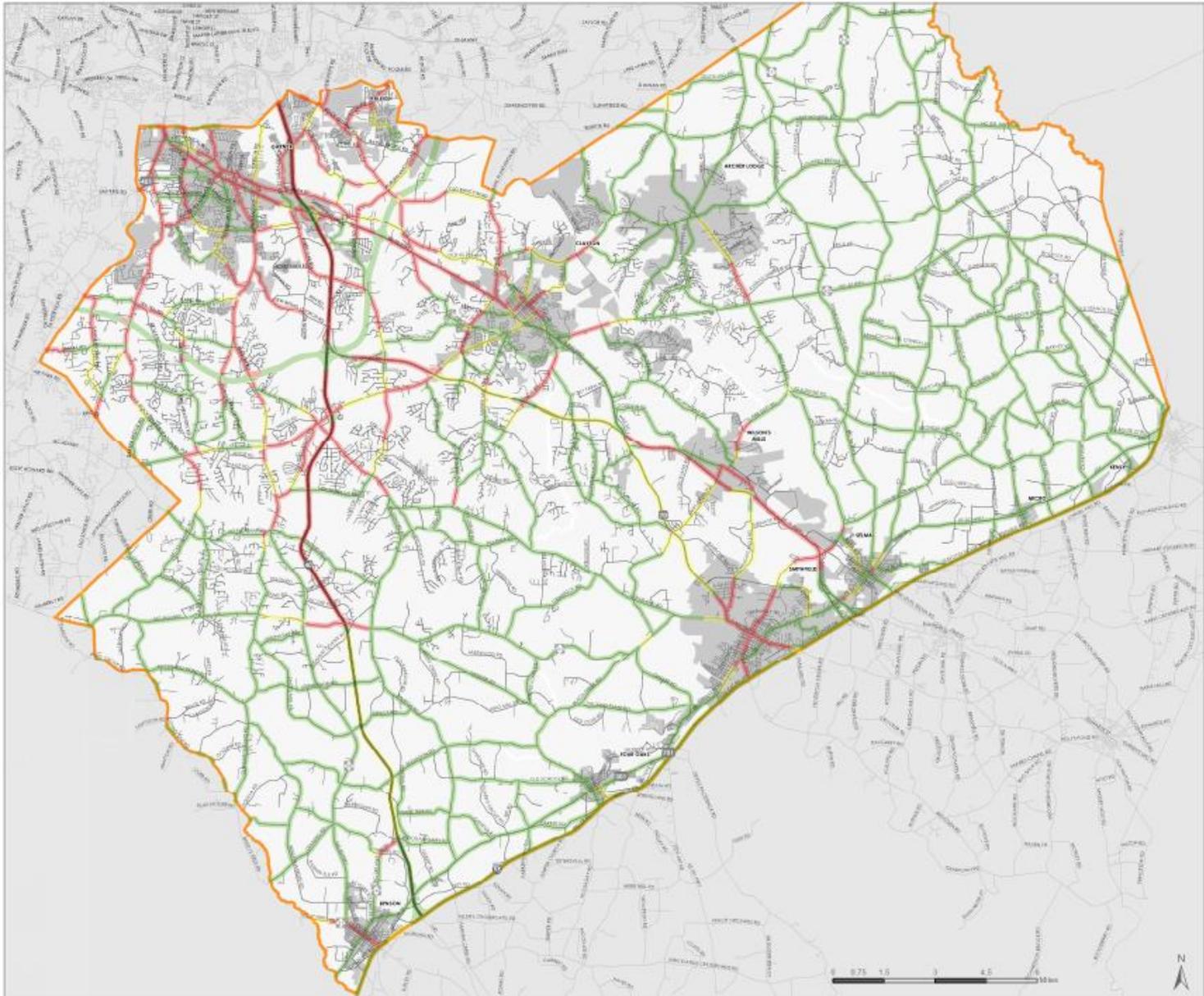
- 2010 Congestion**
- Less than 0.80
 - 0.80 - 1.00
 - Greater than 1.00
 - Study Area



2040 E+C Volume-to-Capacity Ratios

SEAS SOUTHEAST AREA STUDY
Southeast Area Study
2040 E+C Volume-to-Capacity Ratios

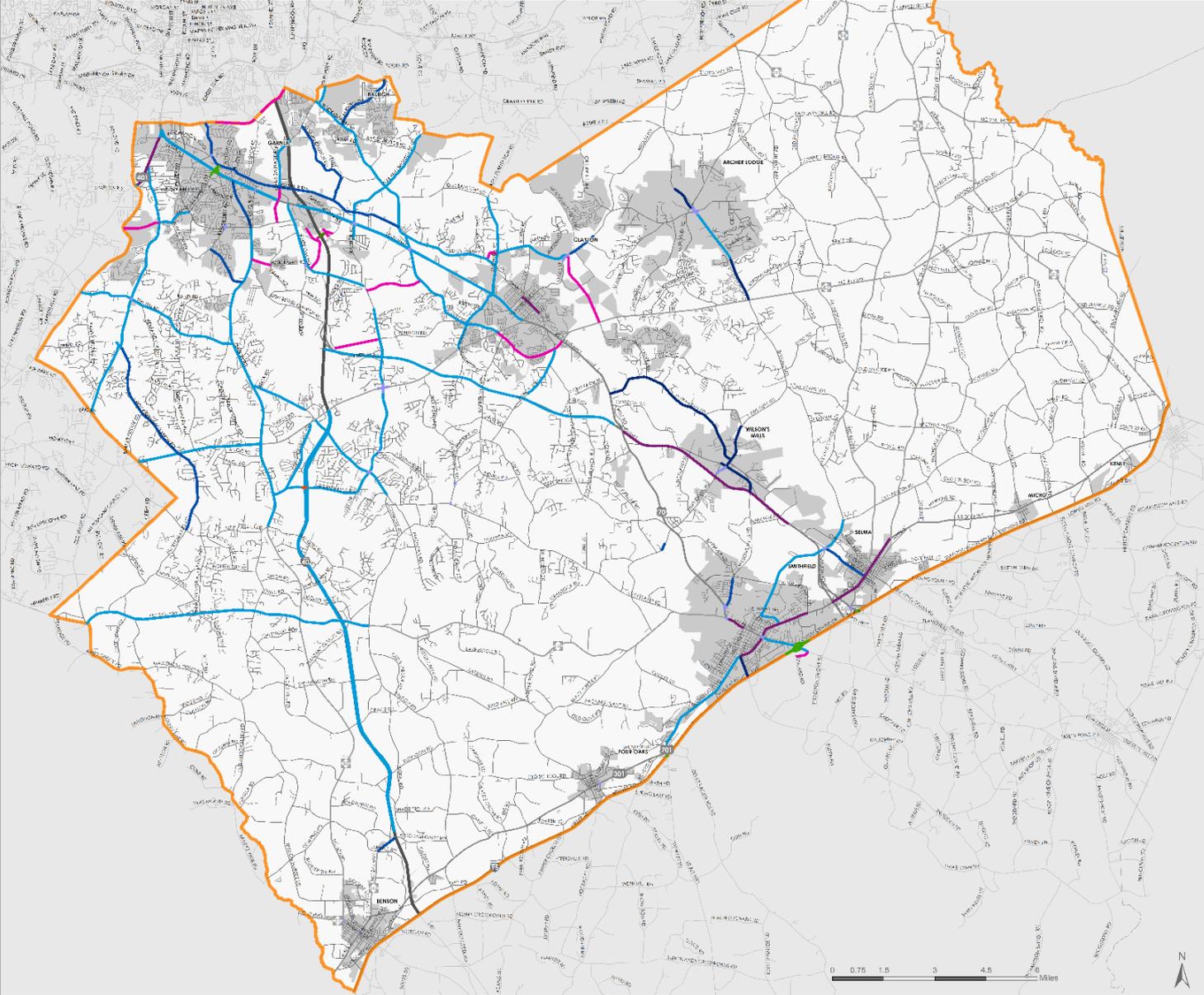
- 2040 Congestion (E+C Network)**
- Less than 0.80
 - 0.80 - 1.00
 - Greater than 1.00
 - Study Area



Critical Projects

SEAS SOUTHEAST AREA STUDY
Southeast Area Study
Critical Projects

- Bridge Replacement
- Interchange Improvement
- Intersection Improvement
- Modernization
- New Grade Separation
- New Interchange
- New Location
- Operational Improvement
- Turn Lane
- Widening
- Study Area



Updated Project Sheets (100)

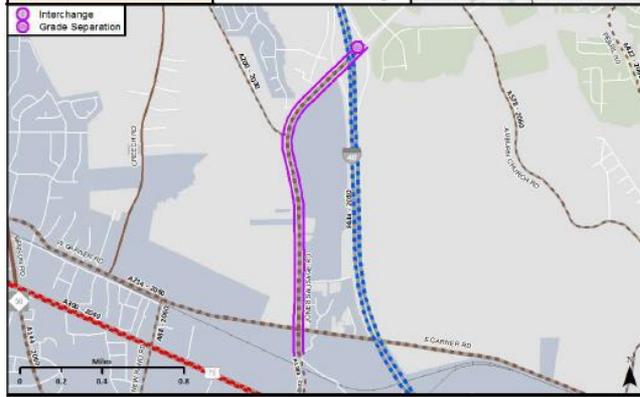
Timber Dr/Jones Sausage Conne
From White Oak Rd to I-40 (South) NORTH CAROLINA CAPITAL AREA MPO
2045 Metropolitan Plan

Project ID: A138c	Project At A Glance		Committed <input type="checkbox"/>	Modeled <input checked="" type="checkbox"/>
TIP ID:	Length (miles) 1.68	Crash Rate	Not Available	
Purpose: Congestion	Estimated Cost \$15,358,936	Horizon Year	2035	
Improvement: Widening	STI Category Division	Functional Class	Urban Collector	

Problem Statement
Timber Dr/Jones Sausage Connector is proposed to be a 4 lane Major Thoroughfare between White Oak Road to I-40 (South). An AADT of 28,417 is expected in the planning horizon year (2040) which would cause Timber Dr/Jones Sausage Connector to operate at LOS "F" in 2040. The purpose of this project is to reduce congestion so Timber Dr/Jones Sausage Connector will operate at LOS "D" or better in 2040.

Existing		Future	
Facility Type			
Minor Thoroughfare		Major Thoroughfare	
Travel Lanes			
2.00		4.00	
Volume (vehicles per day)			
10000		27000	
Capacity (vehicles per day)			
25000		45000	

CTP Roadway Class
 Project: Major Thoroughfare
 CTP Status: Existing
 Interchange: None
 Grade Separation: None
 Roadway Class: Major Thoroughfare



PROJECT SHEETS (2 of 22) 4/5/2017 R - 54

Timber Dr/Jones Sausage Conne NORTH CAROLINA CAPITAL AREA MPO
From White Oak Rd to I-40 (South) 2045 Metropolitan Plan

4 C

RAISED MEDIAN WITH WIDE OUTSIDE LANES AND SIDEWALKS

Existing Conditions*

Additional Information

- Sidewalks
Cross Reference Not Available
- Wide Shoulders
Cross Reference Not Available
- Bicycle Lanes
Cross Reference Not Available
- Multiuse Paths
Cross Reference Not Available
- Transit Corridor
Route Not Available
- Environmental Impacts
Cross Reference Not Available

Other Desired Outcomes

Relationship to Other Plans
Not Available

Public Involvement
Not Available

PROJECT SHEETS (2 of 22) 4/5/2017 R - 54



Welcome to the North Carolina Capital Area Metropolitan Planning Organization (CAMPO)! We are a regional transportation planning organization serving communities in Franklin, Granville, Harnett, Johnston and Wake Counties. Please explore our website for more information on our current plans and projects, upcoming meetings, and long-range planning efforts.

The MPO's Technical Coordinating Committee meets on the first Thursday of each month at 10:00 a.m. The Executive Board meets on the third Wednesday of each month at 4:00 p.m. Agendas and meeting minutes can be found online, usually about a

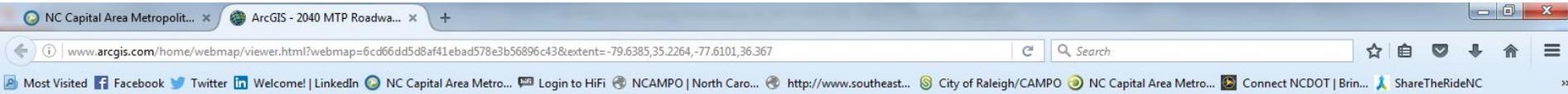
Public Notice

- Wake Transit FY 2018 Proposed Work Plan
- Southeast Area Study
- Wake Transit Participation Agreement



SEAS

SOUTHEAST AREA STUDY



ArcGIS 2040 MTP Roadway Projects

Modify Map Sign In

Details Basemap Share Print Measure Find address or place

About Content Legend

Legend

Grade Separations / Interchanges

- 2020
- 2030
- 2040
- 2060

Roadway Projects

- 2020
- 2030
- 2040
- 2060

CAMPO Boundary

Scale: 0 0.5 1mi

To	Rd
Payback (Years)	1-40 (South)
Toll	3.30
Existing Lanes	Non-tolled
Proposed Lanes	2
Distance (Miles)	4
Approved Horizon Year	1.68
Year	2030
Proposed Improvement	Widening
NCDOT Tier	Division
Attachments:	
	A138c.pdf
Zoom to	

State of North Carolina DOT, Esri, HERE, Garmin, NGA, USGS | Esri, HERE

Updated Project Sheets (100)

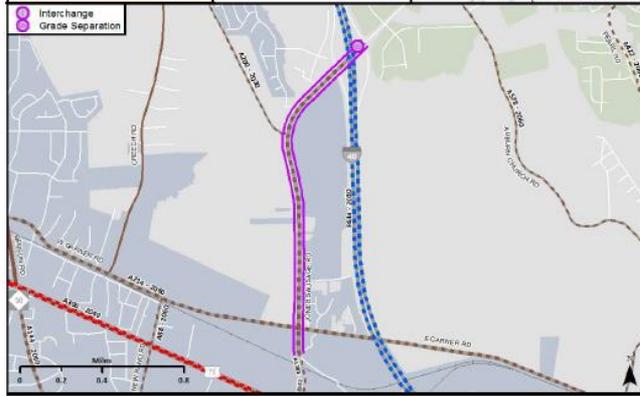
Timber Dr/Jones Sausage Conne
From White Oak Rd to I-40 (South) NORTH CAROLINA CAPITAL AREA MPO
2045 Metropolitan Plan

Project ID: A138c	Project At A Glance		Committed <input type="checkbox"/>	Modeled <input checked="" type="checkbox"/>
TIP ID:	Length (miles) 1.68	Crash Rate	Not Available	
Purpose: Congestion	Estimated Cost \$15,358,936	Horizon Year	2035	
Improvement: Widening	STI Category Division	Functional Class	Urban Collector	

Problem Statement
Timber Dr/Jones Sausage Connector is proposed to be a 4 lane Major Thoroughfare between White Oak Road to I-40 (South). An AADT of 28,417 is expected in the planning horizon year (2040) which would cause Timber Dr/Jones Sausage Connector to operate at LOS "F" in 2040. The purpose of this project is to reduce congestion so Timber Dr/Jones Sausage Connector will operate at LOS "D" or better in 2040.

Existing		Future	
Facility Type			
Minor Thoroughfare		Major Thoroughfare	
Travel Lanes			
2.00		4.00	
Volume (vehicles per day)			
10000		27000	
Capacity (vehicles per day)			
25000		45000	

CTP Roadway Class
 Project: Major Thoroughfare
 CTP Status: Existing
 Interchange: None
 Grade Separation: None
 Roadway Class: Major Thoroughfare



PROJECT SHEETS (2 of 22) 4/5/2017 R - 54

Timber Dr/Jones Sausage Conne NORTH CAROLINA CAPITAL AREA MPO
From White Oak Rd to I-40 (South) 2045 Metropolitan Plan

4 C

RAISED MEDIAN WITH WIDE OUTSIDE LANES AND SIDEWALKS

Existing Conditions*

Additional Information

- Sidewalks
Cross Reference Not Available
- Wide Shoulders
Cross Reference Not Available
- Bicycle Lanes
Cross Reference Not Available
- Multiuse Paths
Cross Reference Not Available
- Transit Corridor
Route Not Available
- Environmental Impacts
Cross Reference Not Available

Other Desired Outcomes

Relationship to Other Plans
Not Available

Public Involvement
Not Available

PROJECT SHEETS (2 of 22) 4/5/2017 R - 54

Transit Analysis

Transit Mode/ Service Frequencies	Population			Employment		
	Dwelling Units/Acre	Population/ Acre	Population/ Square Mile	Jobs/ Acre	Jobs/ Square Mile	Million Sq Ft Commercial Space
Flex Bus	0.2	0.5	320			
Community Circulator	0.8	2	1,300			
Local Bus						
60 minutes	3-6	8-16	5,000-10,000	4-8	2,500-5,000	5-8
30 minutes	6-12	16-31	10,000-20,000	8-16	5,000-10,000	8-20
15 minutes	12-18	31-47	20,000-30,000	16-24	10,000-15,000	
10 minutes	18-36	47-92	30,000-60,000	24-48	15,000-30,000	
<=5 minutes	>36	>92	>60,000	>48	>30,000	
Bus Rapid Transit	10-20	26-52	17,000-33,000	>13	>8,500	
Light Rail Transit	12-30	31-78	20,000-50,000	>15	>10,000	
Heavy Rail	>17	>45	>30,000			
Commuter Rail	20	50	16,000-32,000			

Transit Analysis

Jobs per Acre

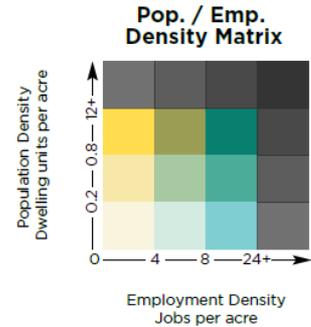
Dwelling Units per Acre

		Flex Bus/ Community Circulator	Local Bus (60 minutes)	Local Bus (30 minutes)	Local Bus (15 minutes)	Local Bus (10 minutes)	Local Bus (<5 minutes)	Bus Rapid Transit	Light Rail Transit
		0-4	4-8	8-16	16-24	24-48	>48	>13	>15
Flex Bus	0.2-0.8								
Community Circulator	0.8-3.0								
Local Bus (60 minutes)	3-6								
Local Bus (30 minutes)	6-12								
Local Bus (15 minutes)	12-18								
Local Bus (10 minutes)	18-36								
Local Bus (<5 minutes)	>36								
Bus Rapid Transit	10-20								
Light Rail Transit	12-30								
Heavy Rail	>17								
Commuter Rail	20								

2040 Transit Recommendations

Preferred Growth Strategy

SEAS SOUTHEAST AREA STUDY



Study Area

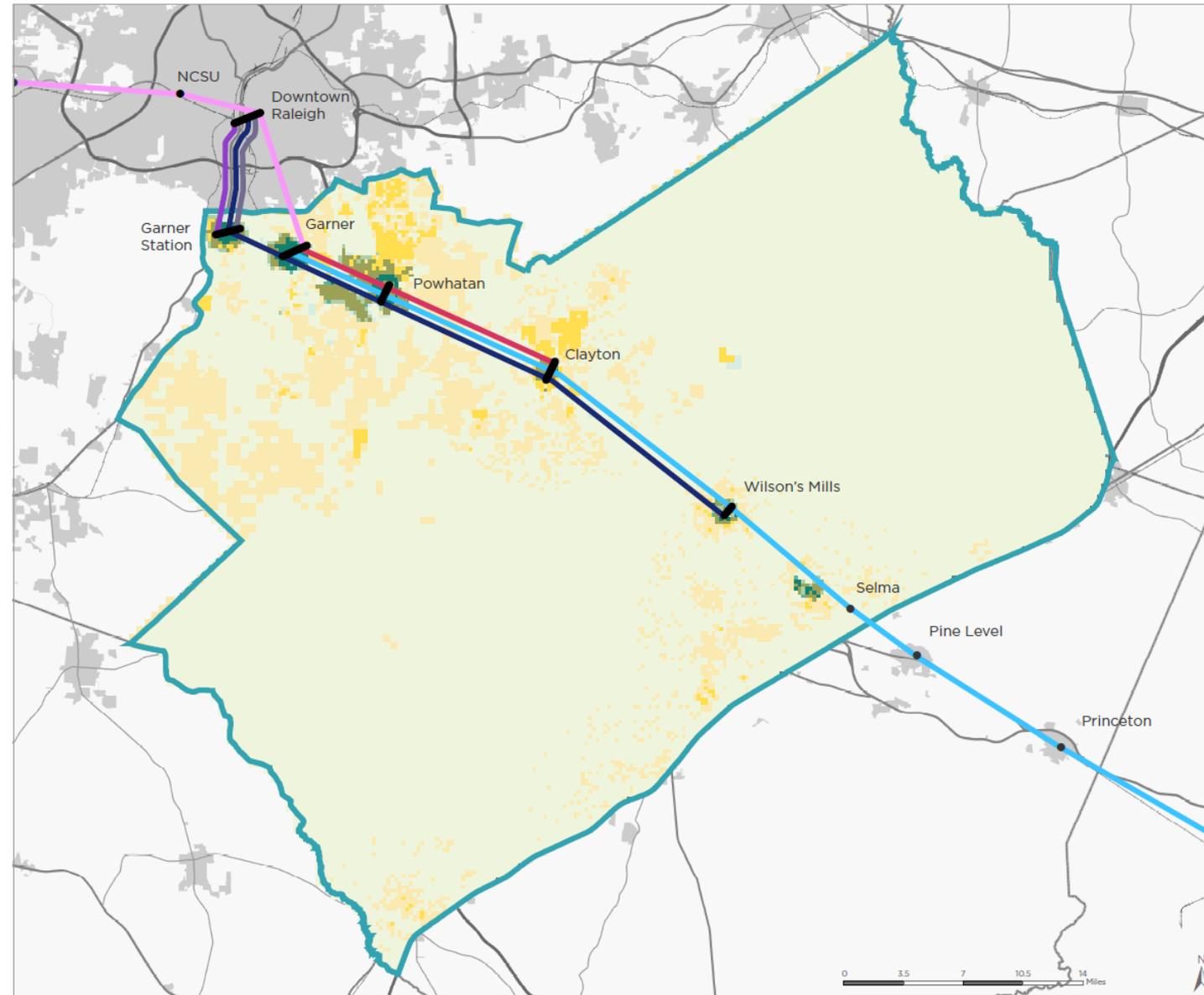
SEAS Previous Transit Recommendations

- All-day Hourly Bus Service
- BRT from Raleigh to Garner Station
- Durham-Wake Commuter Rail Line
- East-West Commuter Rail Line
- Matching funds for community-based transit services
- Expanded on-demand flexible bus service
- Purchase 25-foot light transit vehicles for JCATS

SEAS New Transit Recommendations

- Bus route between Downtown Raleigh and Wilson Mills (60-minute headways)
- Circulator route between Garner and Clayton (30-minute headways)

*Interim route prior to construction of commuter rail



- Implementation Strategies
- Regulations & Policies
- Possible Incentives

BEST PRACTICES

IMPLEMENTATION TOOLKIT

Preliminary Draft and Outline

Study Objectives

The **Capital Area Metropolitan Planning Organization (CAMPO)**, building on the work completed through the Southwest Area Study and Northeast Area Study, has initiated the Southeast Area Study which includes all or part of eleven municipalities and portions of Wake and Johnston counties. The Southeast Area Study will update CAMPO's overall Comprehensive Transportation Plan and will produce project priorities to be included in the next Metropolitan Transportation Plan.

Implementation Toolkit

The SEAS has completed work on setting transportation goals and establishing themes for focus in this area. Local plans and policies have been reviewed, and a Preferred Growth Scenario has been established. This piece of the project highlights steps that can be considered to implement the Study's recommendations.

Implementation Strategies

Review of Regulations and Policies

	Development Regulations	Land Use/ Comprehensive Plans	Small Area Plans	Streetscape/ Design Guidelines	Hazard Mitigation Plans	Other Plans (Downtown, Etc.)
Johnston County	x	x			x	x
Archer Lodge	x	x				x
Clayton	x	x	x	x		x
Wilson's Mills	x	x				
Selma	x					
Smithfield	x	x				
Four Oaks	x					
Benson	x					
Micro	x					
Kenly	x	x				
Wake County	x	x	x		x	x
Garner	x	x	x	x		
Raleigh	x	x	x	x	x	x

List of Possible Initiatives

- Adjust Future Land Use Plans
- Add new provisions to zoning ordinances
- Encourage higher densities in key locations
- Pursue techniques to restrict development in key locations
- Promote nodal development along key transportation corridors
- Adjust zoning to encourage mixed-use development
- Prepare downtown development strategies
- Provide for a range of housing types
- Encourage re-use of older buildings
- Designate areas for additional Small Area Planning
- Construct Interlocal Agreements for Land Use Management
- Prepare design guidelines for nodes and corridors
- Prepare design standards for freight-movement areas
- Adjust parking requirements
- Connect neighborhoods and limit cul-de-sacs
- Coordinate/Calibrate Capital Investment Plans for key infrastructure
- Create requirements/incentives for bike/pedestrian improvements
- Coordinate/Calibrate Economic Development Plans

Recommended Priority Strategies

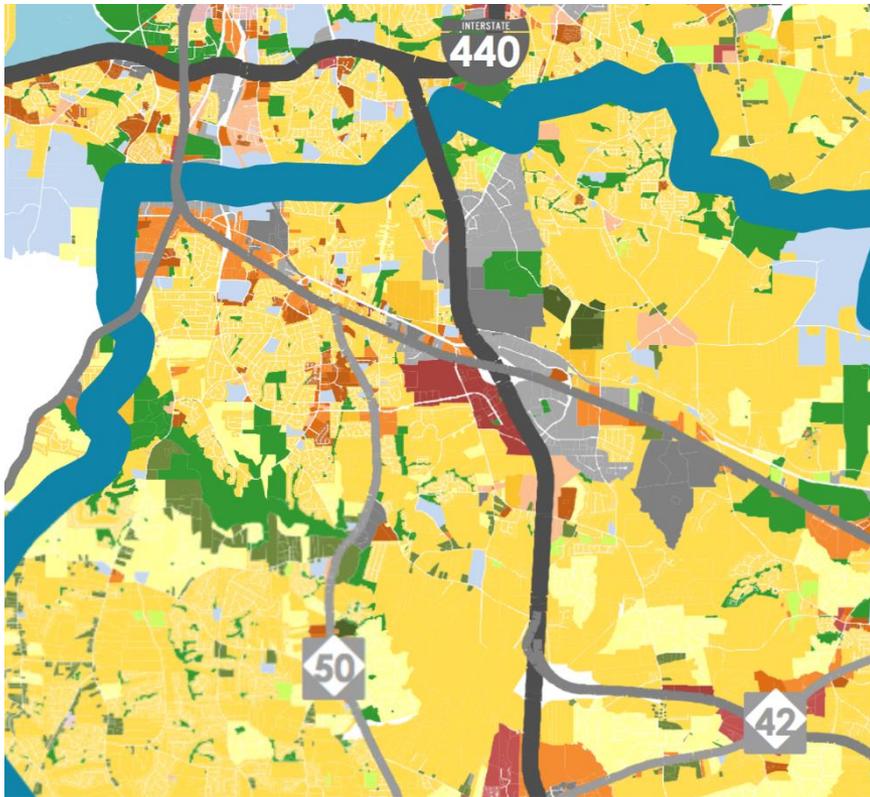
Strategies for Consideration:

Highest Priority

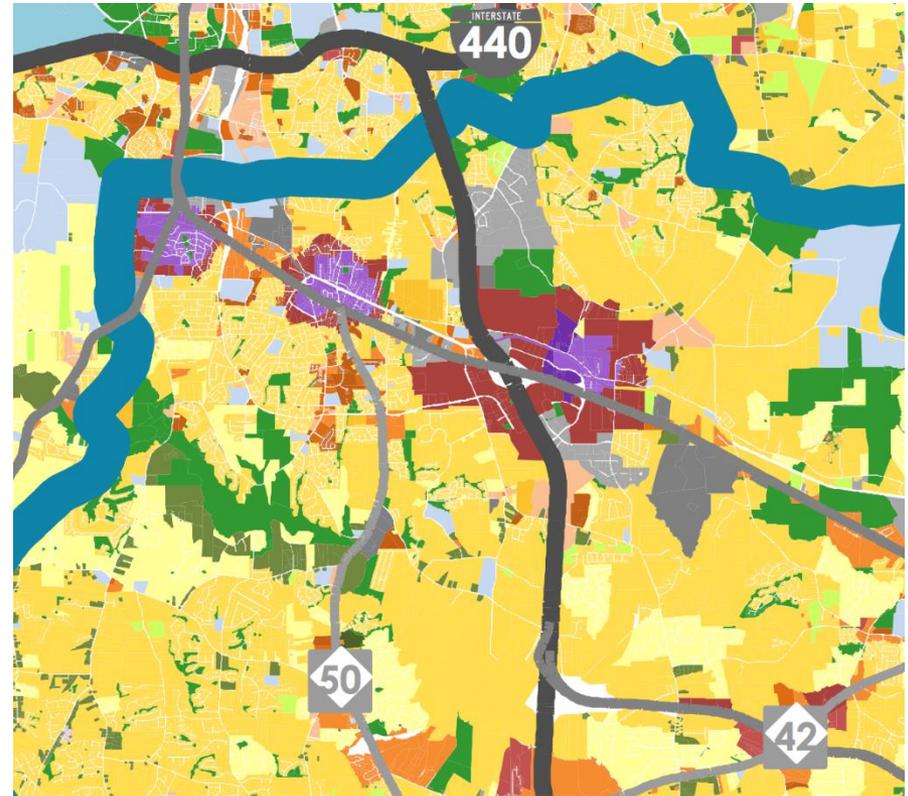
Important Consideration

	Comp Plan	Zoning	More Dense	Less Dense	Corridors	Mixed Use	Downtown	Housing	Bldg Re-Use	Area Plans	Interlocal	Design	Freight	Parking	Connect	CIP	Bike-Ped	Ec. Devt.
Johnston County	■	■			■			■		■		■	■			■	■	■
Archer Lodge	■	■		■		■					■				■		■	
Clayton			■			■				■						■		
Wilson's Mills	■					■			■									
Selma						■			■							■		
Smithfield	■								■							■		
Four Oaks						■			■									■
Benson						■			■									■
Micro						■										■		■
Kenly						■					■					■		
Wake County	■							■		■		■						
Garner	■					■	■											
Raleigh																■		

Garner Area



Current Land Use Plans



SEAS Preferred Scenario

List of Strategies to Achieve Preferred Scenario

Recommendations for Garner

(Highest Priority Strategies highlighted in **red**, others highlighted in **orange**.)

- **Adjust Future Land Use Plan**
- Add New Provisions to Zoning Ordinances
- Encourage Higher Densities in Key Locations
- Encourage Conservation in Key Locations
- Promote Nodal Development along Key Transportation Corridors
- **Adjust Zoning to Encourage Mixed-Use Development**
- **Prepare Downtown Development Strategies**
- Provide for a Range of Housing Types
- Encourage Re-use of Older Buildings
- Designate Areas for additional Small Area Planning
- Construct Interlocal Agreements for Land Use Management
- Prepare Design Guidelines for Nodes and Corridors
- Prepare Design Standards for Freight-Movement Areas
- Adjust Parking Requirements
- **Connect Streets**
- Coordinate/Calibrate Capital Investment Plans for Key Infrastructure
- Create Requirements/Incentives for Bike/Pedestrian Improvements
- Coordinate with Economic Development Plans

Strategy: Adjust Future Land Use Plan

*Update Garner's 2006 Comprehensive Growth Plan (initiative currently underway).
Include consideration of SEAS recommended Future Land Use Patterns.*

Benefits:

- Articulate a vision aligned with neighboring jurisdictions.
- Provide clarity regarding community preferences.
- Provide encouragement and certainty to development community.
- Increase focus on land with access to main transportation corridors.

What Can Be Done:

- Increase emphasis on compact, mixed use development at activity centers.
- Provide policy guidance regarding infrastructure investment.
- Identify areas for adjustment in Unified Development Ordinance.

Examples:

- Greenville NC Community Plan
- Wilson NC Tiered Growth System

Strategy: Adjust Zoning to Encourage Mixed-Use Development

*Adjust Garner's Unified Development Ordinance to permit higher density in key locations.
Adjust Zoning Map to allow greater density and mixed use in designated activity centers.*

Benefits:

- Adjust regulations to more closely align with policy framework.
- A balanced mix of commercial and residential uses.
- Efficient use of public infrastructure.
- Increased productivity on land with access to main transportation corridors.

What Can Be Done:

- Rely on new *Garner Forward* recommendations to identify priority zoning amendments.
- Create/amend zoning districts and rules to focus on mixed use opportunities as shown on the preferred growth strategy.

Examples:

- Morrisville NC Unified Development Ordinance
- Chapel Hill NC zoning incentives/requirements for mixed use areas.

Strategy: Prepare Downtown Development Strategies

Prepare plan for redevelopment and revitalization of Garner's Downtown Area, including focus on street connections, economic development initiatives, public improvements, mix of uses, and design standards.

Benefits:

- Encourage increased economic activity.
- Maximize the efficient use of existing public infrastructure.
- Maximize local trips and travel patterns.
- Enhance culture and opportunity for more active lifestyles.
- Increase tax revenues.

What Can Be Done:

- Adjust zoning regulations to increase flexibility in Downtown locations especially residential and mixed use and create supportive parking policies (parking maximums, consideration of on-street parking, shared-use parking, parking credits).
- Prioritize Downtown improvements in capital expenditures.
- Identify and implement street connection opportunities.

Examples:

- Apex NC Small Town Character Overlay District
- Chapel Hill Downtown 2020 Strategy and Work Plan

Strategy: Connect Streets

A contributing factor to traffic congestion on major streets is minor streets which do not connect with each other, concentrating traffic, causing longer, indirect trips and limiting opportunities for alternate routes and circulation. Connecting streets provides choices for travel between destinations.

Benefits:

- Reduce travel times and vehicle miles traveled.
- Increase viability of walking, biking, and public transportation.
- Improved response times for emergency public services.
- Reduce reliance on major roadways.

What Can Be Done:

- Develop a collector street plan with design standards, spacing, and access requirements.
- Seek/require consistency with adopted street plans and policies during development process.
- Identify opportunities to repurpose right-of-way to enhance connectivity with an emphasis on pedestrian and bicycle infrastructure.
- Focus on connectivity to schools, parks, civic uses, and regional connections.
- Establish requirements to minimize cul-de-sacs, and provide stub-outs for future connections.
- Consider establishing and using a street connectivity index.

Examples:

- Charlotte NC Street Connectivity Program
- Morrisville NC Unified Development Ordinance
- NC Safe Routes to School Program

Next Steps

- Local endorsement by CAMPO members
- CAMPO endorsement – April

Project Contact Information

- <http://www.southeastareastudy.com>
- @CapitalAreaMPO
- #SEAreaStudy

- Alex Rickard, CAMPO
 - alex.rickard@campo-nc.us
 - 919-996-4396
- Allison Fluitt, Kimley-Horn
 - allison.fluitt@kimley-horn.com
 - 919-653-2947



SEAS

S O U T H E A S T A R E A S T U D Y

Archer Lodge • Benson • Clayton • Four Oaks • Garner
Kenly • Micro • Raleigh • Selma • Smithfield • Wilson's Mills
Johnston County • Wake County



5.4 Southeast Area Study

Requested Action:

Recommend Executive Board endorse SEAS project recommendations for consideration in development of 2045 Metropolitan Transportation Plan

2045 Metropolitan Transportation Plan (MTP)

Long-range guide for major transportation investments for the North Carolina Capital Area Metropolitan Planning Organization

Recommends major transportation projects, systems, policies and strategies designed to maintain our existing systems and serve the region's future mobility needs

The Capital Area MPO MTP is integrated with land use and air quality strategies and goals for the urban area.

Building 2045 MTP Financial Forecast

- Based on federal and state data for “traditional funding”
- Wake Transit Plan financial forecast (*modified/extended*)
- Local funding
- How have we done this in the past?

Previous Revenue Assumptions (2035 LRTP)

Roadway Projects:

- NCDOT revenue model for gas taxes and fees
- 4 percent/yr inflation factor (cost and revenue)
- Toll projects pay for themselves (tolls, bonds, and state gap funding)
- Local and private funding (\$1 Billion)

Bus Transit Projects:

- Computed trend for each transit system for
 - Federal/State/Local funding
 - Capital/Operations & Maintenance
 - Farebox recovery

2035 LRTP "New" Revenue Sources

ITEM	ASSUMPTION	ASSUMED NEW REVENUE by 2035 (millions)	STATUS
Sales Tax #1	Transit ½ cent sales tax beginning in 2011	\$1,576	Enabling Legislation passed in 2009
Car Registration Fee	\$10 increase in vehicle registration fee in 2011 - TTA increase \$5 to \$8 - Wake County \$7 new fee	\$185	Enabling Legislation passed in 2009
Sales Tax #2	Roadway ½ cent sales tax beginning in 2016	\$1,140	No Enabling Legislation
Regional/Local/Private Support	Increased Municipal contributions for required match on specific projects	\$1,258	Currently used for some projects
New Federal/State Infrastructure Program(s)	New funding for Strategic Highway Corridors. Average \$53 million/yr beginning in 2016	\$1,060	NC Mobility Fund beginning in 2014 (includes "Loop Projects")
Finance for I-40 managed lanes	Included above	Included above	
Total Assumed New Revenue by 2035 (millions)		\$5,804	No new revenue sources have been implemented

2040 Revenue Assumptions

Roadway Projects:

- NCDOT revenue model for gas taxes and fees
- Annual inflation factor (cost and revenue)
- Toll projects estimates based on latest NCTA forecast (tolls, bonds, and gap funding if needed)
- Local and private funding

Transit Projects:

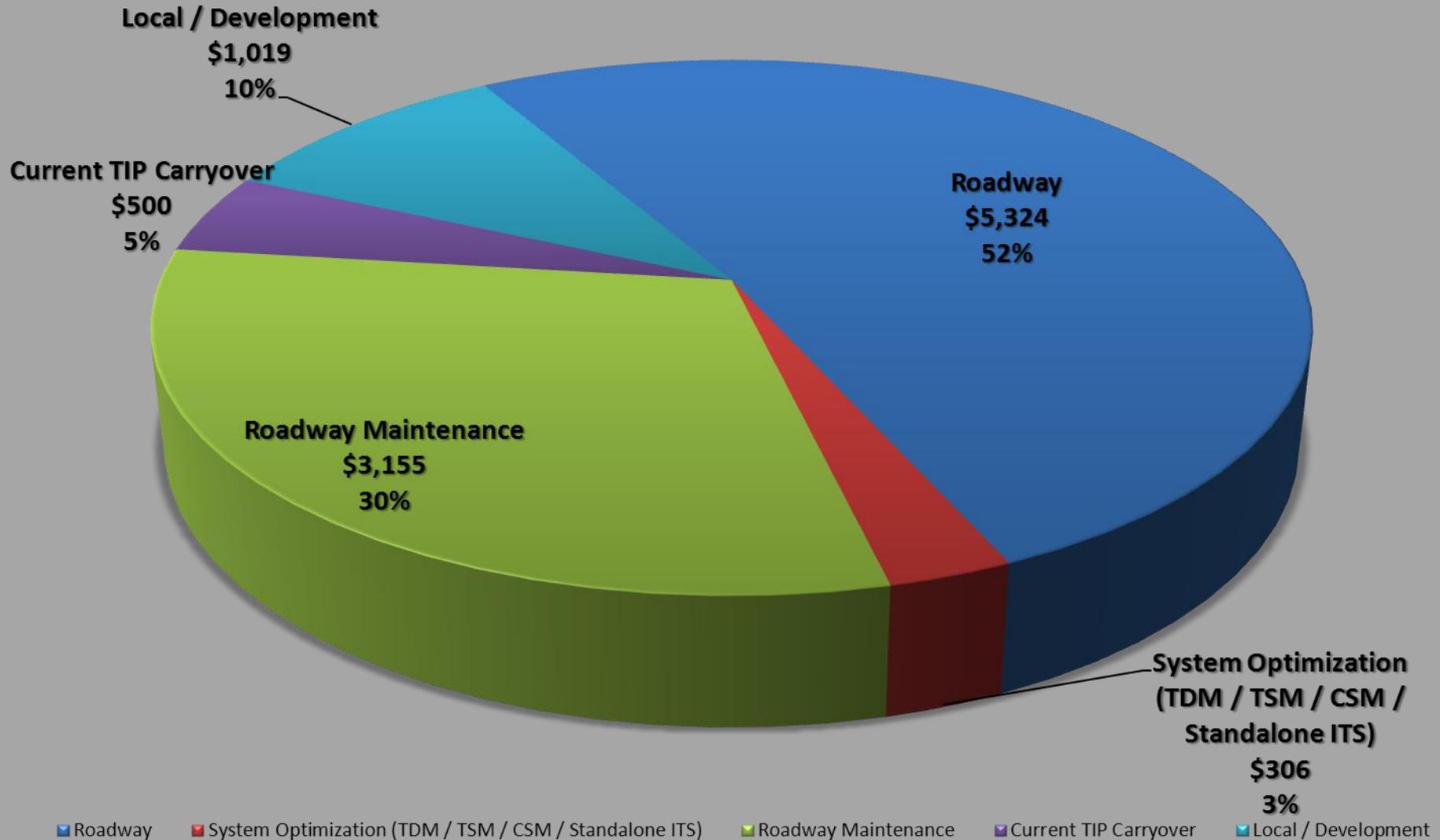
- Computed trend for each transit system for
 - Federal/State/Local funding
 - Capital/Operations & Maintenance
 - Farebox recovery

2040 MTP Revenue Forecast

Our Revenue Forecast is derived from:

- 1st Decade:
 - Draft TIP/STIP (10 yr Work Program)
- 2nd & 3rd Decades:
 - “Traditional” Federal & State Funds
 - MPO portion based NCDOT Financial Forecast
- Transit Funds
 - *Wake Transit Plan Forecast (modified)*
- Local Revenue
 - Based on Local CIPs / Development Activity

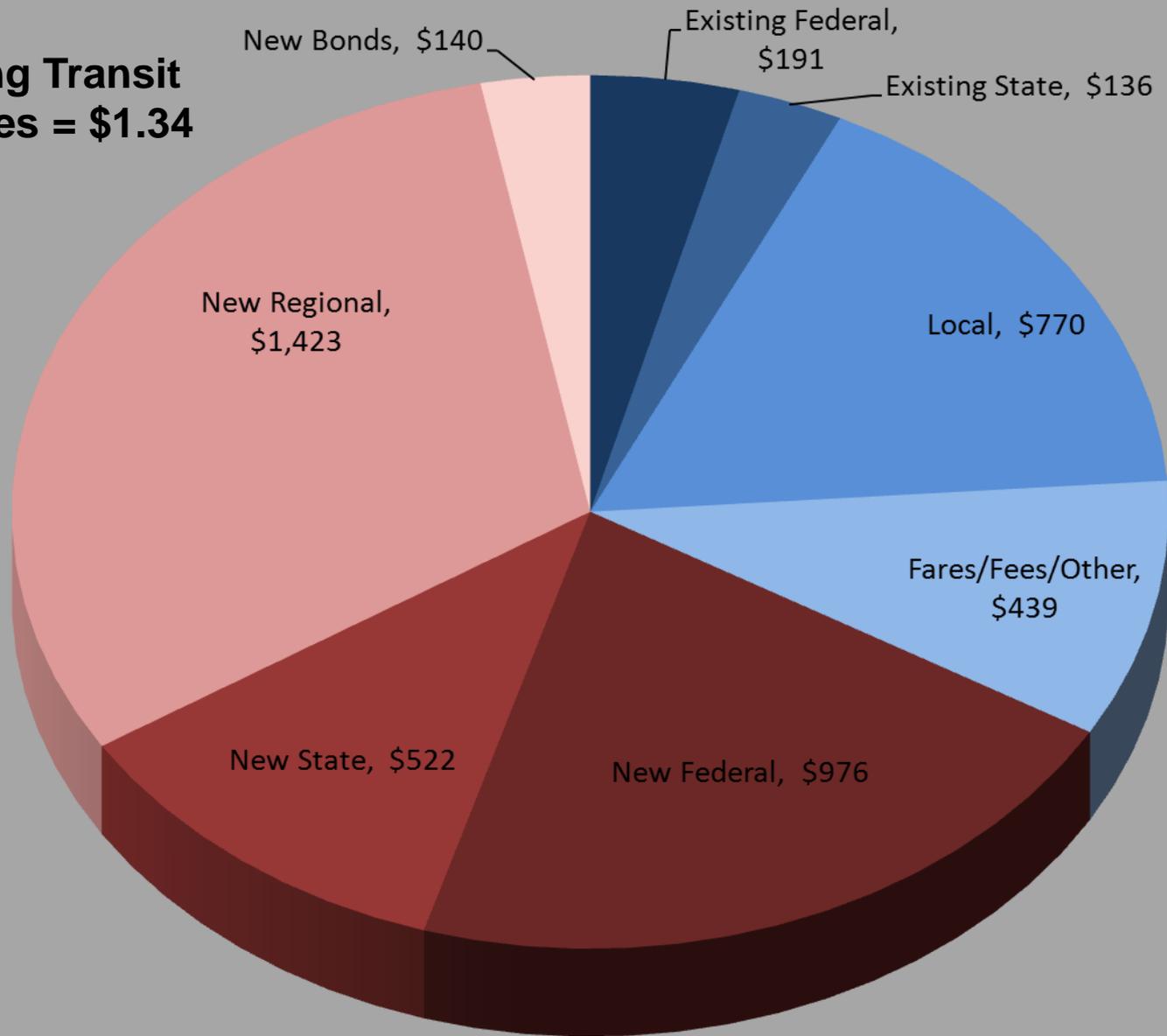
Financial Plan– Capital Area MPO 2011-2040 Roadway (in 2012 millions \$)



■ Roadway ■ System Optimization (TDM / TSM / CSM / Standalone ITS) ■ Roadway Maintenance ■ Current TIP Carryover ■ Local / Development

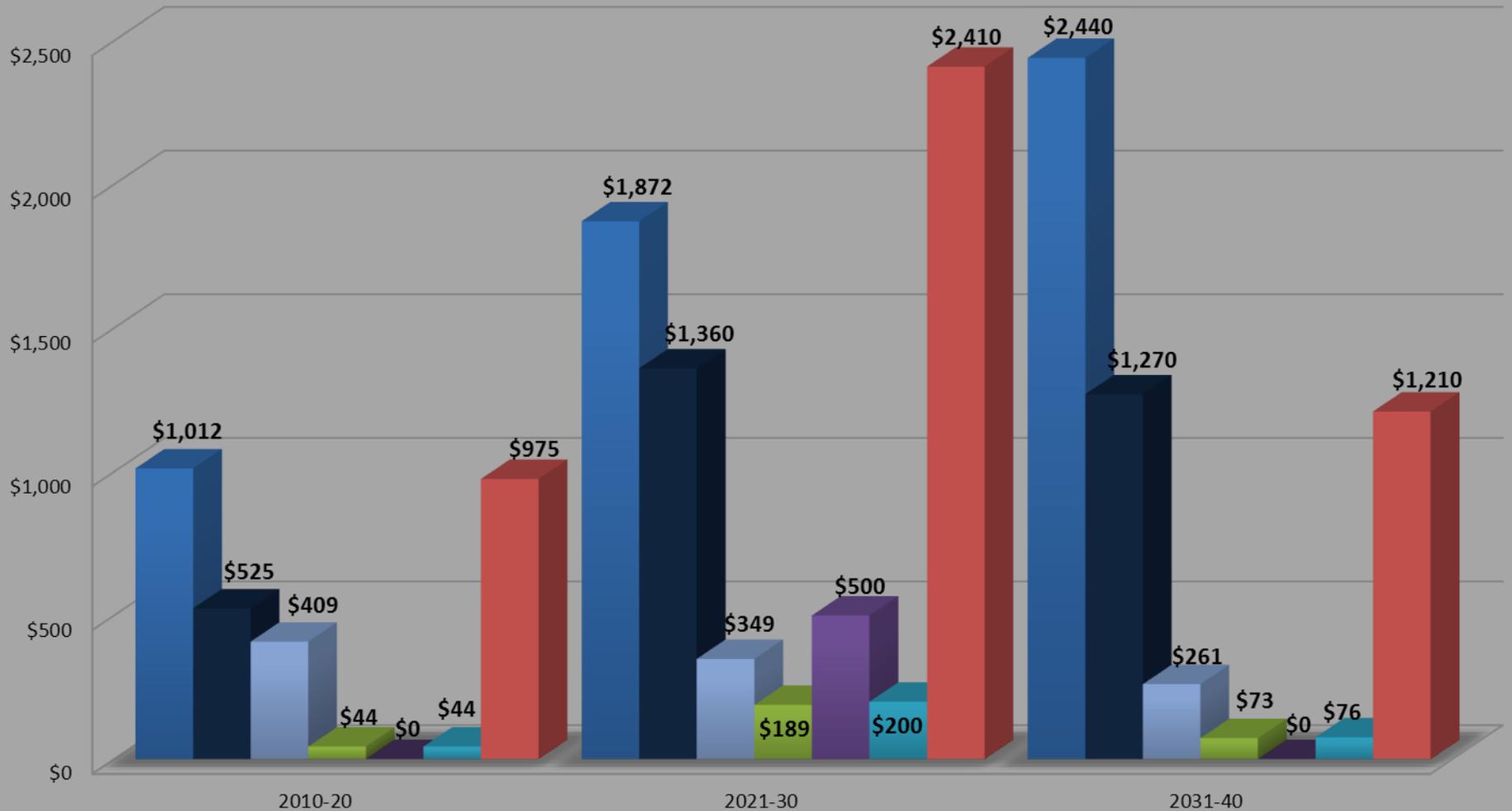
Financial Plan- Capital Area MPO 2011-2040 Transit (in 2012 millions \$)

Existing Transit Services = \$1.34 billion



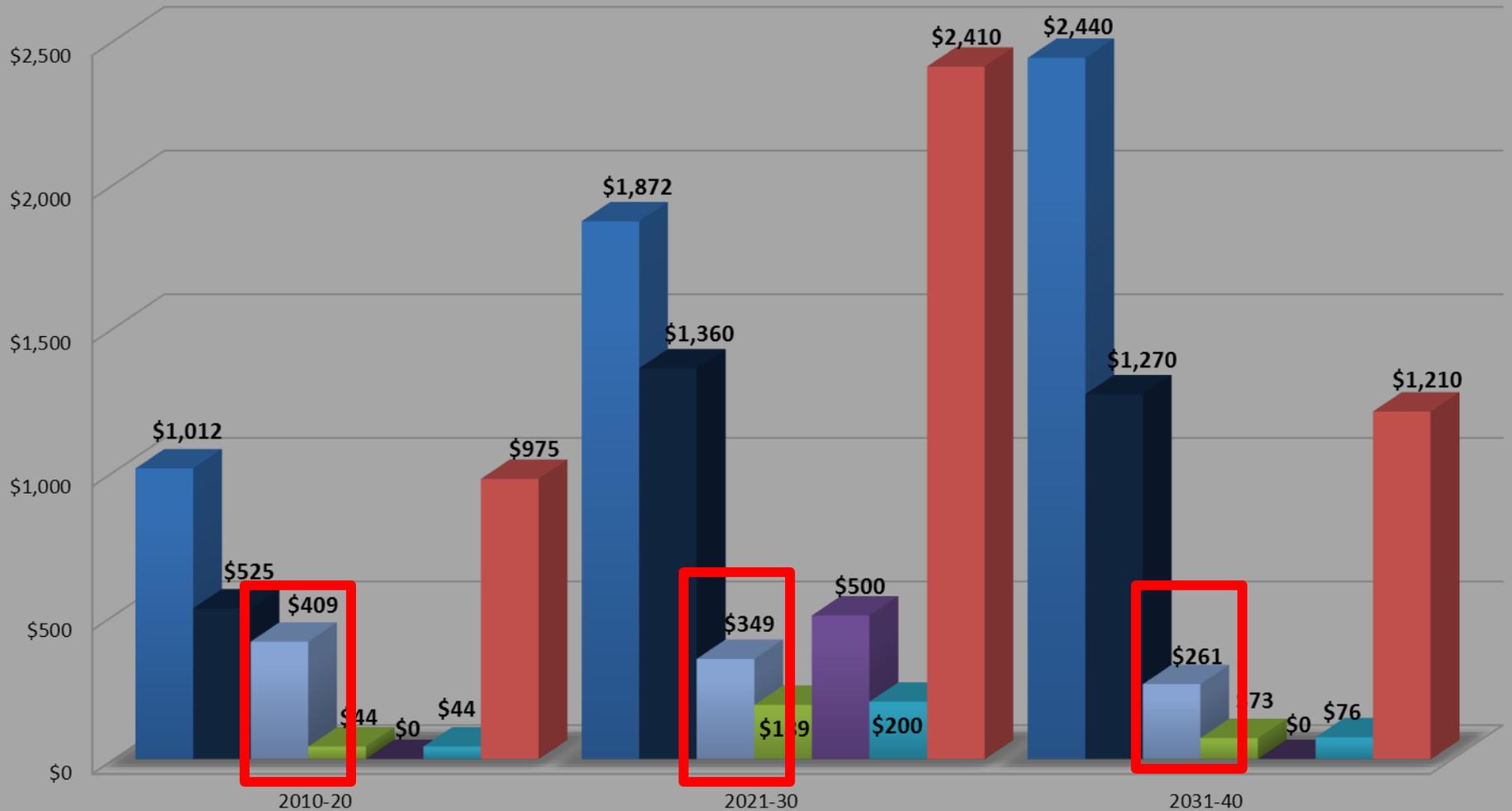
New Transit Services

Financial Plan– Capital Area MPO 2011- 2040 (in millions \$)



- Roadway
- Roadway Maintenance
- Local / Developer
- System Optimization (TDM / TSM / CSM / Standalone ITS)
- Current TIP Carryover
- Bike/Ped
- Transit

Financial Plan – Capital Area MPO 2011- 2040 (in millions \$)



- Roadway
- Local / Developer
- Current TIP Carryover
- Transit

- Roadway Maintenance
- System Optimization (TDM / TSM / CSM / Standalone ITS)
- Bike/Ped

2040 MTP “New” Funding Options

ITEM	ASSUMPTION	ASSUMED NEW REVENUE (millions in 2012 dollars)	STATUS
Wake I	Roadway ½ cent sales tax equivalent (STE) beginning in 2021-30 (Wake County)	\$466	No Enabling Legislation
Wake II	Roadway 1 cent sales tax equivalent (STE) beginning in 2031-40 (Wake County)	\$836	No Enabling Legislation
Johnston I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Johnston County)	\$35.7	No Enabling Legislation
Harnett I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Harnett County)	\$6.6	No Enabling Legislation
Granville I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Granville County)	\$2.8	No Enabling Legislation
Franklin I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Franklin County)	\$7.2	No Enabling Legislation
Total Assumed New Revenue 2021-40 (millions in 2012 dollars)		\$1,354	No new revenue sources have been implemented

2040 MTP “New” Funding Options

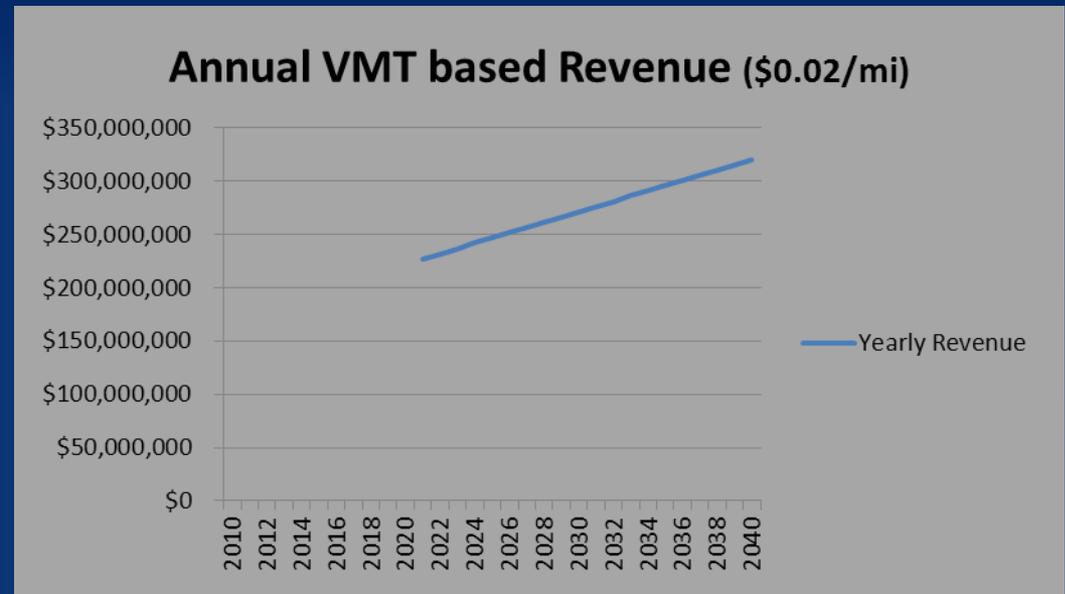
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Harnett I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Harnett County)	\$6.5	No Enabling Legislation
Granville I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Granville County)	\$2.8	No Enabling Legislation
Franklin I	Roadway ½ cent sales tax equivalent (STE) beginning in 2031-40 (Franklin County)	\$7.2	No Enabling Legislation
Total Assumed New Revenue 2021-40 (millions in 2012 dollars)		\$1,354	No new revenue sources have been implemented

*****Ultimately not included*****

VMT Based Revenue (2021-2040)

- VMT based Revenue (2021-40)
 - Approximately \$5.4 Billion
 - \$0.02 / mile

Year	CAMPO Annual VMT
2010	8,643,537,000
2040	16,014,500,700
Annual Growth (straight line)	245,698,790

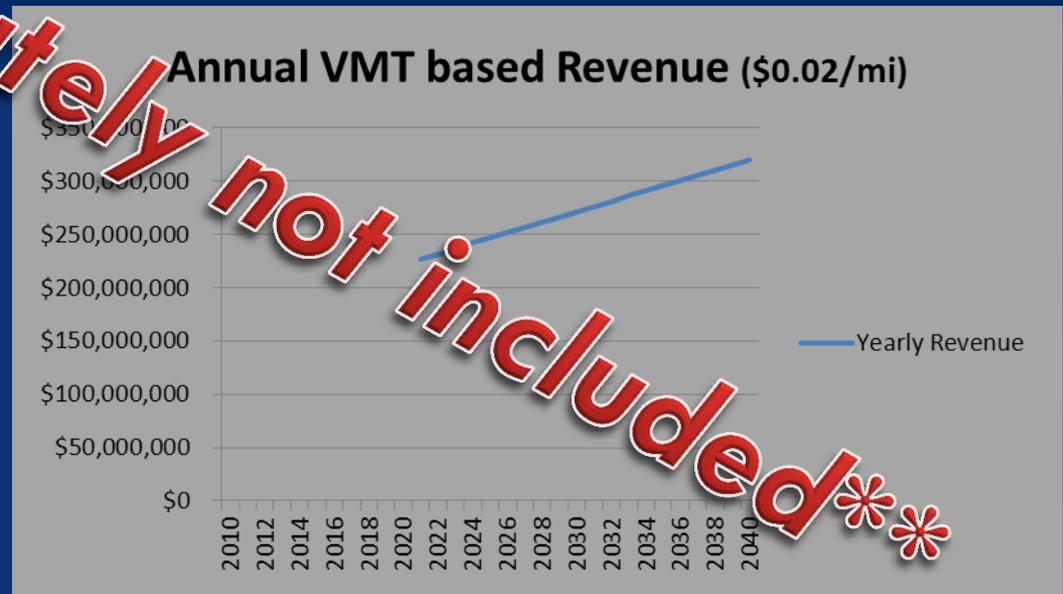


- *Current Gas Tax Revenue:*
 - *Approximately \$0.011 / mile (VMT Equivalent)*

VMT Based Revenue (2021-2040)

- VMT based Revenue (2021-40)
 - Approximately \$5.4 Billion
 - \$0.02 / mile

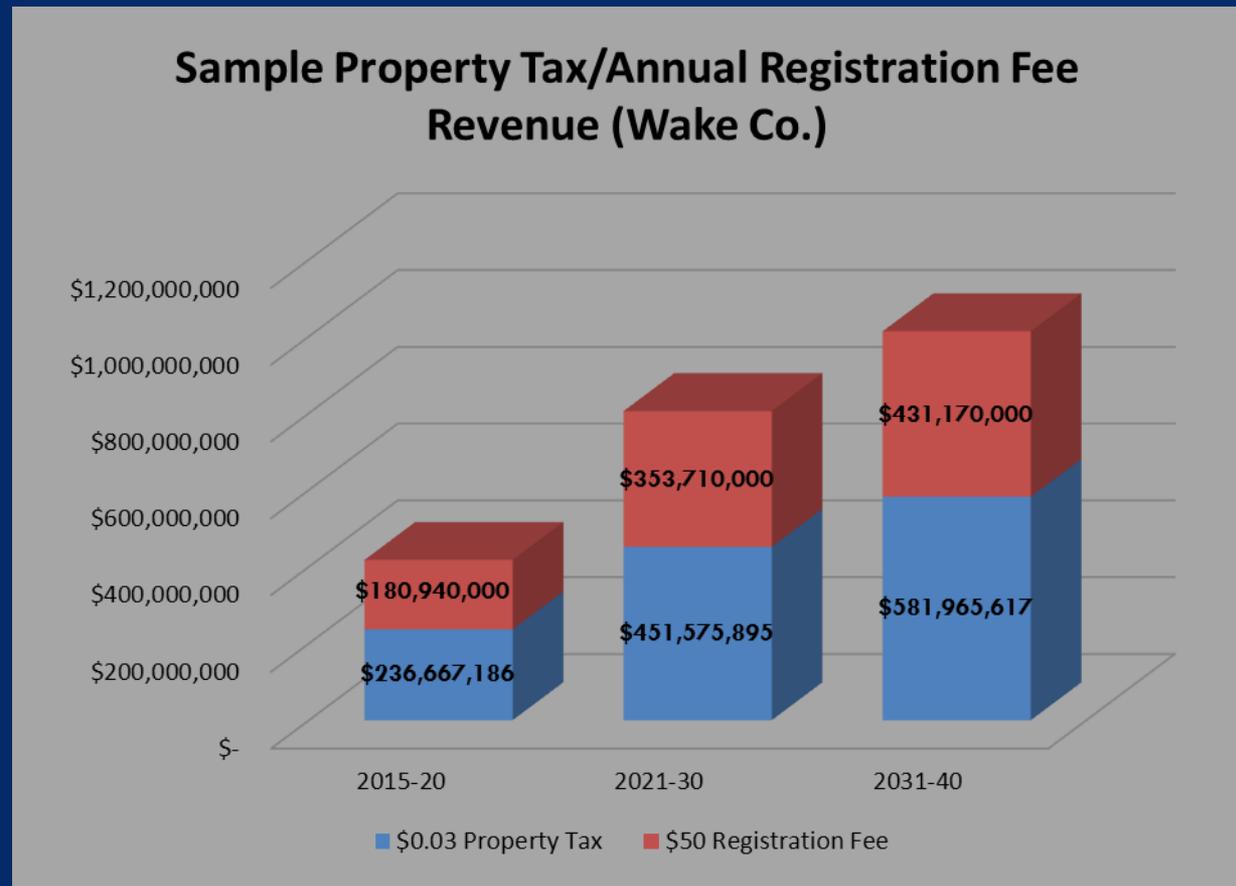
Year	CAMPO Annual VMT
2010	8,643,537,000
2040	16,014,500,700
Annual Growth (straight line)	245,698,790



- *Current Gas Tax Revenue:*
 - *Approximately \$0.011 / mile (VMT Equivalent)*

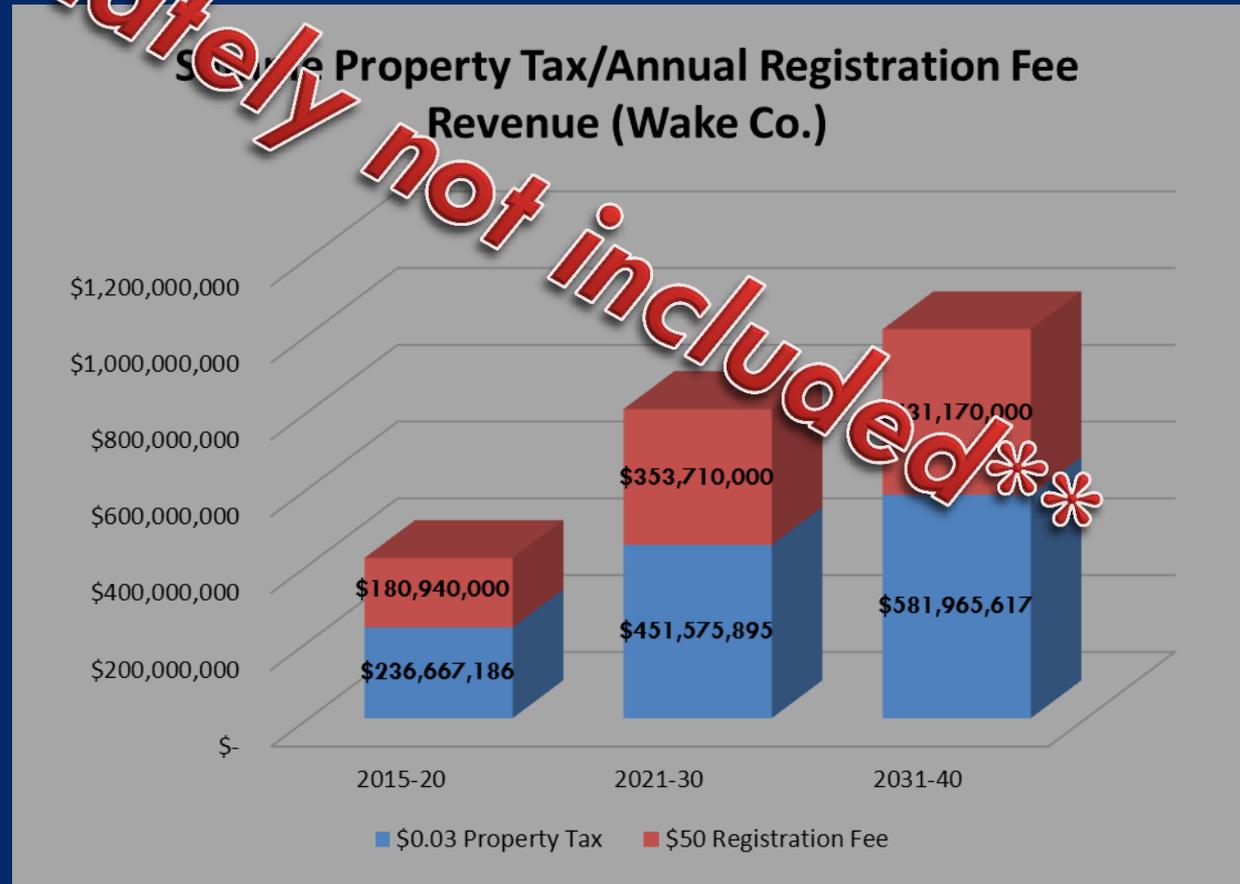
Property Tax & Registration Fee Based Revenue (2021-2040)

- Wake County example:
 - \$0.03/mil
 - -\$50 Annual Vehicle Registration Fee
 - Approx. \$2.23 Billion



Property Tax & Registration Fee Based Revenue (2021-2040)

- Wake County Example:
 - \$0.03/mil
 - -\$50 Annual Vehicle Registration Fee
 - Approx. \$2.23 Billion

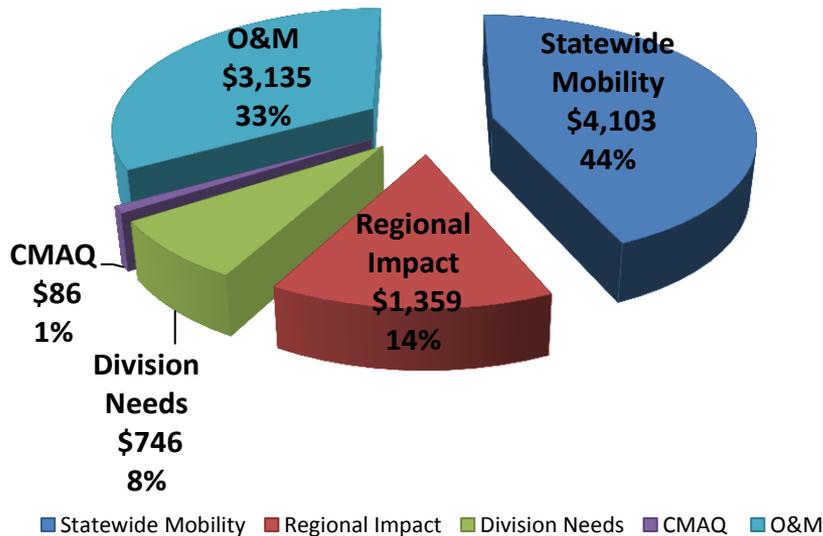


What has changed for 2045 MTP?

- At the federal level (FAST ACT)
 - Funding levels and rules
 - Performance based approach
- At the state level (STI)
- At the regional/local level
 - Updated and adopted Wake Transit Plan
 - Local funding

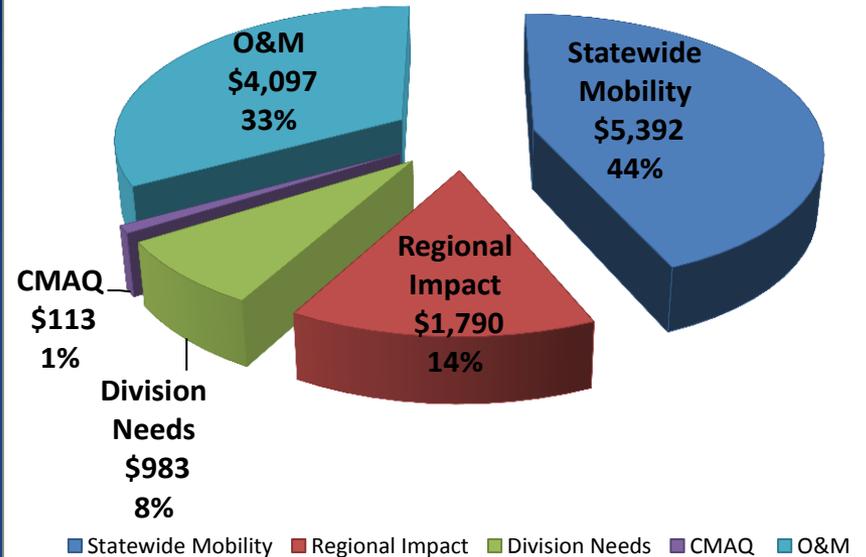
2045 Preliminary Financial Forecast (*Traditional Funding*)

Moderate



\$9.43 Billion

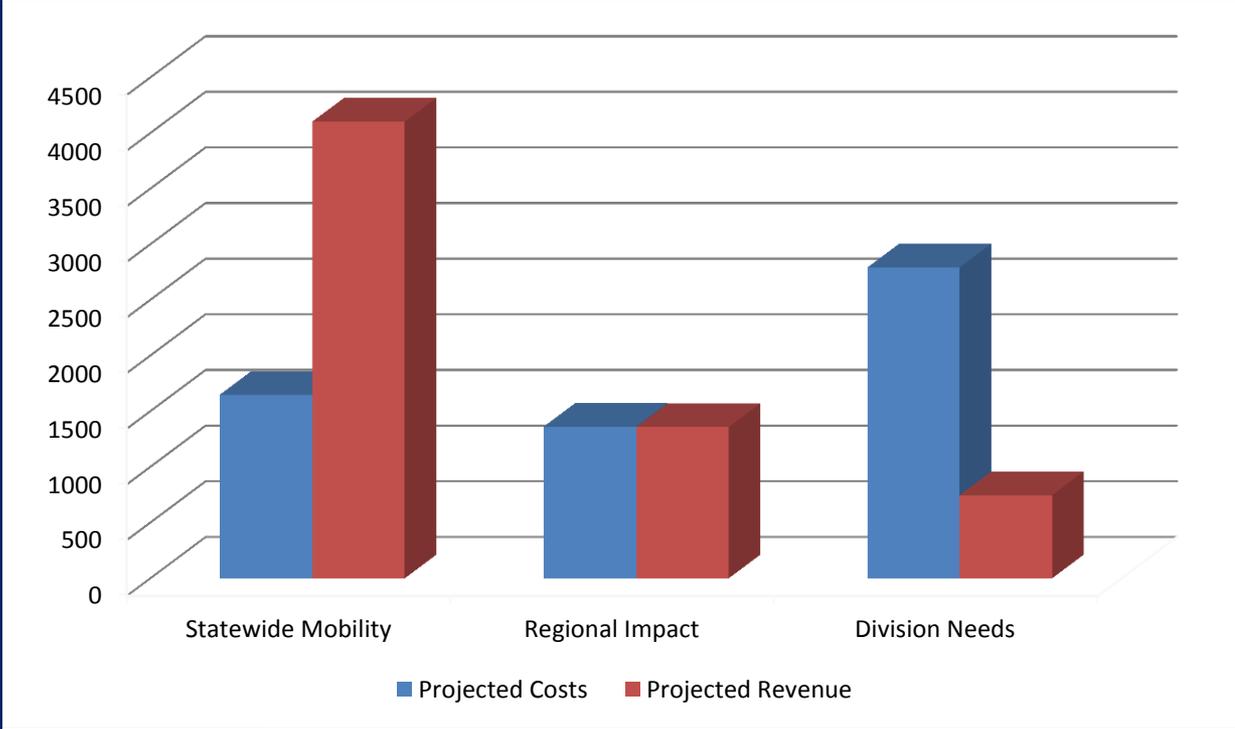
Aspirational



\$12.37 Billion

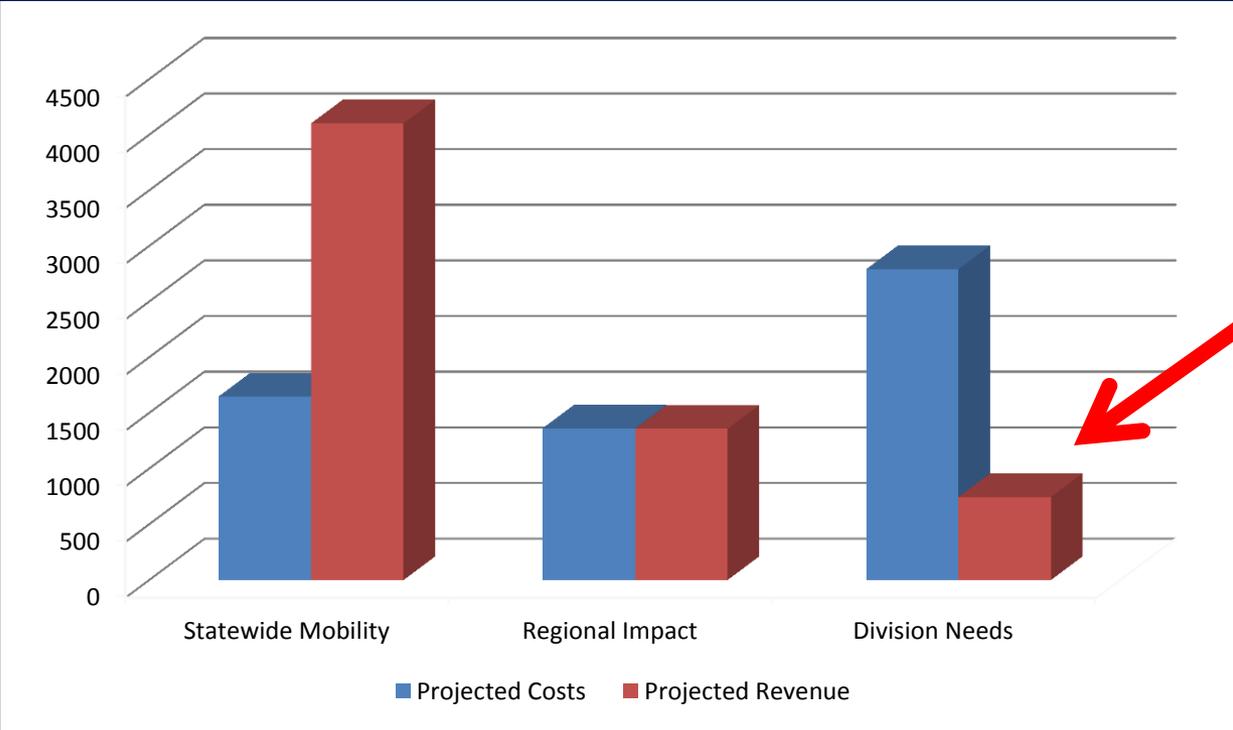
2045 Preliminary Revenue vs. Project Costs (Roadway)

Moderate Scenario



2045 Preliminary Revenue vs. Project Costs (Roadway)

Moderate Scenario



\$1.9 Billion more cost than current revenue projection

CONTINUED CHALLENGES

The gap between the region's transportation needs and available funding presents several challenges that we must soon address:

- Short and long term non-traditional funding sources
- Local and regional revenue options
- Advancement of MTP projects to implementation consistent with the air quality conformity project implementation schedule.
- Monitoring regional growth to ensure the Plan stays abreast of the region's needs

CHALLENGES

The gap between the region's transportation needs and available funding presents several challenges that we must soon address:

- Short and long term non-traditional funding sources

Local and regional revenue options

- Advancement of MTP projects to implementation consistent with the air quality conformity project implementation schedule.
- Monitoring regional growth to ensure the Plan stays abreast of the region's needs

Alternatives Analysis

Scenario	By Right (e.g. zoning) SE Data	2045 Community Plans SE Data	AIM High SE Data
Existing & Committed Projects		X	
Moderate Network		X	
Aspirational Network			X

Alternatives Analysis

Moderate Network

- Major Roadway Investments
 - Completion of the Outer Loop
 - Widening/Improving I-40, I-440, US 401, US 1, US 64, US 70, NC 42, NC 50, NC 54, NC 55, NC 98
 - Additional secondary roadway investments in 3rd decade
- Major Transit Investments (WTP + 20yrs)
 - Commuter Rail from Garner to Durham
 - BRT Infrastructure and Service in Capital, New Bern, Wilmington, and Western/Chatham/NC 54 corridors
 - Continuation of WTP frequent bus network
 - Community Funding Areas

Alternatives Analysis

Aspirational Network

- Major Roadway Investments
 - Completion of the Outer Loop
 - Widening/Improving I-40, I-440, US 401, US 1, US 64, US 70, NC 42, NC 50, NC 54, NC 55, NC 98
 - Additional secondary roadway investments in 2nd and 3rd decades
- Major Transit Investments (WTP + 20yrs)
 - Commuter Rail Service extended to Selma and Mebane
 - Commuter Rail Service from Wake Forest to Apex
 - BRT Infrastructure and Service extended/enhanced in Capital, New Bern, Wilmington, and Western/Chatham/NC 54 corridors
 - BRT Service to midtown Raleigh
 - BRT Service in Harrison/Kildaire Farm corridor
 - Continuation of WTP frequent bus network
 - Continuation of Community Funding Areas

Upcoming MTP Milestones

Item	Anticipated TCC Updates
Alternatives Analysis Review	April – May 2017
Revenue Forecast Updates	April - Aug. 2017
Preliminary Draft Financial Plan	June 2017
Public Involvement	Summer 2017
“Final” Draft Plan	August 2017
Public Hearing	August/September 2017
Adopt 2045 Plan	September 2017

**Requested Action:
Receive as Information**

5.6. CAMPO Staff Addition: TPAC /Wake Transit Administration

- Administration of the Transit Planning Advisory Committee (TPAC) has continued to evolve. Draft FY 2018 Wake Transit Work Plan and CAMPO UPWP includes resources for the MPO to provide full time administrative and management support of the TPAC administrative activities.
 - Will enable high quality administrative support and coordination services for the TPAC
 - Provide more focused technical-level attention to transit plan implementation management, processes and decisions
 - Provide improved staff support for compilation of TPAC administrative products
- Creation of a new CAMPO Transportation Planner position at this time to provide for TPAC administration and process management in order to create and fill the position for the start of FY 18.
- Position is funded in draft Wake Transit FY 18 Work Program

Requested Action:

Recommend Executive Board approve staff addition

6. Budget Informational Items

6.1: Member Shares - FY 17

6.2: Operating Budget - FY 17

Requested Action:

Receive as information

7.1 Information Item: Project Updates

- Hot Spot Program
- Transit Systems Planning
- Southeast Area Study
- Regional Freight Plan Study
- (SRTS) John Rex Endowment Grant Award Update
- NC Non- Motorized Volume Data Program – Phase II Region Roll-out
- Triangle Tolling Study
- NC 98 Corridor Study

Requested Action:
Receive as information

8. Information Item: Staff Reports

- MPO Executive Director, Chris Lukasina
- TCC Chair
- NCDOT Transportation Planning Branch
- NCDOT Division 4
- NCDOT Division 5
- NCDOT Division 6
- NCDOT Rail Division
- NC Turnpike Authority

Requested Action:

Receive as information

Upcoming Events

Date	Event
April 7, 2017 – 10:00 - Noon	Triangle Bicycle and Pedestrian Cary Arts Center 101 Dry Avenue Cary, NC 27511
April 19, 2017 – 12:30 – 3:30	CAMPO 101 Training Opportunity for new Board members
April 19, 2017 – 4:00 pm	Executive Board
April 26-28, 2017	NCAMPO Statewide Conference, New Bern, NC
May 4, 2017 – 10:00 am	TCC
May 17, 2017 – 4:00 pm	Executive Board
June 1, 2017 – 10:00 am	TCC

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