The 2050 Metropolitan Transportation Plan
-- Steps and Scenarios --
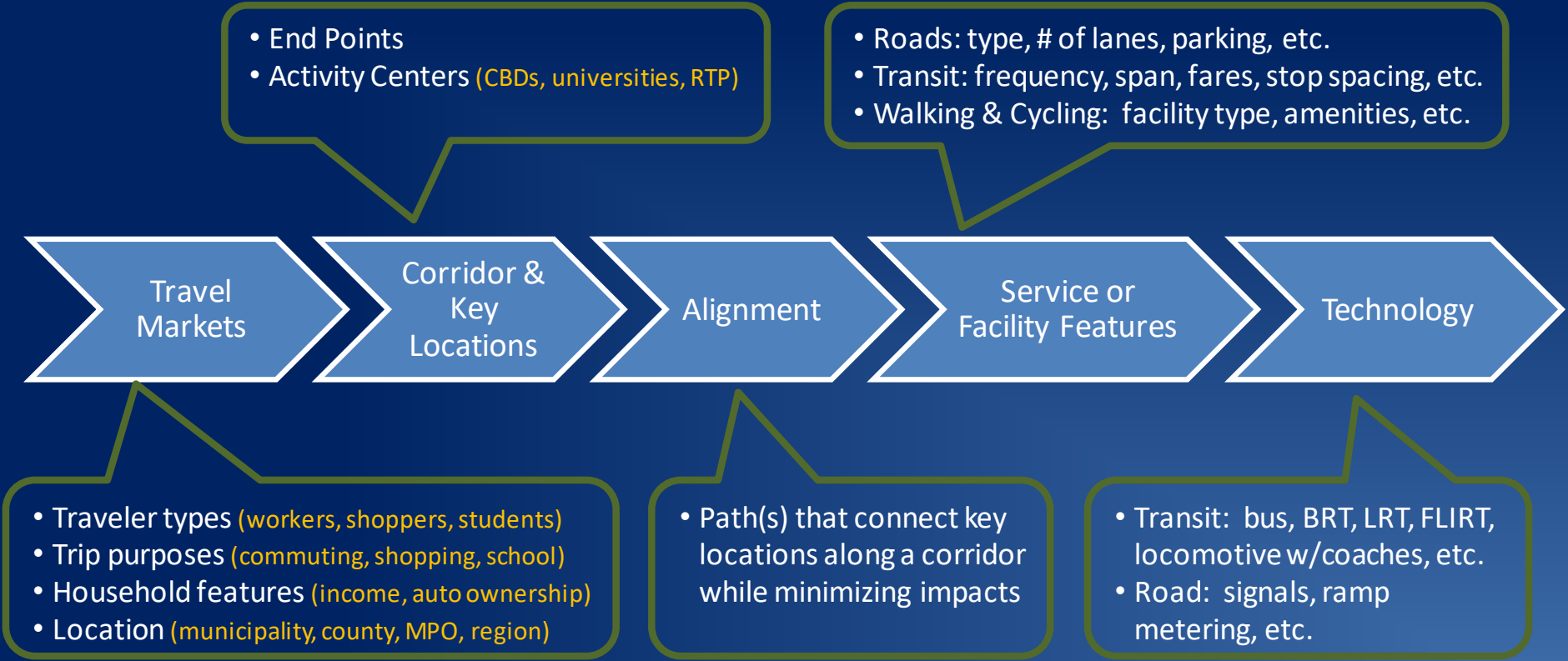
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Triangle J Council of Governments

January 2021

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Outline

- From markets to investments

- The 12 steps to the 2050 Metropolitan Transportation Plan

- Framework for Creating Development & Mobility Investment Scenarios

  - The CommunityViz Growth Tool

- Conversation Starters

From Travel Markets to Investments

- End Points
- Activity Centers (CBDs, universities, RTP)

- Roads: type, # of lanes, parking, etc.
- Transit: frequency, span, fares, stop spacing, etc.
- Walking & Cycling: facility type, amenities, etc.

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Travel Markets  →  Corridor & Key Locations  →  Alignment  →  Service or Facility Features  →  Technology
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- Traveler types (workers, shoppers, students)
- Trip purposes (commuting, shopping, school)
- Household features (income, auto ownership)
- Location (municipality, county, MPO, region)

- Path(s) that connect key locations along a corridor while minimizing impacts

- Transit: bus, BRT, LRT, FLIRT, locomotive w/coaches, etc.
- Road: signals, ramp metering, etc.

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Context

The "MTP" is the foundation for other plans and studies (these are transit examples, but the context applies to roads or other modes)

- 2050 Metropolitan Transportation Plan
- County Transit Plan updates in Wake, Durham and Orange Counties
- Project Studies and Designs:
  - **Commuter Rail** between Wake and Durham (and maybe extending to Johnston County in initial investment and Orange County in a latter phase)
  - Relocation of GoTriangle's **Regional Transit Center**

Opportunities & challenges to consider…

- … post-COVID conditions
- … technology change
- … balancing transportation *demand* concerns with *supply* concerns
- … rethinking land use, affordable housing, transit pricing and parking policies

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The 2050 Metropolitan Transportation Plan

1. Build the Planning Tools
   a. CommunityViz Growth Allocation (TJCOG)
   b. Triangle Region Transportation Model (ITRE-NCSU)

2. Determine Vision, Goals, Objectives, Performance Measures, Targets

3. Establish the Scenario Framework

4. Create the Development & Mobility Investment Foundations for Each Scenario

5. Adopt Population and Job Guide Targets to 2050

6. Analyze a "Learning Scenario" based on *Connect2045* and updated population and job data and forecasts

The 2050 Metropolitan Transportation Plan

7. Conduct a "Deficiency and Needs" Analysis

8. Refine and Use Tools to Create Detailed Scenarios

9. Conduct Alternatives Analysis of Scenarios

10. Select a Preferred Scenario

11. Complete 2050 MTP Report

12. Adopt the 2050 MTP and Demonstrate Air Quality Conformity (late 2021/early 2022)

Why: Scenarios Can Inform Decisions

❖ Land Use …

⬇ influences

❖ Travel …

⬇ which is served by
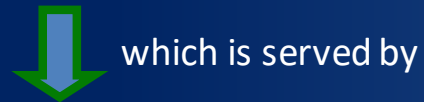
❖ Mobility Investments

A robust analysis looks at each of these elements: <u>land use</u>, <u>travel markets</u>, and <u>investments</u>

CommunityViz growth forecast

transportation model

2050 transportation plan

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Why: An example of the importance of looking at future scenarios

Durham

Chatham   Wake
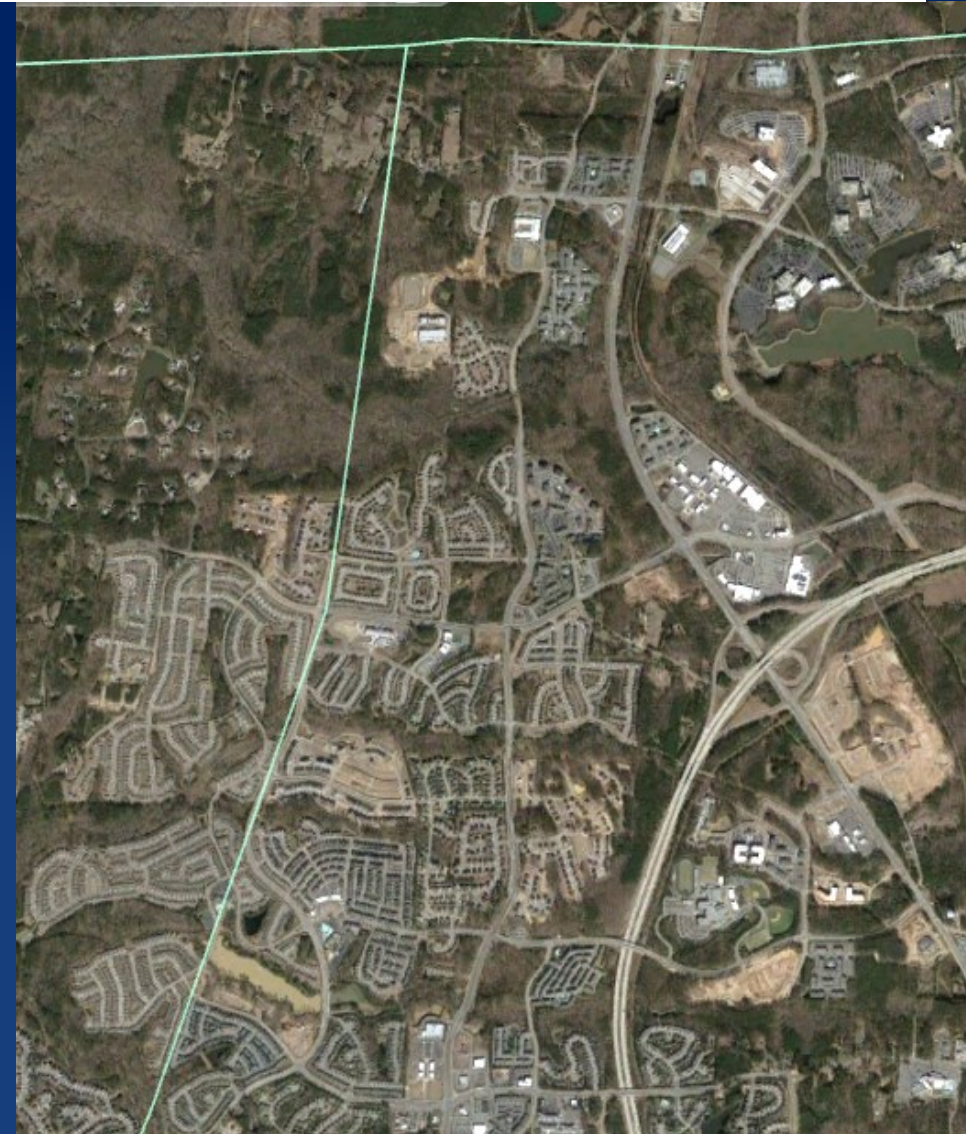
October 2008   February 2019
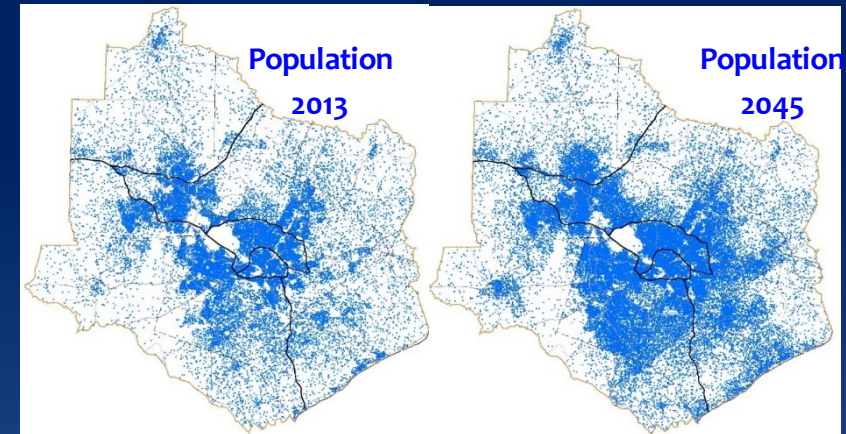
How: Beginning With The End In Mind

❖ **During 2021**

   ❑ Creating different future growth scenarios

   ❑ Allocating growth based on the scenarios

     • Population

     • **Jobs**

   ❑ Evaluating the differing impacts among scenarios
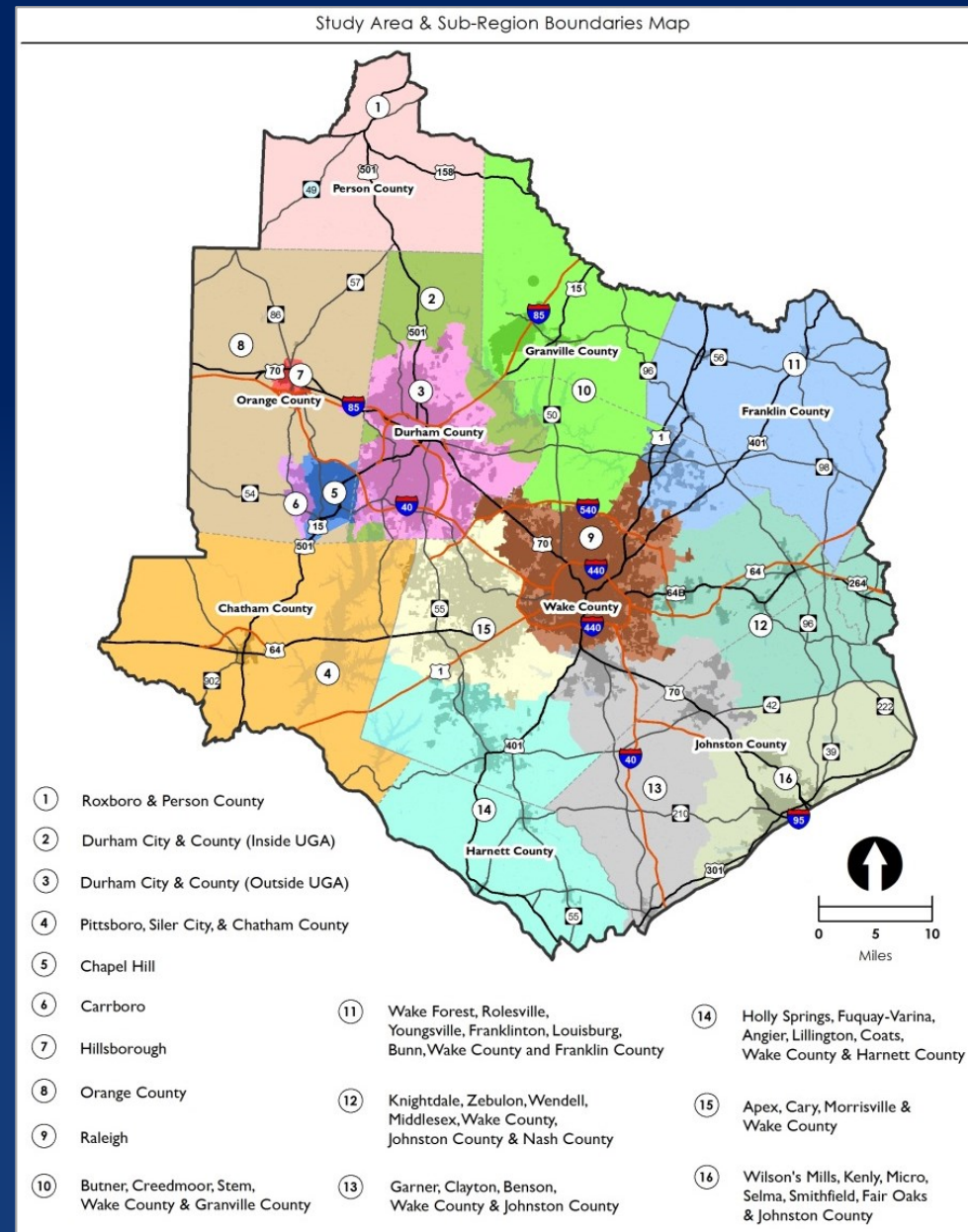
❖ **Late 2021 or Early 2022**

   ❑ 2050 MTP adopted by CAMPO and DCHC MPO
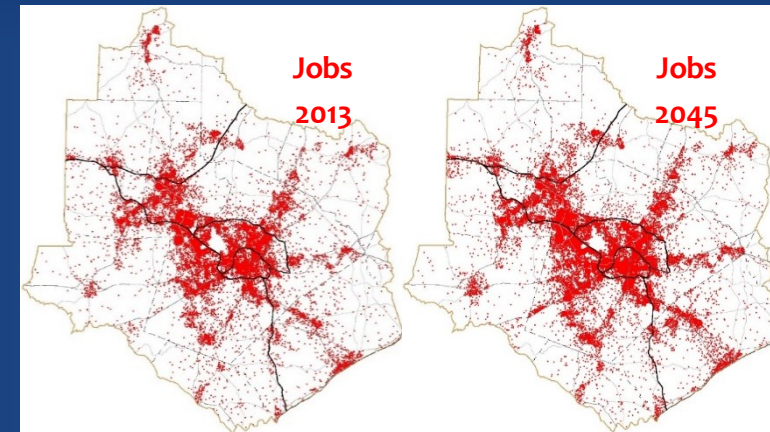
2045 MTP results: each dot is 50 jobs or people

How: the CommunityViz Growth Tool

❖ CommunityViz is a tool to understand growth capacities and allocate future growth

❖ It can be used to create future development scenarios and help understand their relative impacts

❖ It needs 5 basic inputs

Study Area & Sub-Region Boundaries Map

1. Roxboro & Person County
2. Durham City & County (Inside UGA)
3. Durham City & County (Outside UGA)
4. Pittsboro, Siler City, & Chatham County
5. Chapel Hill
6. Carrboro
7. Hillsborough
8. Orange County
9. Raleigh
10. Butner, Creedmoor, Stem, Wake County & Granville County
11. Wake Forest, Rolesville, Youngsville, Franklinton, Louisburg, Bunn, Wake County and Franklin County
12. Knightdale, Zebulon, Wendell, Middlesex, Wake County, Johnston County & Nash County
13. Garner, Clayton, Benson, Wake County & Johnston County
14. Holly Springs, Fuquay-Varina, Angier, Lillington, Coats, Wake County & Harnett County
15. Apex, Cary, Morrisville & Wake County
16. Wilson's Mills, Kenly, Micro, Selma, Smithfield, Fair Oaks & Johnston County

CommunityViz
Bringing Consistency to a Complex Situation

❖ Triangle Transportation Model Study Area

 ❑ 3,500 square miles

 ❑ 700,000 parcels

 ❑ 104,370 CommunityViz grid cells

❖ 3 MPOs

❖ 4 RPOs

❖ 16 Model Sub-Regions

❖ Local Governments Involved:

 ❖ 10 counties
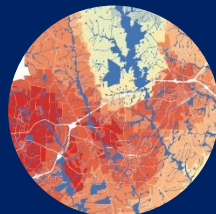
 ❖ 40+ cities & towns

What CommunityViz Needs To Create a Scenario

❖ The location of <u>features that constrain development</u>, such as water bodies, wetlands and stream buffers

❖ The <u>type of place</u> each parcel ***will become*** (and the intensity of each place type for each jurisdiction)

❖ The current <u>development status</u> of each parcel relative to its future use

❖ The factors that will influence how attractive each parcel is for development, termed <u>land suitability</u>
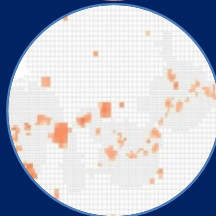
❖ The <u>types and amounts of growth</u> that will be allocated, termed "growth targets"

CommunityViz Local Guide Books & Look-Up Tables

www.tjcog.org → programs → transportation planning →
metropolitan planning organization support [scroll down to CommunityViz]

Scenario Framework

"Prediction is very difficult, especially if it's about the future."
-- Nils Bohr, Nobel laureate in Physics

Connect 2050 Scenario Matrix (example from 2045 MTP)

Development Foundation	Mobility Investment Foundation				
	Existing & Committed	Constrained	Moderate	Aspirational	Comprehensive Transport Plan
Existing or Underway	This cell is the base for all scenarios				
Existing Zoning		✓			
Community Plans			Community Plans Scenario		
Aspirational			✓	Aspirational Scenario	
Build-Out					If unlimited $ and capacity growth

Note: Green cells were scenarios analyzed in 2045 MTP; check-marked cells were considered for analysis, but not analyzed in detail.

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The Development Foundation
-- a focus on important trip origins and destinations --

Key Hubs

Hubs	Description	Examples
Anchors	Places with the highest concentrations of jobs and services, plus places with moderate intensity and an anchor institution that can influence mobility-based policy decisions	• Metropolitan CBDs • Major Universities • Medical Centers • Research Triangle Park
Mainstays	Places with regionally significant concentrations of jobs, either outright or in comparison to their surroundings	• Many mid-sized town and city centers • Some suburban centers, often along major transportation corridors

REINVEST Neighborhoods – equity centered places

RE	Race/Ethnicity – the degree to which a neighborhood is home to people who are Black, Indigenous or People of Color (BIPOC).
IN	Income – the degree to which people in the neighborhood live in households with lower annual incomes.
VE	Vehicles – the degree to which households in the neighborhood report having no vehicles available
ST	Status – the degree to which a neighborhood has a specific characteristic, e.g. the # of legally-binding, affordability-restricted (LBAR) housing units

Conversation Starters

1. What key mobility investments should be part of one or more scenarios?

2. If our transportation investment decisions are to avoid being "silo-ed," what are other policy issues that should be front and center in 2050 MTP scenario discussions?

3. What else should we be mindful of as we consider long term investments for mobility within the Triangle?

4. What is most important to measure as we compare scenarios?