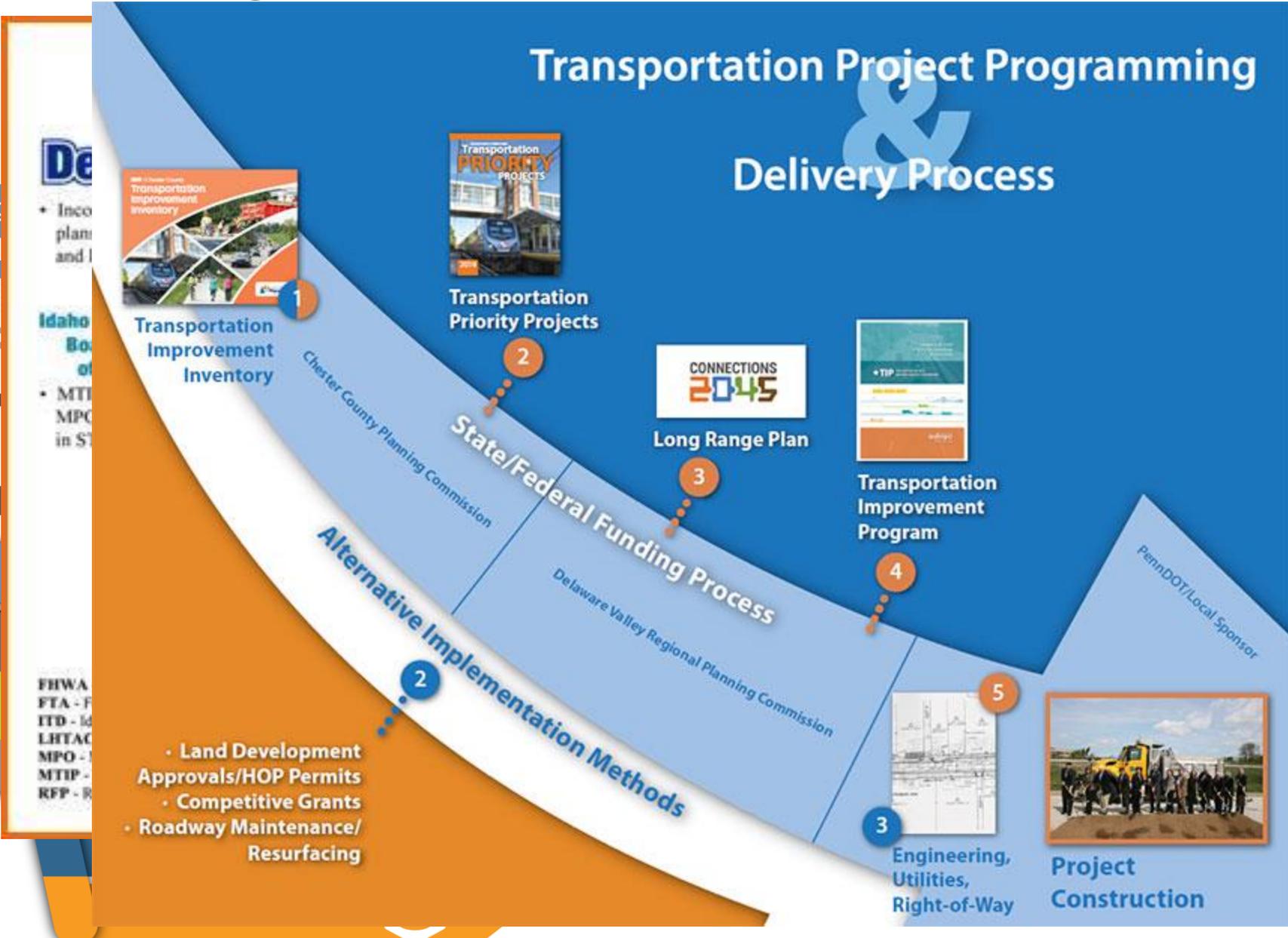


Piedmont Transportation Professionals February 24, 2022



Strengthening Mobility in Our Communities

Transportation Planning Considerations:

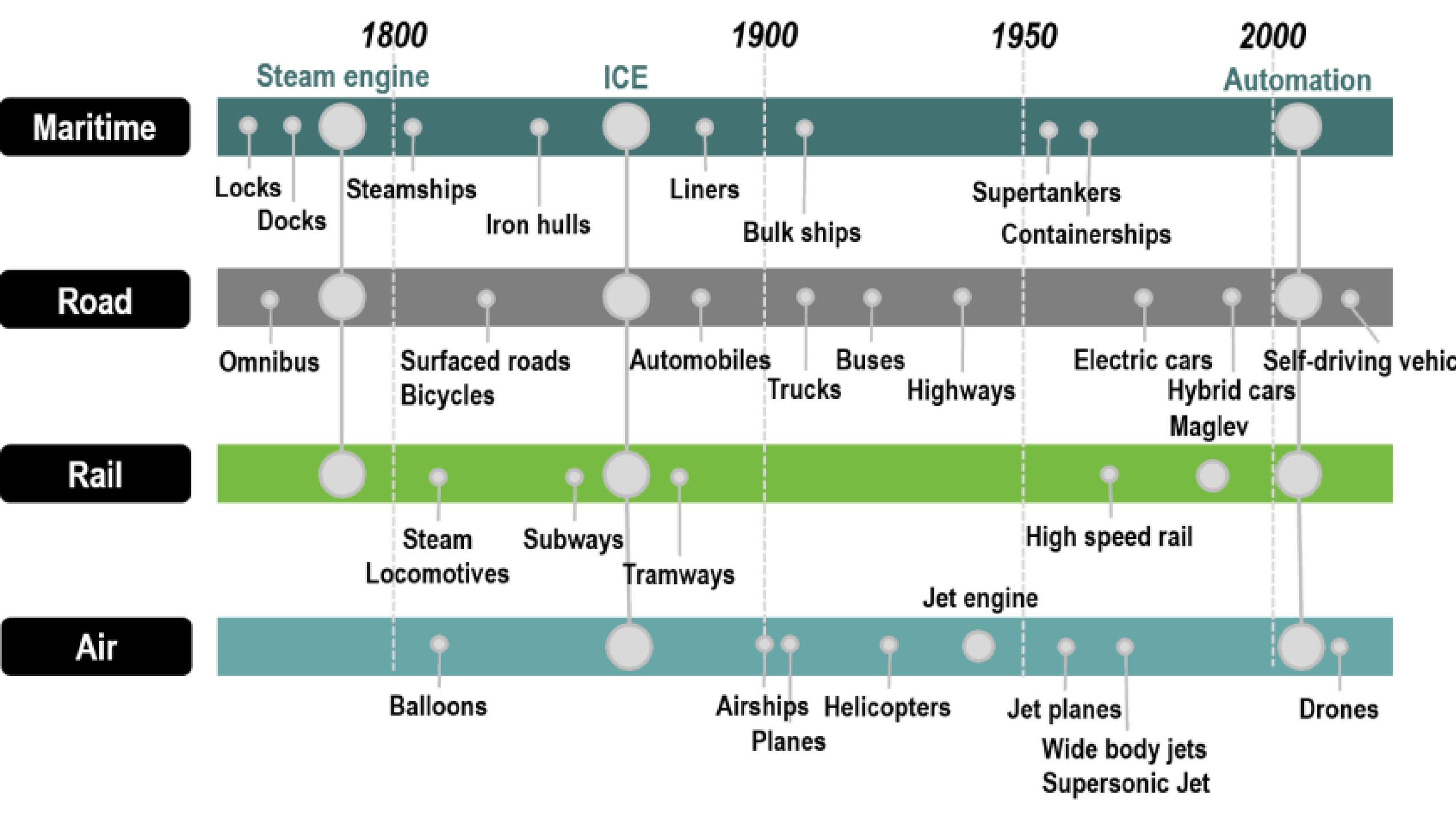


Trans



Summary of Model Results by Horizon Year

Variables	2017	2025	2035	2045	2017-2045 (p.a.)
Socio-Economic Data					
Households	528,579	568,552	615,358	664,668	0.82%
HH Population	1,280,146	1,365,230	1,464,454	1,568,665	0.73%
Employees	642,262	682,587	879,614	1,080,884	1.88%
Highway Assignment Statistics (Daily)					
Total VMT	36,341,349	39,791,425	46,581,411	47,161,233	0.94%
Total VHT	790,392	856,202	933,301	1,049,257	1.02%
Ave Speed(mph)	43.9	44.3	44.2	42.9	-0.08%
Mode Shares					
Auto	92.2%	92.2%	92.2%	92.0%	-0.01%
Non-Motorized	7.2%	7.2%	7.2%	7.4%	0.10%
Transit	0.6%	0.6%	0.6%	0.6%	0.00%
Daily Transit Assignment Statistics					
Transit Boardings	37,928	39,905	42,907	46,561	0.74%

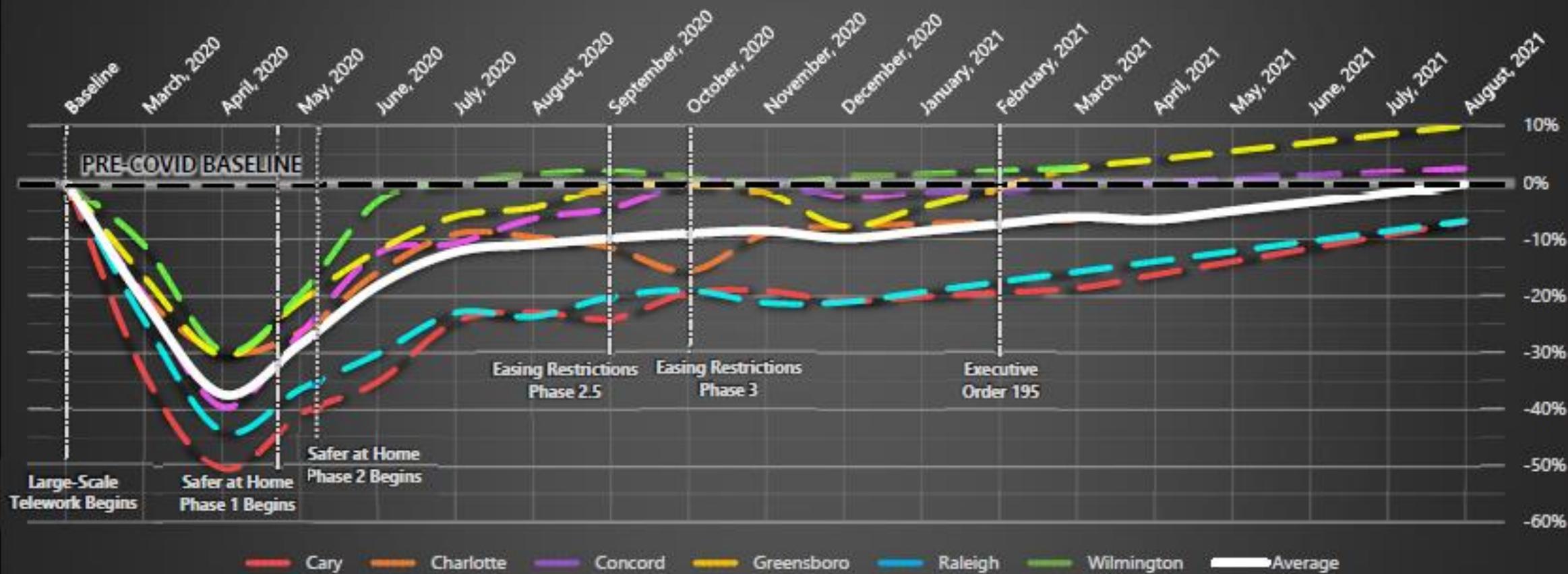




**THE WORLD HAS
CHANGED...**

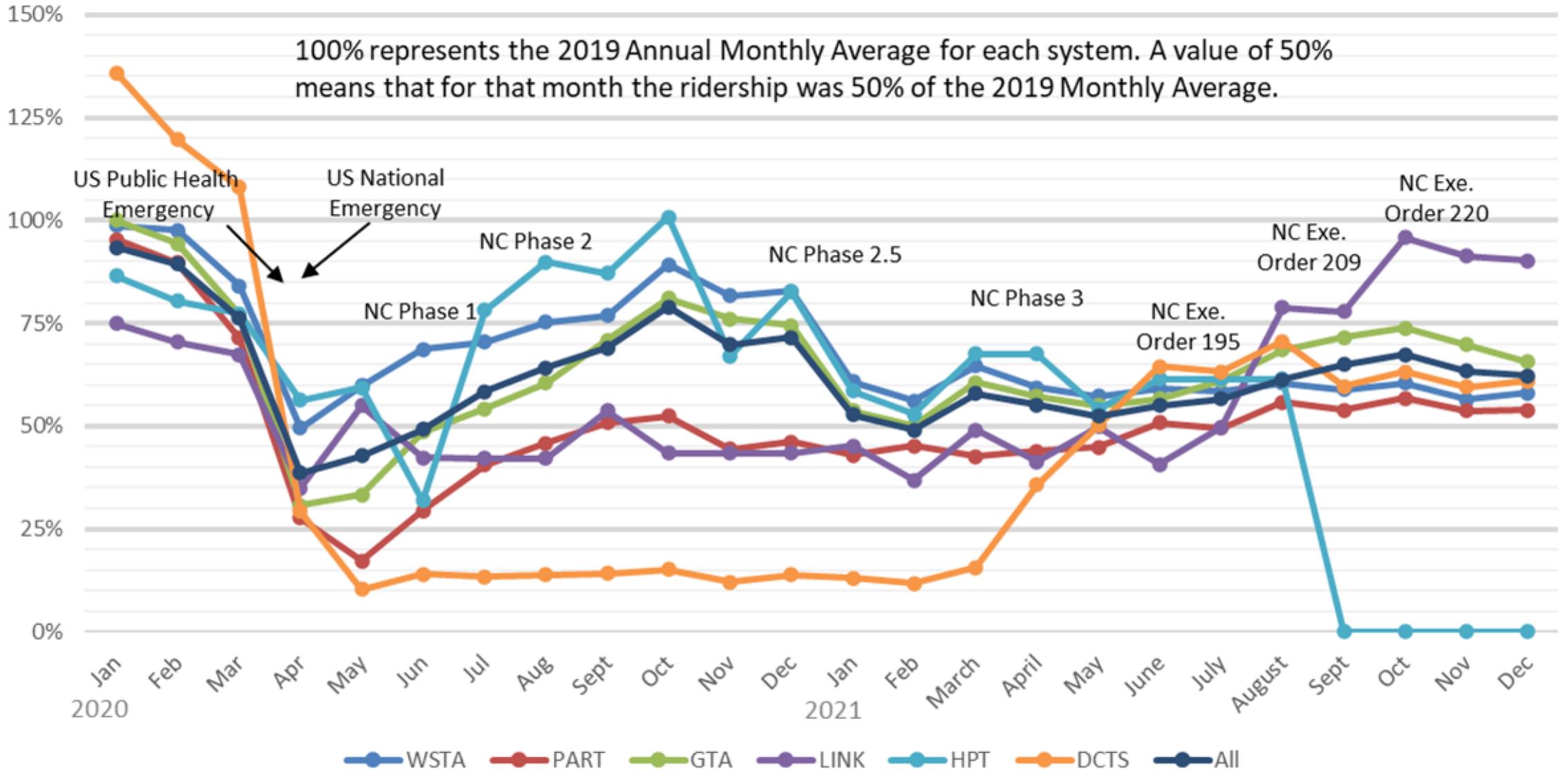
COVID-19 Arterial Traffic Volume Tracking

(Monthly Averages)

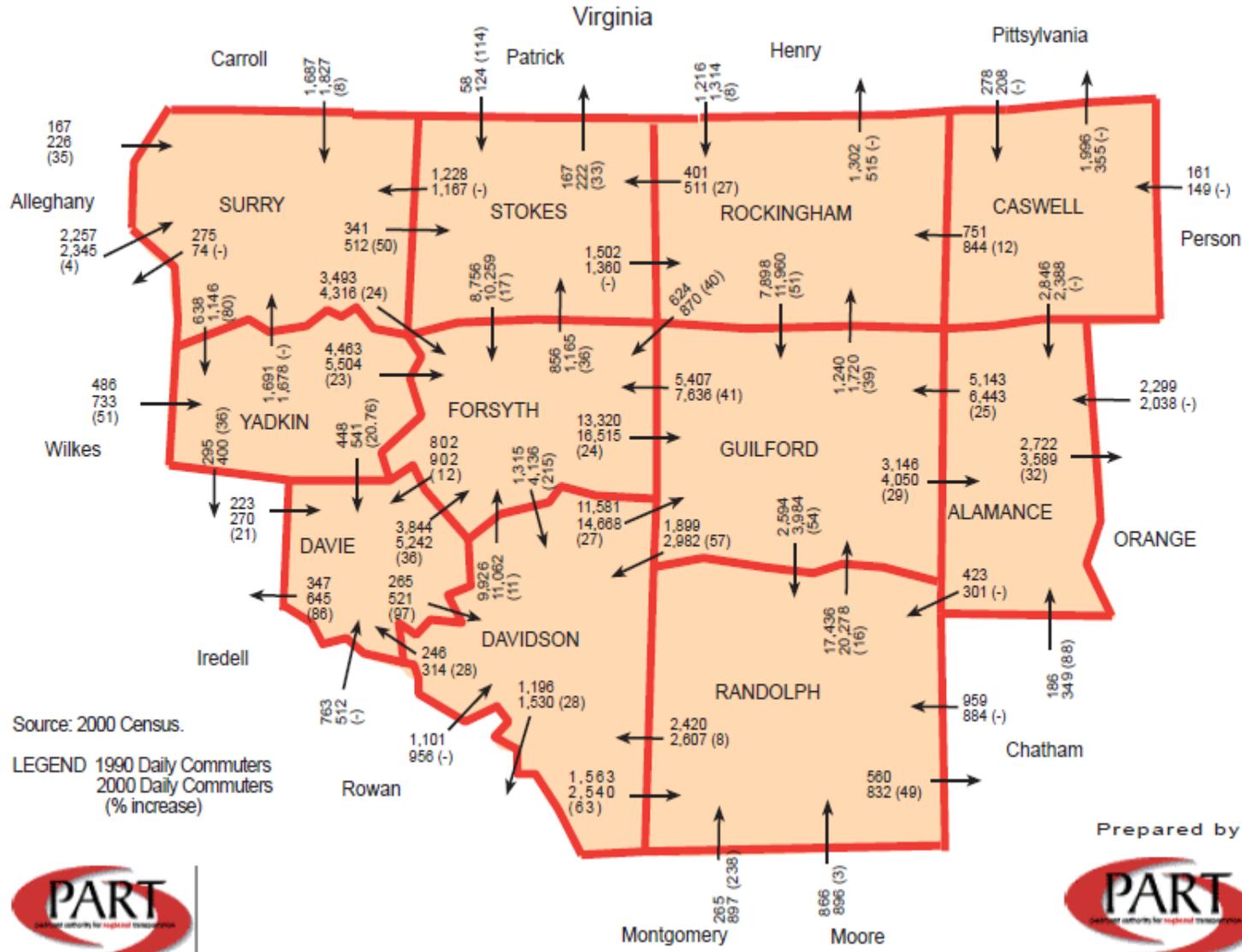


Piedmont Triad Ridership during a Global Pandemic

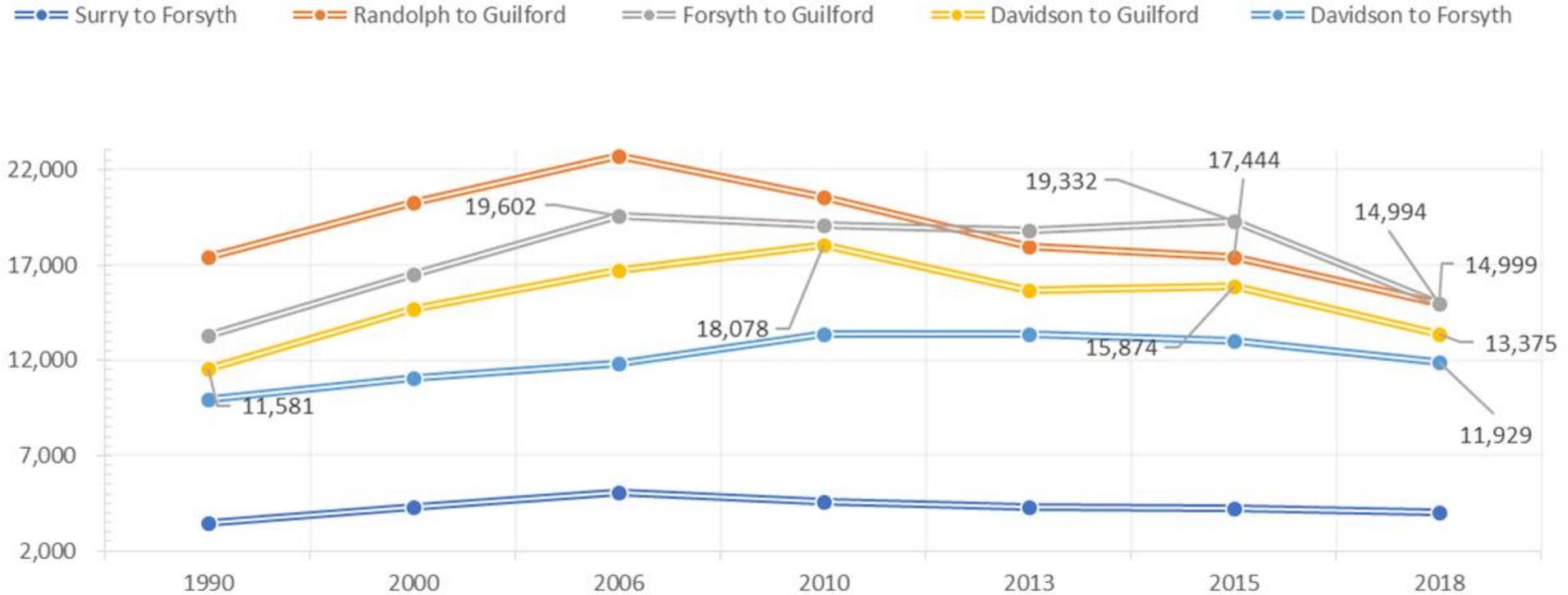
100% represents the 2019 Annual Monthly Average for each system. A value of 50% means that for that month the ridership was 50% of the 2019 Monthly Average.



Commuting Patterns in the Piedmont Triad



DAILY COMMUTES FROM SELECT PIEDMONT TRIAD COUNTIES



In 2018 there were 16,640 FEWER county to county commuter trips than in 2006



Activities <



My activities



My activities

 New folder

 New activity

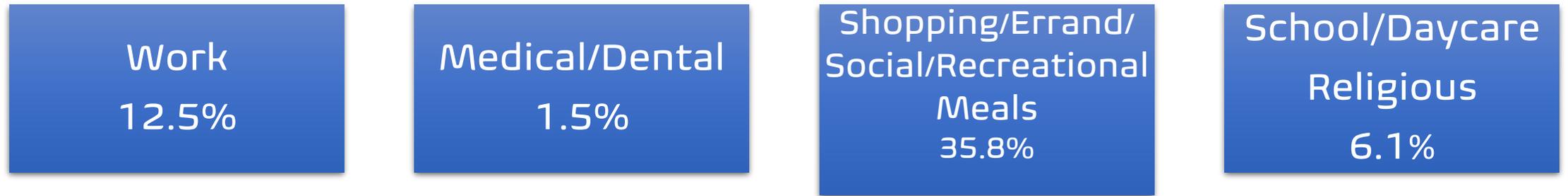
Activities

Name	Count
 How did you arrive at this meeting?	1 response ●
 How do you get to work?	1 response
 Thinking about your trip to work, how many mobility options do you have?	0 responses
 How many have you used?	0 responses
 Untitled word cloud	0 responses
 Drive : 22 minutes, parking in deck with a monthly fee, 10 minute walk to office Transit: 5 min...	0 responses

Daily Travel

2017 National Household Travel Survey

% of Trips



% of Miles





< Activities



Visual settings



Edit



Respond at PollEv.com/markkirstner784

Text **MARKKIRSTNER784** to **22333** once to join, then **A, B, C, or D**

How did you arrive at this meeting?

Drove Alone

A

Carpooled

B

Logged In

C

Other

D

Total Results: 1

Powered by  **Poll Everywhere**



What is TDM?

Transportation Demand Management



Transportation demand management is

influencing



people's behavior

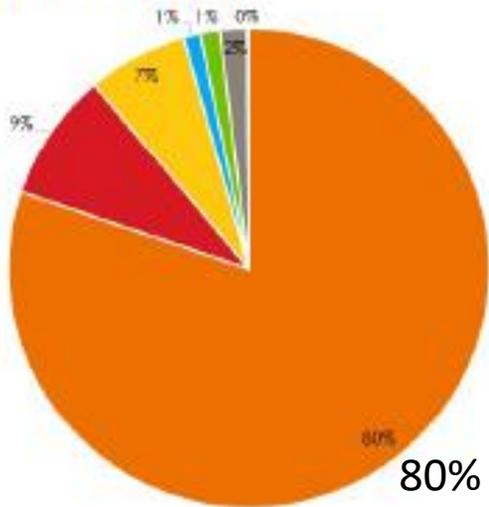


to use the existing infrastructure

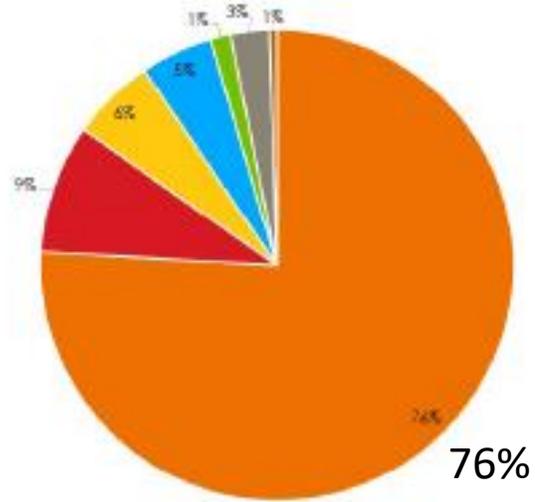
in more efficient ways.

2019 Commuter Mode

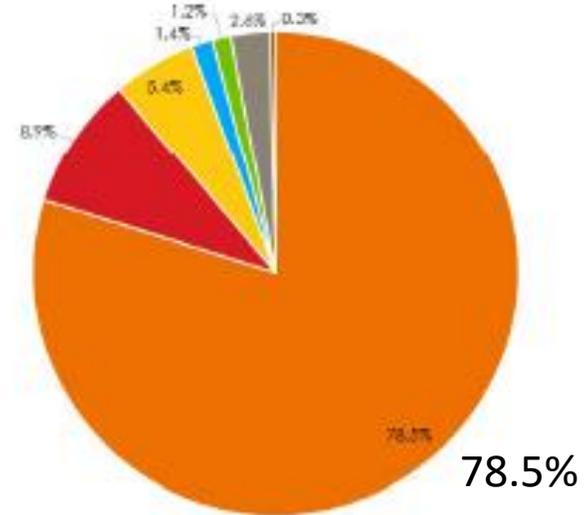
NORTH CAROLINA



UNITED STATES



MEDIAN

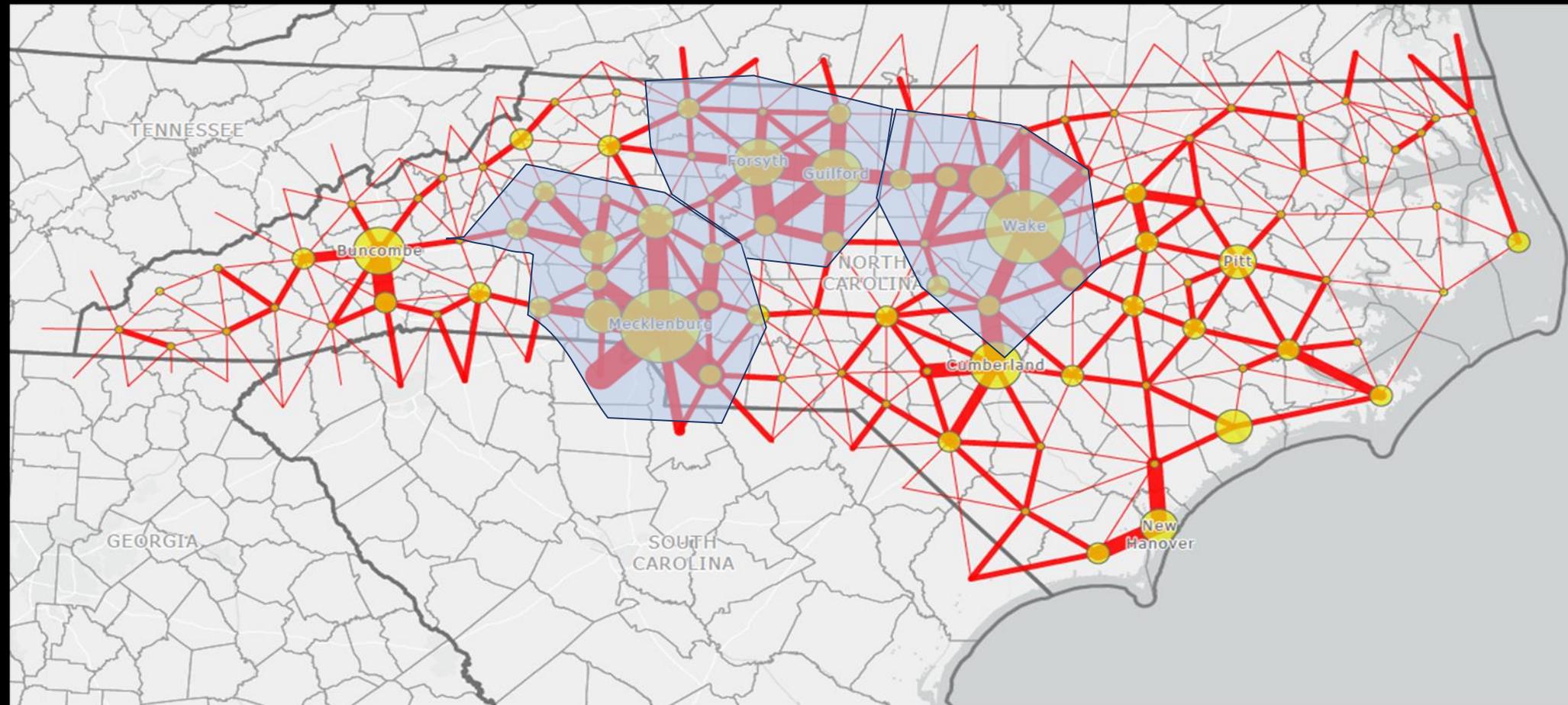


LEGEND

- DROVE ALONE
- CARPPOOL
- WORKED AT HOME
- PUBLIC TRANSPORTATION
- TAXI, MOTORCYCLE, OR OTHERS
- WALKED
- BICYCLE

Figure 9: 2019 Commuter Mode for North Carolina, the United States, and the "Median" State/District

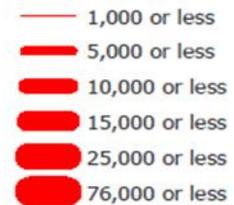
Source: US Bureau of Transportation Statistics, Commute Mode



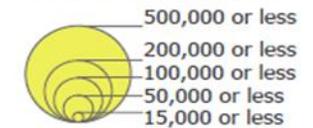
North Carolina County-to-County Commuting Patterns

Source: U.S. Census, 2011-2015 ACS Commuting Flows
Published: 12/15/2020

Commuters employed in adjacent county



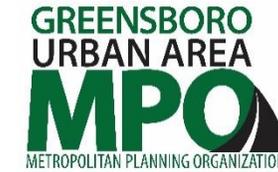
Commuters employed in county of residence



State Boundary

County Boundary

Piedmont Transportation Professionals February 24, 2022



Strengthening Mobility in Our Communities
Travel Demand Management Initiative for the Piedmont Triad

CORE VALUES OF THIS INITIATIVE

People

TDM strategies in this plan can only be successful if needs and preferences of commuters are considered in program design.

Equity

TDM program implementers seek to design programs that enhance equitable access to convenient and affordable travel options or tools to utilize those options.

Innovation

TDM implementers embrace new and creative approaches for connecting people with transportation options and maximizing the transportation system's capacity.



WHAT CAN BE ACHIEVED

- 1 SHARE INFORMATION** (collect, develop, maintain, and disseminate data on roadway, transit, bike, pedestrian and other modes)
- 2 IDENTIFY OPPORTUNITIES** (through data analysis to provide appropriate mobility options)
- 3 REDUCE THE NEED** (for single-occupancy vehicle travel through land-use development regulations and transportation planning)
- 4 EDUCATE AND MARKET** (to increase the use of transit, rideshare, bicycling and walking)
- 5 CREATE PARTNERSHIPS** (among the facilitators and providers of all modes of transportation, community leaders and institutions)
- 6 MAKE NEIGHBORHOODS SAFE** (for walking, bicycling and taking transit through non-infrastructure projects and programs)
- 7 MULTI-JURISDICTIONAL DIALOGUE** (to facilitate and improve collaboration)

WHY?

A transportation network where 83% of commuters use the most land-hungry mode (the automobile) available is neither sustainable nor desirable for an urbanizing Piedmont.

WHAT IS TDM?

Transportation Demand Management (TDM) encourages people to use sustainable modes of transportation through education and incentives, thereby reducing the demand of so many vehicles on the roadway.

WHY IMPLEMENT TDM?

- Reduced roadway congestion
- Reduced travel costs
- Enhanced mobility
- Enhanced economic development
- Increased collaboration/coordination
- Increased regional representation
- Improved air quality
- Improved public health

Goal

Evaluate & Establish Regional Pass Programs

Objective

Develop fare free transit pass for Municipal Employees

Goal

Explore multimodal/crossmodal connectivity

Objective

Advance Bike/Ped & Greenway infrastructure development

Goal

Identify and promote transit connectivity opportunities

Objective

Evaluate transit connections to airports

Goal

Evaluate opportunities Passenger conveniences

Objective

Develop a bus stop infrastructure program

Goal

Support Multimodal Safety Programs

Objective

Assist with Vision Zero and Highway Safety Program promotions

Goal

Promote activities to reduce SOV commuting in the Piedmont Triad

Objective

Promote Regional Van Pool Program





NORTH CAROLINA DEPARTMENT OF TRANSPORTATION - NCDOT
**VEHICLE MILES TRAVELED
 REDUCTION STUDY**
 APRIL 2021



VMT growth rate 2012-2019

UNITED STATES

0.2% PER YEAR RURAL **1.9%** PER YEAR URBAN

NORTH CAROLINA

0.2% PER YEAR RURAL **3.4%** PER YEAR URBAN

Source: FHWA, Office of Highway Policy Information, Table VM-2

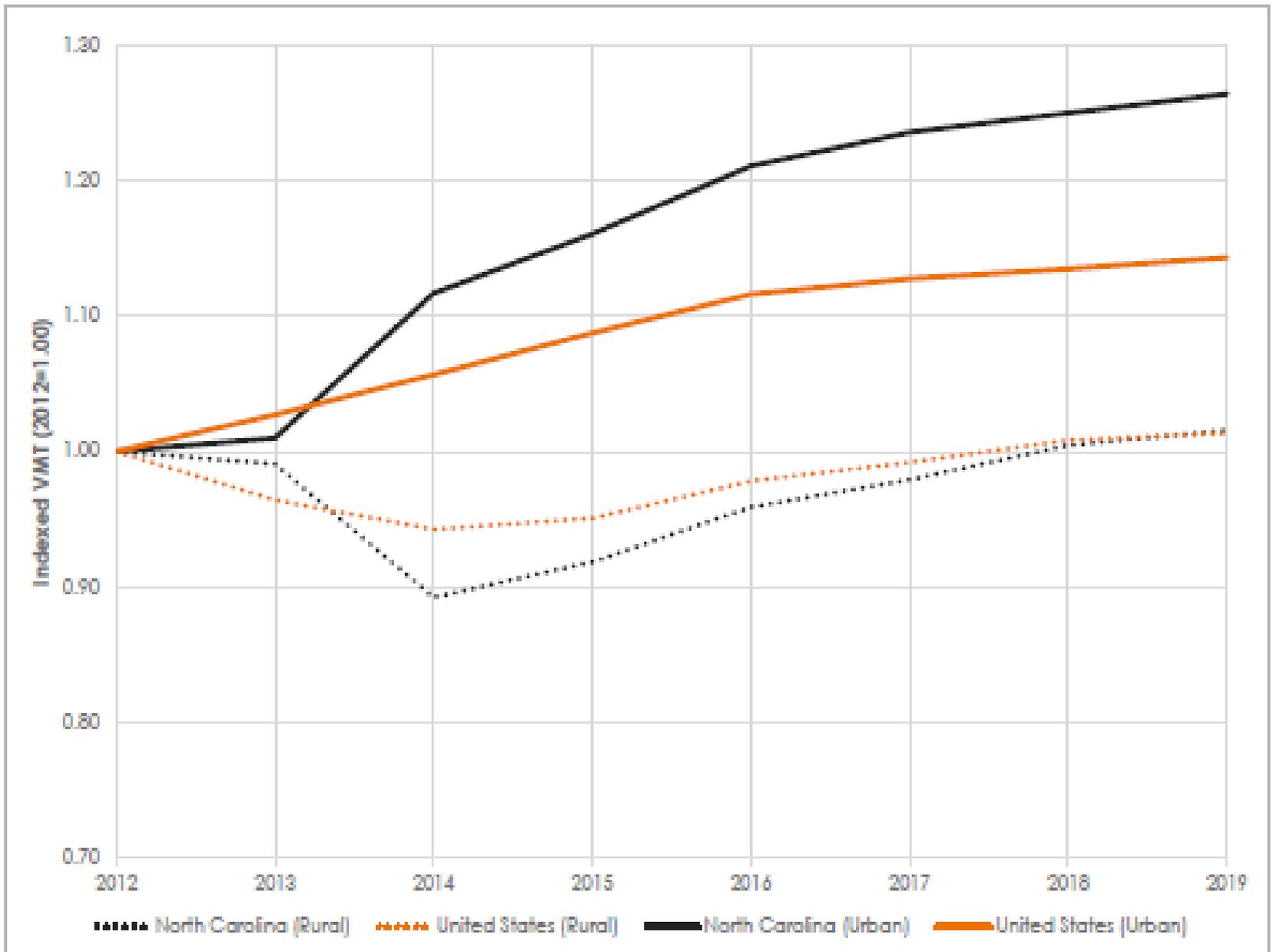


Figure 4: Indexed VMT for the United States and North Carolina in Rural and Urban Areas (2012=1.00)

Source: FHWA, Office of Highway Policy Information, Table VM-2

Worksite/Workplace

- Employee Parking Cash-Out Program
- Transportation Management Associations
- Alternative Work Schedules

Regional

- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- High Occupancy Vehicle (HOV) Facilities
- Non-Motorized Mode Support
- Vanpool

Telecommunication

- Internet Based Strategies
- Information Service: Broadband Expansion
- Telecommuting/Telework

Land Use

- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Jobs/Housing Balance
- Mixed Land Use

Public Policy/Regulatory

- Access Priority/Restriction
- Trip Reduction Ordinance

Pricing

- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

Application-Based

- Mobility as A Service
- Ride-Matching Applications

Support

- Compact Development/Clustering
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

Effectiveness

Regional

PUBLIC TRANSIT



URBAN



SUBURBAN

REGION TYPE

DESCRIPTION

Public transit is a set of transportation modes available to the public that maintain a published schedule on an established route on which passengers pay a fee and travel together. Examples of public transit include buses, light rail, commuter rail, subway, ferries, and trolleys. Public transit is most effective where it can be used by the most people. For this reason, transit is most prevalent in urban areas, in suburban areas that can bring commuters into city offices, and on college campuses.

PROS

- Public transit can be the most efficient way to transport people (in terms of VMT).
- Provides a transportation option to those who cannot drive or do not own.
- Allows passengers to multi-task since they do not have to drive.

CONS

- Underutilized public transit does not reduce VMT and may increase VMT.
- Due to its fixed route nature, public transit rarely takes passengers from their initial origin to their final destination. At least one other transportation mode needs to be included.
- Cost-efficiency decreases as group size increases, as public transit fares are per person. There is little incentive for a group of four to use transit if they can drive.

POTENTIAL VMT REDUCTION IMPACT

The VMT reduction impact varies depending on the transit system implemented. According to a publication by Smart Growth America, a 1% increase in transit frequency saves 0.5% in VMT, light rail can yield a corridor-level VMT reduction of 1-2%, and bus rapid transit can also yield a corridor-level VMT reduction of 1-2%.

IMPLEMENTATION CONSIDERATIONS

Most transit systems such as light rail, commuter rail, subway, elevated train, or any other track or cable-based system require significant funding for both physical infrastructure (tracks, stations, etc.) and right of way. Some opportunities may be present where decommissioned rail infrastructure or existing right of way can be utilized. Transit systems require significant political support from several levels of government and the formation of a transit agency. If a transit agency exists, any expansion of services must have their full support.

NORTH CAROLINA EXAMPLES

- Charlotte
<https://charlottenc.gov/cats/Pages/default.aspx>
- Raleigh
<https://goraleigh.org/>
- Greensboro
<https://www.partnc.org/>
- GoTriangle
www.gotriangle.org

OTHER EXAMPLES

- Minneapolis and Seattle
<https://usa.streetsblog.org/2019/02/08/minneapolis-and-seattle-have-achieved-the-holy-grail-for-sustainable-transportation/>

SOURCES

"Driving Down VMT: Curbing Climate Change with Smart Growth & Transportation Top State-Level Policies", Smart Growth America.
<https://www.smartgrowthamerica.org/app/legacy/documents/smartgrowthclimatepolicies.pdf>

TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

Urban, suburban, and locations where public transit currently exists.

IMPLEMENTED BY



STATE GOVT



COUNTY/LOCAL GOVT



TRANSIT AGENCY



MPO/ISO



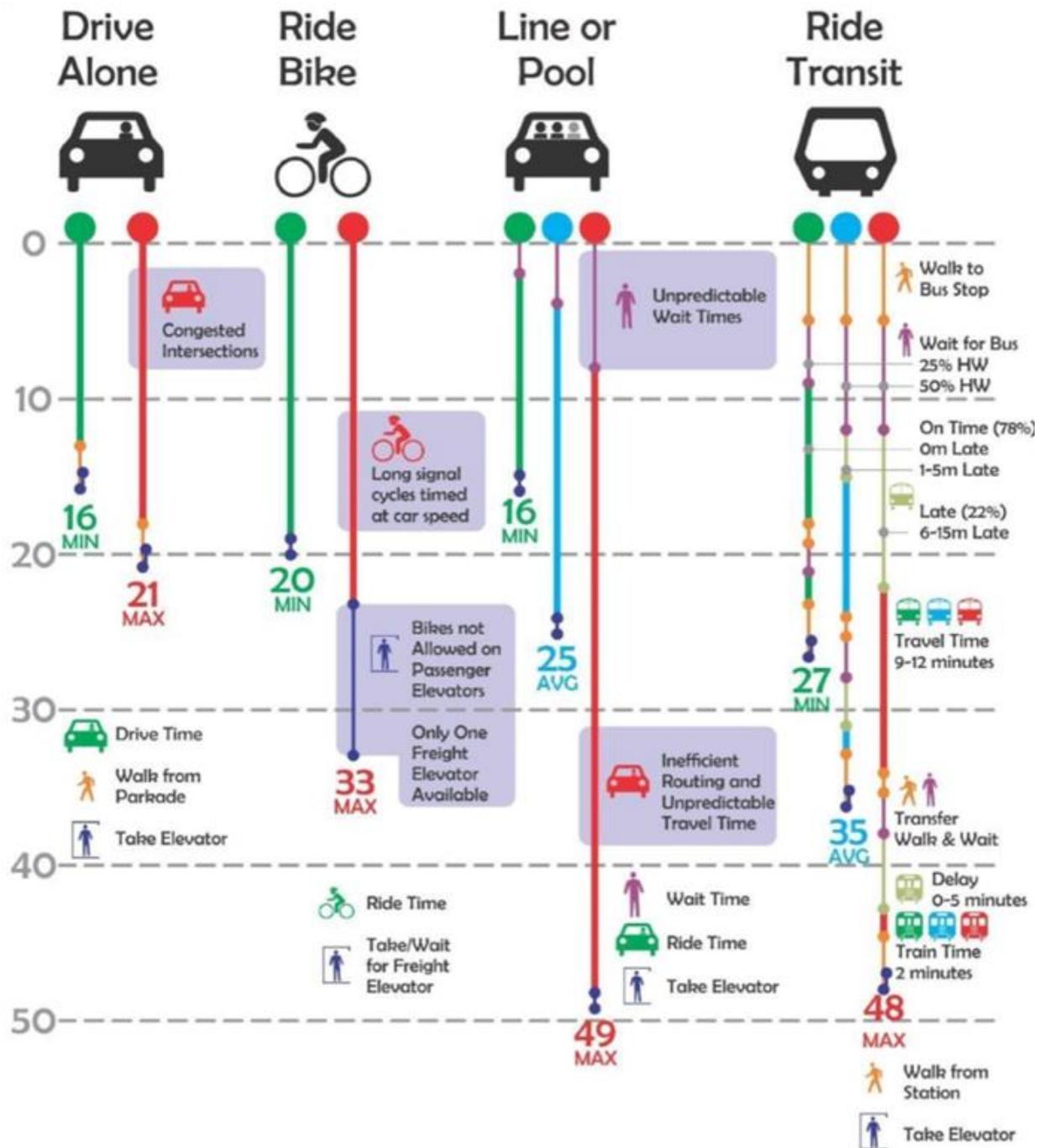
Integrating Demand Management into the Transportation Planning Process: A Desk Reference



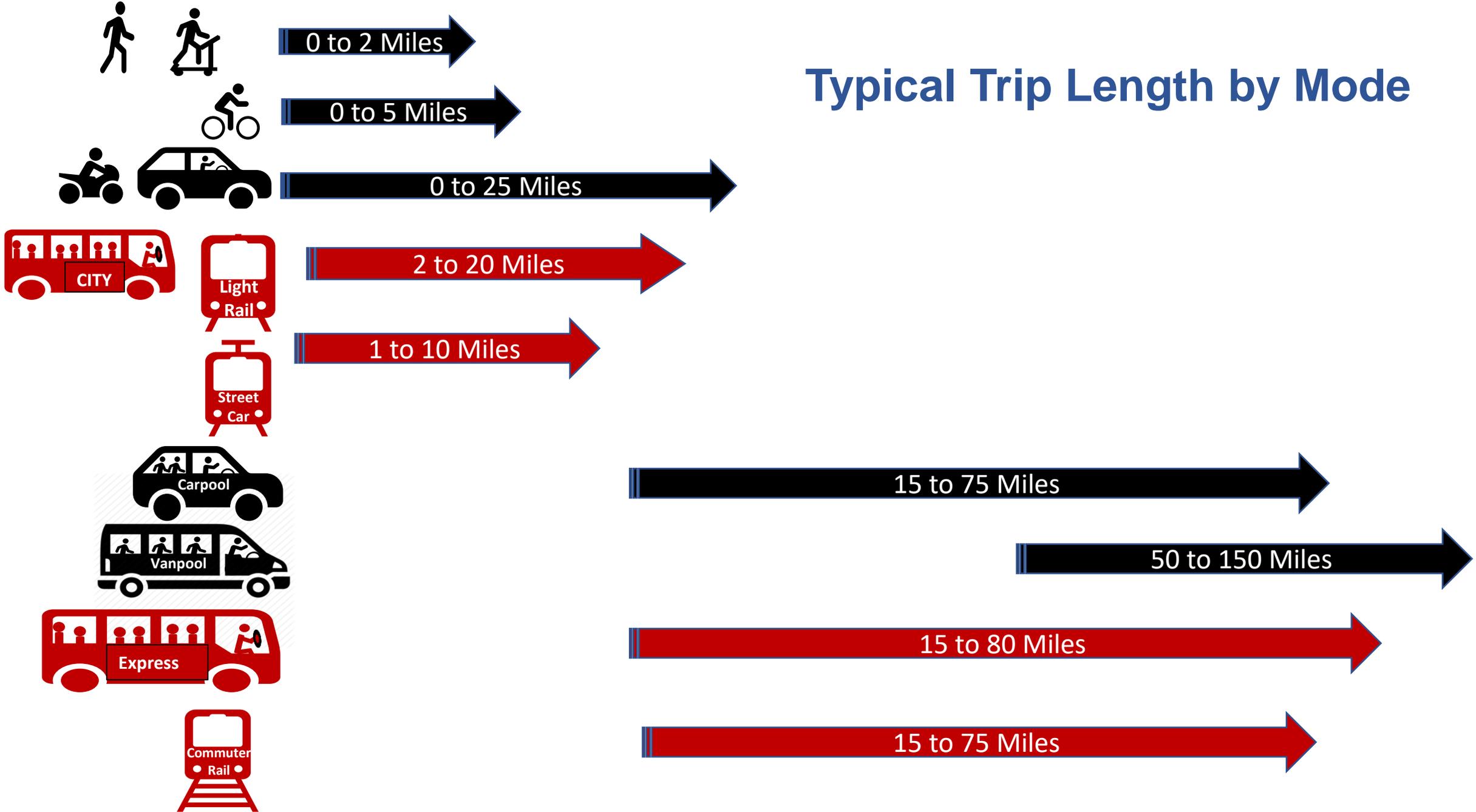
August 2012
FHWA-HOP-12-035

PACKAGE COMPONENTS	Packages to Model			
	Forward - Thinking	Transit-Based	Environ-mental	Low- Cost
Public transit		●	●	
Telecommuting-telework	●		●	●
Information services-Broadband Expansion	●			
VMT tax	●			
Transit-oriented development		●		
Employee Parking cash-out		●		●
Compressed work week				●
Gas tax increase			●	
Vanpools			●	●
Parking pricing		●		●
Non-motorized mode support			●	
Area Type	Percent Reduction in VMT			
Urban	-2.3%	-2.9%	-5.1%	-2.8%
Suburban	-1.9%	-0.4%	-0.9%	-2.4%
Rural	-1.6%	-1.7%	-2.2%	-2.1%
Total	-2.0%	-2.0%	-3.4%	-2.6%

Table 12: Triangle Area 2040 VMT Changes as Compared to the Base Case



Typical Trip Length by Mode



A Multi-modal Trip



transportation network consisting
of multiple options

“A ~~transit system~~ should be
provided as if we really mean for
people to use it.”

Victor Dover

Project Update

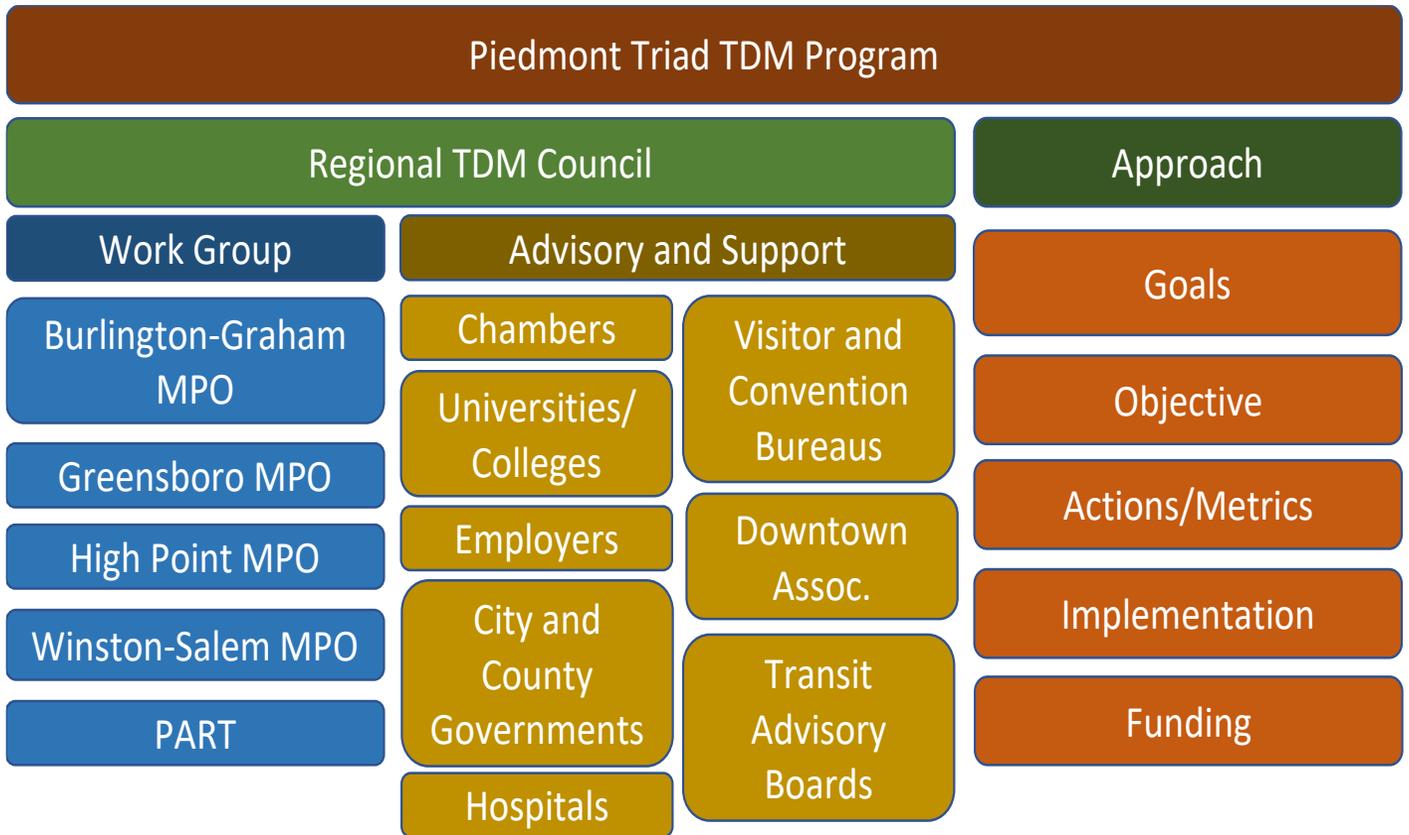
PART Board of Trustees

June 9, 2021



Strengthening Mobility in Our Communities
Travel Demand Management Initiative for the Piedmont Triad

Our Vision



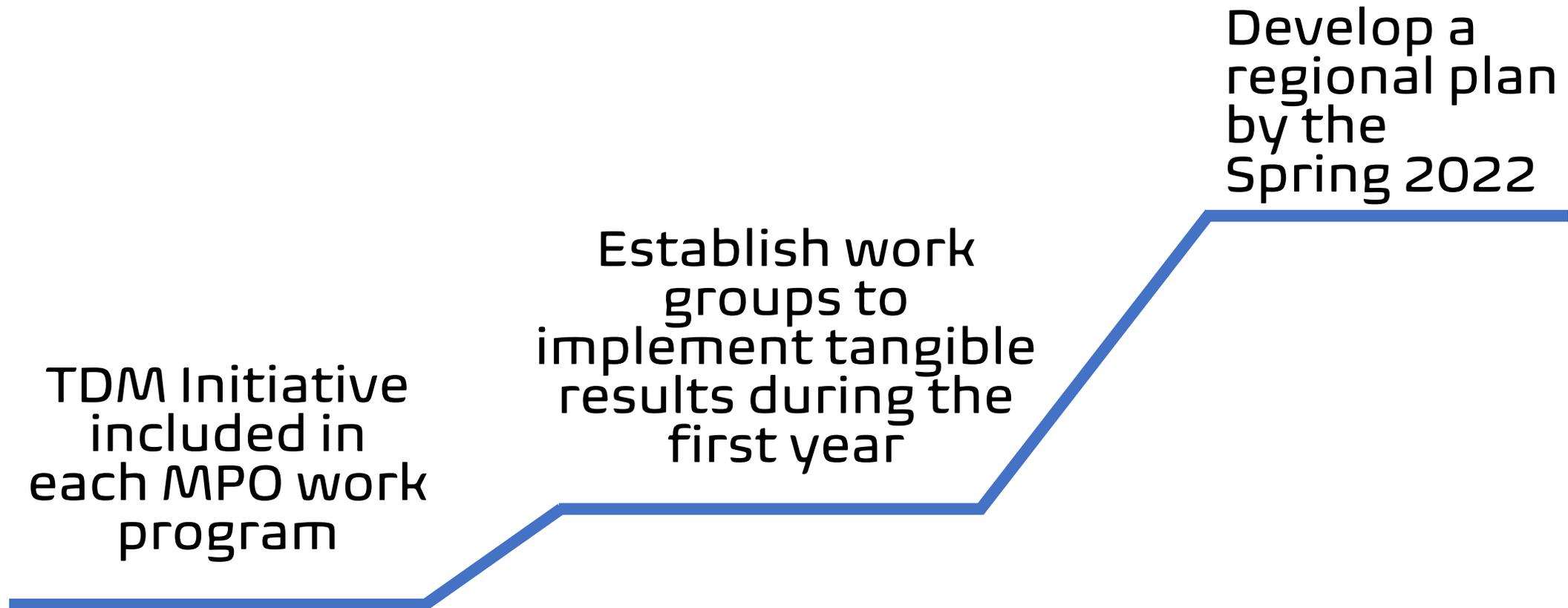
History of TDM in North Carolina

- Ambient Air Quality Act of 1999, Senate Bill 953
 - Addressed ground level ozone pollution from motor vehicles
 - Increasing vehicle miles traveled (VMT) and NO_x Emissions
 - Establish goal to reduce the growth on VMT by 25% from 2000 to 2009
- NCDOT Public Transportation Division begins funding TDM programs to promote alternatives to the single occupant vehicle commute

History of TDM in the Triad

- Piedmont Authority for Regional Transportation
 - Formed in 1980 as part of the National Ridesharing Demonstration Project
 - High Point and Greensboro programs merged in 1982, added Winston-Salem in 1995, designed as PART in 1998
 - Oldest vanpool program in North Carolina
 - Mission to enhance quality of all forms of transportation for all citizens

Next Steps



NCDOT Integrated Mobility Division Ride Share Grant

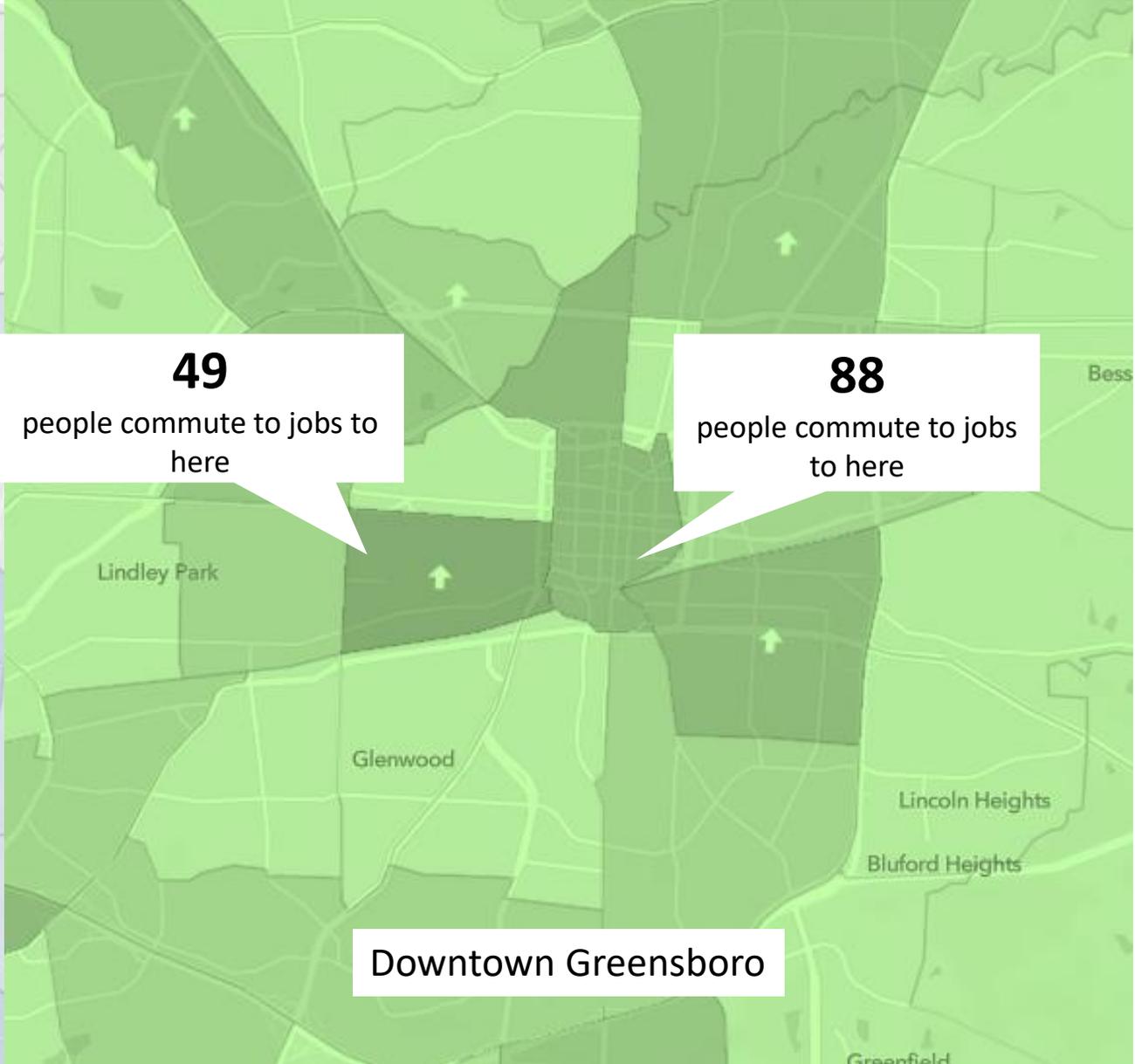
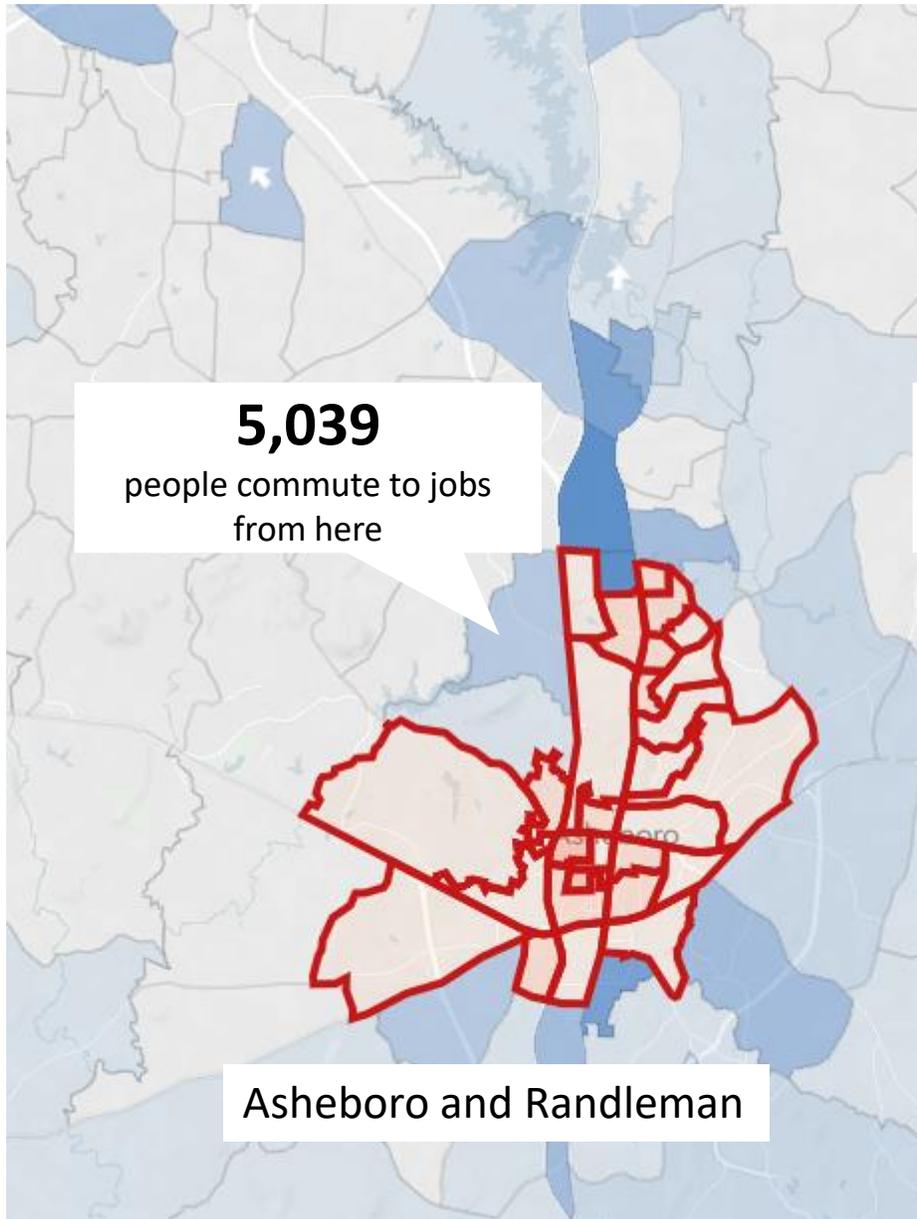
NCDOT Begins Annual Call for Projects

Funds organizations responsible for promotion of TDM activities that may also provide service e such as carpool/vanpool matching

Program structured with intent to fund one organization per region

Funds only administrative cost (no capital project)

Requires 50% cost-share



Comparison of Trips and Mile by Mode

Trips Miles

