

POLICY STEERING COMMITTEE RETREAT

ORANGE COUNTY TRANSIT PLAN UPDATE
BRIEFING MATERIALS

“TRANSIT 101”

“TRANSIT 101”

What is a transit plan and why does Orange County need one?

- In 2012, Orange County residents approved a half-cent sales tax (Article 43) used to fund improved transit service. **The tax requires that the County prepare a transit plan to distribute revenues generated by this tax.**
- The tax levy began in April 2013 and supported funding for the 2012 Orange County Bus and Rail Investment Plan (now called the **Orange County Transit Plan**)
- Orange County, GoTriangle, and the DCHC MPO **adopted a revised plan in 2017** updating the 2012 plan’s projects, services and financial assumptions
- The **discontinuation of the Durham-Orange Light Rail Transit** project in 2019 prompted the need for an update to the 2017 plan – this is the plan currently under development.
- Plan updates must be adopted by:
 - Orange County
 - DCHC MPO
 - GoTriangle

“TRANSIT 101”

How is transit funded in Orange County?

- **Four dedicated revenue streams** funding the local share of transit projects and services in Orange County’s Transit Plan
- These include:
 - **Article 43:** Half-Cent Sales and Use Tax
 - **Article 50:** 5% Vehicle Rental Tax
 - **Article 51:** Three-Dollar increase to GoTriangle Regional Vehicle Registration Fee
 - **Article 52:** Seven-Dollar County Vehicle Registration Fee (dedicated to funding increased costs of existing service in Orange County)

"TRANSIT 101"

What is Article 43?

- NC General Assembly ratified the **Congestion Relief and Intermodal Transport Fund Act** in 2009
- Allows Orange, Durham and Wake Counties to generate new revenue for public transportation through a one-half cent sales tax (**Article 43 sales tax**) that can be levied in each county if approved by public referendum.
- Voters in Orange County approved the referendum in 2012.
- A regional transportation public authority, known today as **GoTriangle**, was created to help administer these revenues and work on public transit service projects involving all three counties.
- The Orange County Bus and Rail Investment Plan (2012) was created to help expand transit services in Orange County
- The revenues from Article 43 are allocated by the North Carolina Department of Revenue to GoTriangle, which then allocates a portion of that money to Orange County (see next slide) through reimbursements for **projects that either offer new public transit services or expand existing ones.**

“TRANSIT 101”

What is the Interlocal Implementation Agreement?

- When the original transit plan was adopted in 2012, Orange County entered an Interlocal Implementation Agreement with GoTriangle and the DCHC MPO to provide for implementation and oversight of the transit plan.
- The Interlocal Implementation Agreement establishes a Staff Working Group (SWG) including representatives from Orange County, GoTriangle, and DCHC MPO.
- The SWG reviews implementation progress of the plan and supports updates to the Plan at least every four years, or due to identified changes to costs or revenues that are significant enough to require a plan update. The first update was in 2017; the current project is the second update.
- The agreement also **allocates available Tax District Revenues according to proportions established in the Interlocal Implementation Agreement** — 64% to Chapel Hill Transit, 24% to GoTriangle, and 12% to Orange Public Transportation

“TRANSIT 101”

What federal funding assumptions have been made related to the use of Transit District Revenues, in past plans?

- 2012 plan assumed operations and maintenance of expansion bus services would be funded by a combination of formula-driven federal and state grants as well as transit fares.
- 2017 plan assumes less availability of federal funds and that Tax District Revenues will fund 90 percent of O&M costs for expansion bus services (for Chapel Hill Transit and Orange County Public Transportation)
- 2012 plan assumed bus purchases and facilities would receive 80% of funding from discretionary federal grants (consistent with prior experience)
- To address changes in **federal funding formulas**, 2017 plan reduces assumed share of federal revenues available for bus capital projects from 80% approximately 44%, meaning Tax District Revenues must fund a higher share of these capital projects (leaving less for O&M improvements)

“TRANSIT 101”

What state funding assumptions have been made related to the use of Transit District Revenues, in past plans?

- **North Carolina Strategic Transportation Investments Law (2013):** created a 10% cap on the use of “regional tier” funding for transit projects in any 7-year Transportation Improvement Program, limiting the availability of state revenues
- 2017 plan assumed no state revenues available for bus capital projects (100% of funding for new/replacement vehicles comes from Transit District Revenues)

"TRANSIT 101"

What other assumptions have been made in past plans?

- The 2012 plan included projects planned to be funded within the first five years as well as transit needs that likely could not be funded with the Tax District Revenue
- Transit Plan updates provide continued support for already-implemented services funded by Transit District Revenues
- Transit District Revenues fund new services (both new routes and increased service frequency on existing routes)
- Bus hours projected for each agency in past plans have been based on:
 - Available Tax District Revenues each year
 - Hourly cost of providing bus service (specific to each agency)
 - Inflation rate of hourly cost
 - Share of operating costs funded by Tax District Revenue (specific to each agency)

“TRANSIT 101”

What are the primary factors influencing the “amount” of transit service that can be funded?

- Available Tax District Revenues each year
- Hourly cost of providing bus service (specific to each agency)
- Inflation rate of hourly cost
- Share of operating costs funded by Tax District Revenue (specific to each agency)
- State, federal, farebox, or other local funds (non-Tax District Revenues) that can also support service expansion

"TRANSIT 101"

What plans influence transit in Orange County?

- 2050 Metropolitan Transportation Plan (MTP) (Durham-Chapel Hill-Carrboro Metropolitan Planning Organization) (transit projects MUST be included in the MTP to be considered for state and/or federal funding)
- BGMPO Metropolitan Transportation Plan 2045 (2020)
- Orange County Transit Plan (as updated, 2017)
- Chapel Hill Transit Short Range Transit Plan (2020)
- GoTriangle Short Range Transit Plan (2018)
- Orange County 2030 Comprehensive Plan (2008)
- Chapel Hill 2020 Comprehensive Plan

(See RCO pages 21-31 for a full list of plans influencing transit system and investment)

“TRANSIT 101”

What are the existing transit goals in Orange County?

2012 and 2017 Transit Plan Goals

- Both plans, as adopted by the governing boards of Orange County, DCHC MPO, and GoTriangle, featured five goals:
 1. Improving overall mobility and transportation options
 2. Providing geographic equity
 3. Supporting improved capital facilities
 4. Encouraging transit-supportive land use and
 5. Providing positive impacts on air quality

“TRANSIT 101”

Who are the transit service providers in Orange County?

Chapel Hill Transit: a multijurisdictional agency formed by a partnership of the Towns of Chapel Hill, Carrboro, and UNC-CH; provides “fare-free” regular and express routes and demand response service in Chapel Hill, Carrboro, and UNC-CH campus areas; also provides regional express bus service to Hillsborough in cooperation with GoTriangle

Orange County Public Transportation: county agency providing fixed route and demand response community transportation services to all residents of unincorporated Orange County, the Town of Hillsborough, Efland, and a portion of the City of Mebane with destinations within and beyond Orange County’s borders; also provides circulator service within Hillsborough (in cooperation with the Town of Hillsborough), midday service connecting Chapel Hill to Hillsborough, and connections to Cedar Grove in northern Orange County

GoTriangle: a regional transit agency providing regional commuter express and demand response service connecting Wake, Durham, and Orange counties

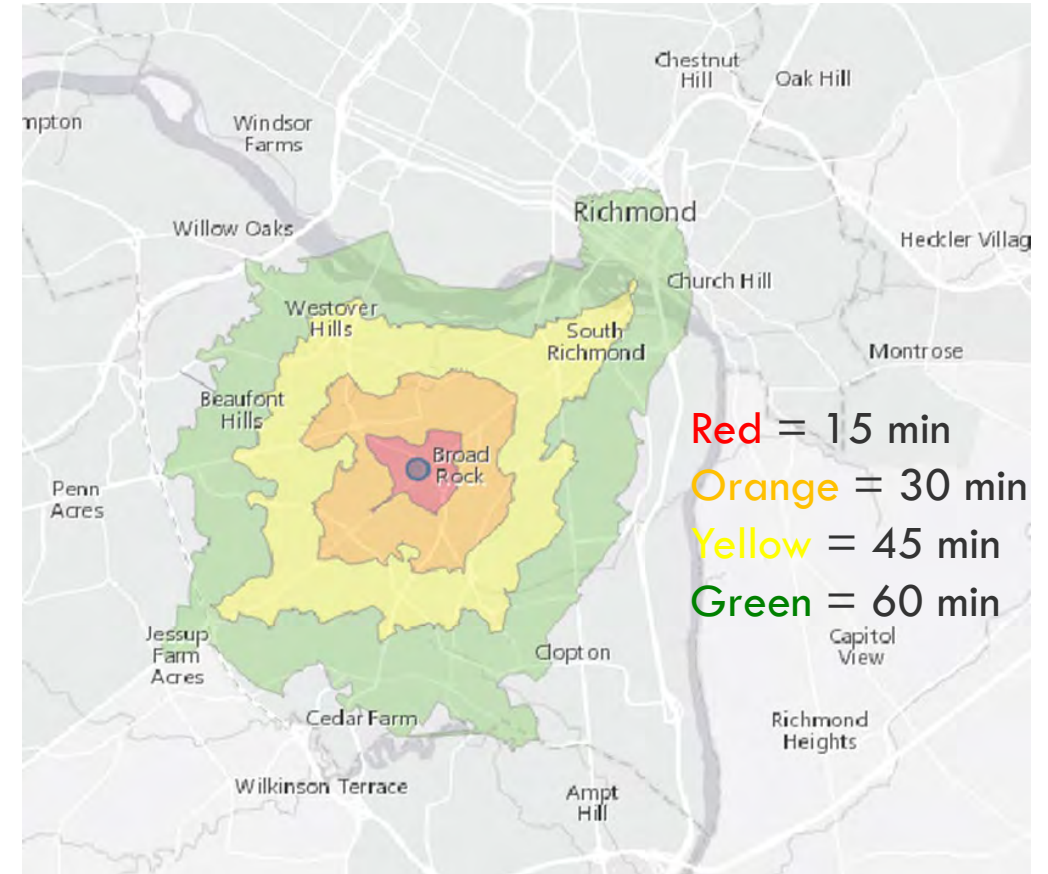
Piedmont Authority for Regional Transit (PART): provides longer distance service between Greensboro, NC, and UNC-CH Hospitals with several stops in Alamance County

“TRANSIT 101”

What makes transit “work?”

- Transit provides **access** – the ability to reach more opportunities in less time.
- Transit will only be successful if it is **useful**.
- Transit is most useful when it:
 - Provides highly frequent, all-day service
 - Forms a connected network
 - Provides access with reasonable speed and reliability
 - Has sufficient capacity and
 - Follows patterns of density, walkability and linearity.
- Frequency = higher service productivity (i.e. get more bang for your buck)

Where can I be, soon?



"TRANSIT 101"

Where does transit succeed?

In terms of ridership and freedom/accessibility?



+ Many people and jobs are within walking distance of transit.



- Fewer people and jobs are within walking distance of transit.

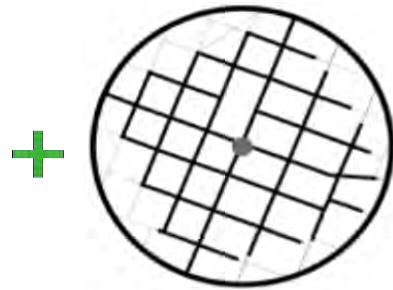
DENSITY

How many people are going to and from the area around each stop?

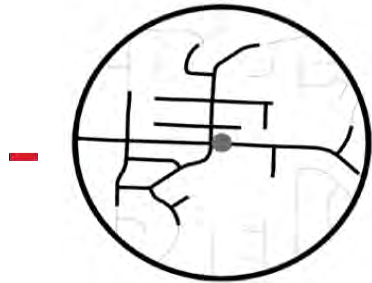
"TRANSIT 101"

Where does transit succeed?

In terms of ridership and freedom/accessibility?



The dot at the center of these circles is a transit stop, while the circle is a 1/4 mile radius. The whole area is within 1/4 mile, but only the black-shaded streets are within a 1/4 mile *walk*.



+ It must also be safe to cross the street at a stop. You usually need the stops on both sides for two-way

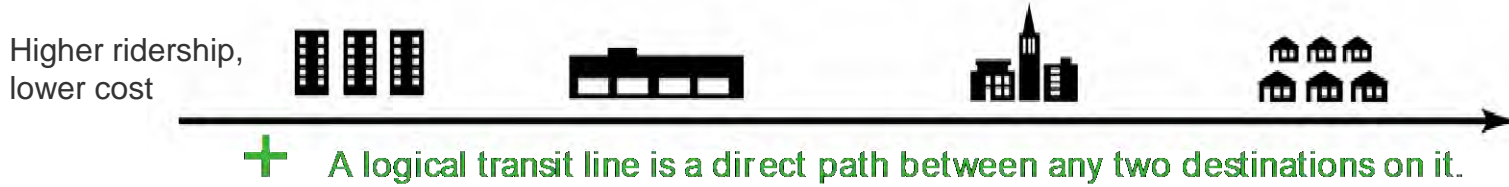
WALKABILITY

Can the people around the stop walk to the stop?

"TRANSIT 101"

Where does transit succeed?

In terms of ridership and freedom/accessibility?



LINEARITY

Can transit run in straight lines that are useful to through-riders?



Adapted from Jarrett Walker + Associates

"TRANSIT 101"

Where does transit succeed?

In terms of ridership and freedom/accessibility?



+ Short distances between many destinations are faster and cheaper to serve.



- Long distances between destinations means a higher cost per passenger.
(Distance-based fares can compensate in part.)

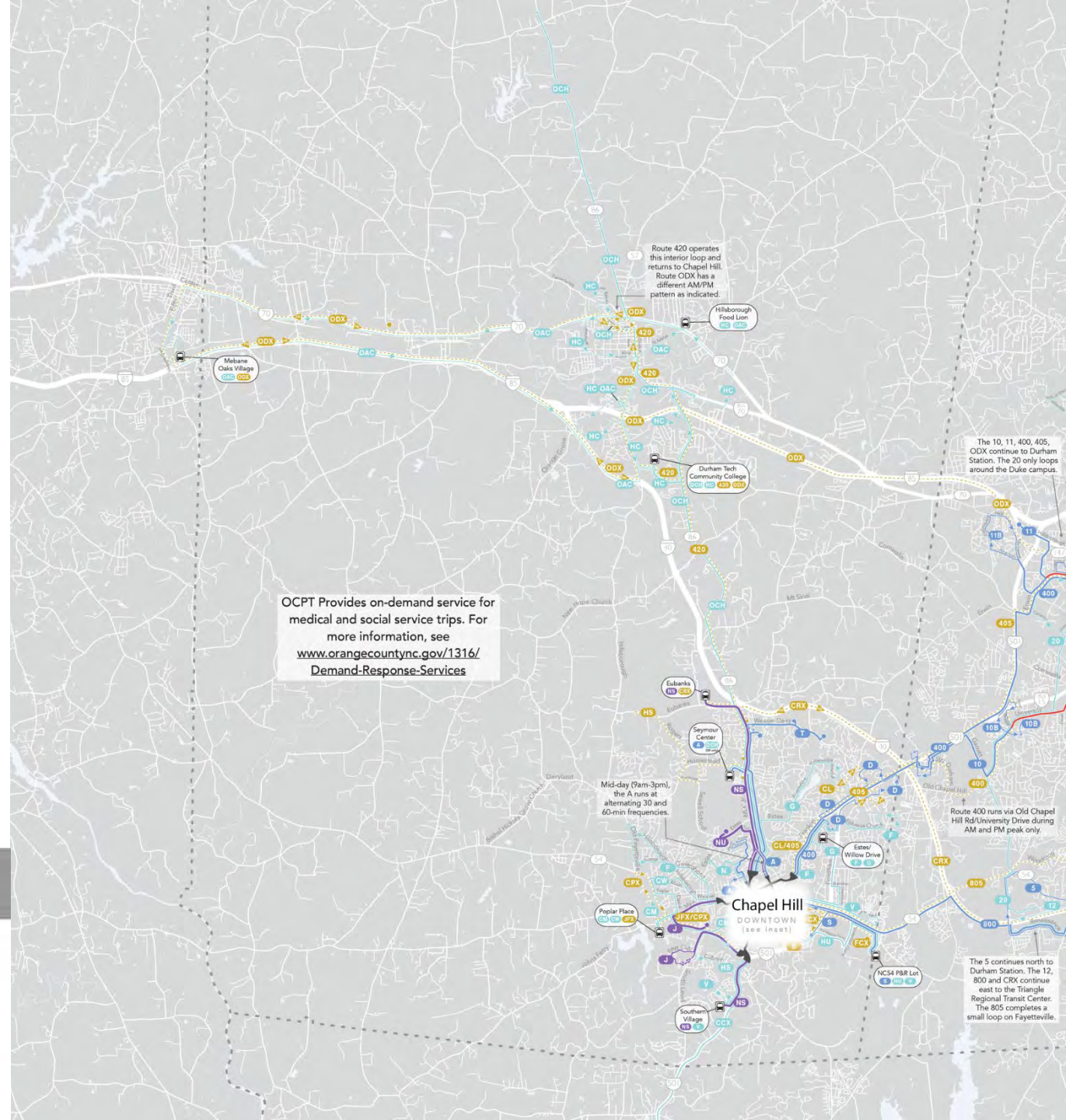
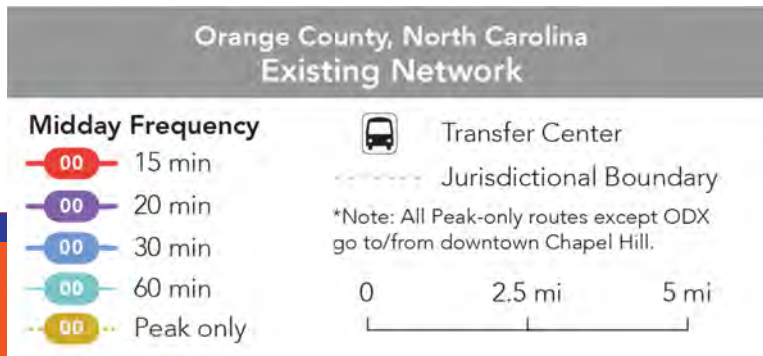
PROXIMITY

Does transit have to cross long low-ridership gaps?

EXISTING TRANSIT SERVICE PERFORMANCE AND DEMAND

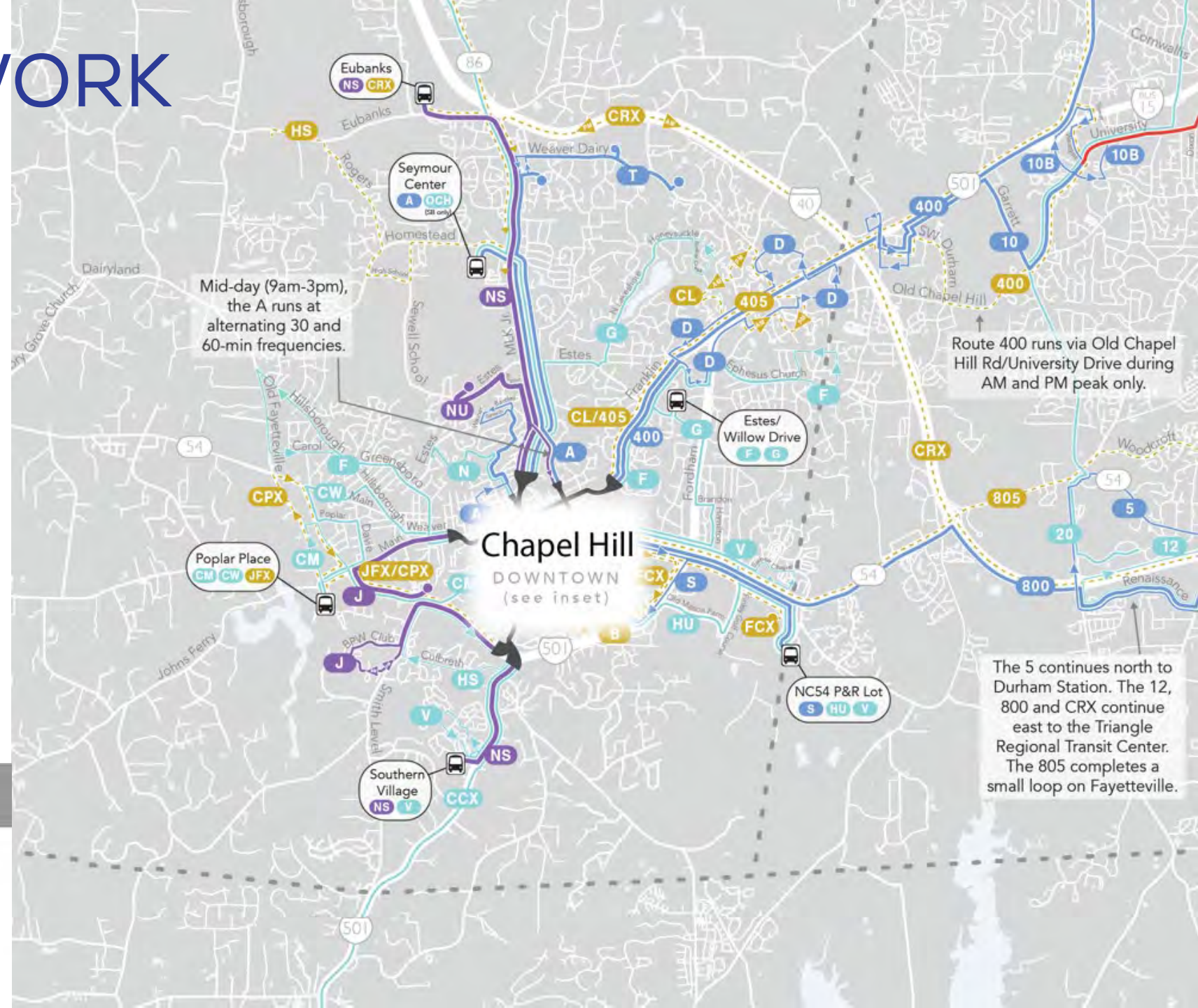
EXISTING NETWORK

- Most service is in Chapel Hill and Carrboro
 - Because that's where most people and jobs are
 - And they pay for most service
- Remainder of county only has
 - Hourly service on three fixed routes (OCH/420, HC, OAC)
 - Peak service on one route (ODX)
 - On Demand Services for specific groups and/or at high cost



EXISTING NETWORK

- Most service is in Chapel Hill and Carrboro
 - 80% of County jobs
 - 57% of County residents
 - Highest densities in the county
 - 15/501 and 54 corridors are major regional links

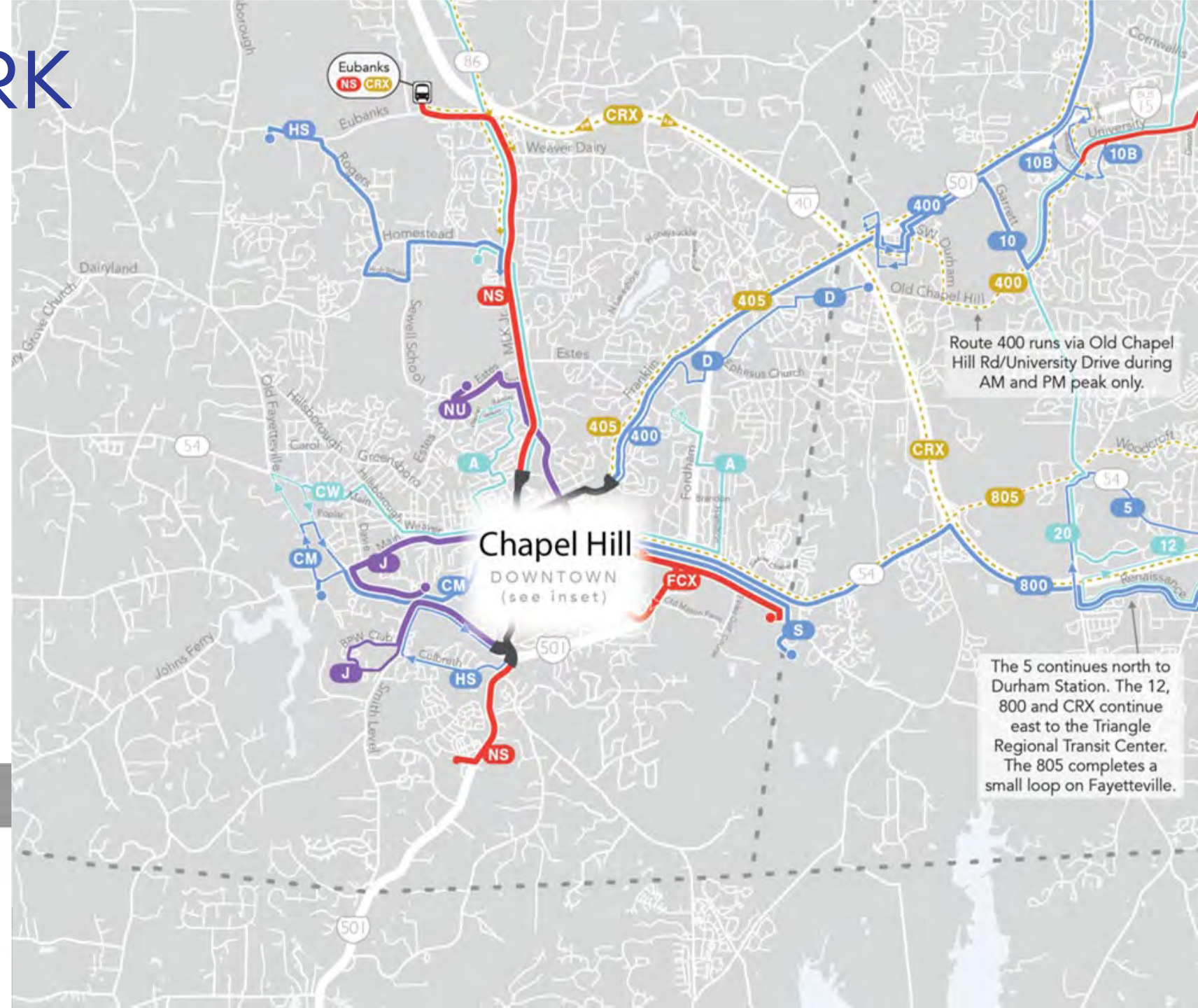


Orange County, North Carolina
Existing Network

Midday Frequency	Transfer Center
15 min	Jurisdictional Boundary
20 min	<i>*Note: All Peak-only routes except ODX go to/from downtown Chapel Hill.</i>
30 min	0 2.5 mi 5 mi
60 min	
Peak only	

NEW NETWORK

- Revised Network
- Launching now
 - Simpler
 - Concentrated service into fewer routes
 - More frequency on key corridors



Route 400 runs via Old Chapel Hill Rd/University Drive during AM and PM peak only.

The 5 continues north to Durham Station. The 12, 800 and CRX continue east to the Triangle Regional Transit Center. The 805 completes a small loop on Fayetteville.

Orange County, North Carolina Existing Network

Midday Frequency

- 15 min
- 20 min
- 30 min
- 60 min
- Peak only



Transfer Center

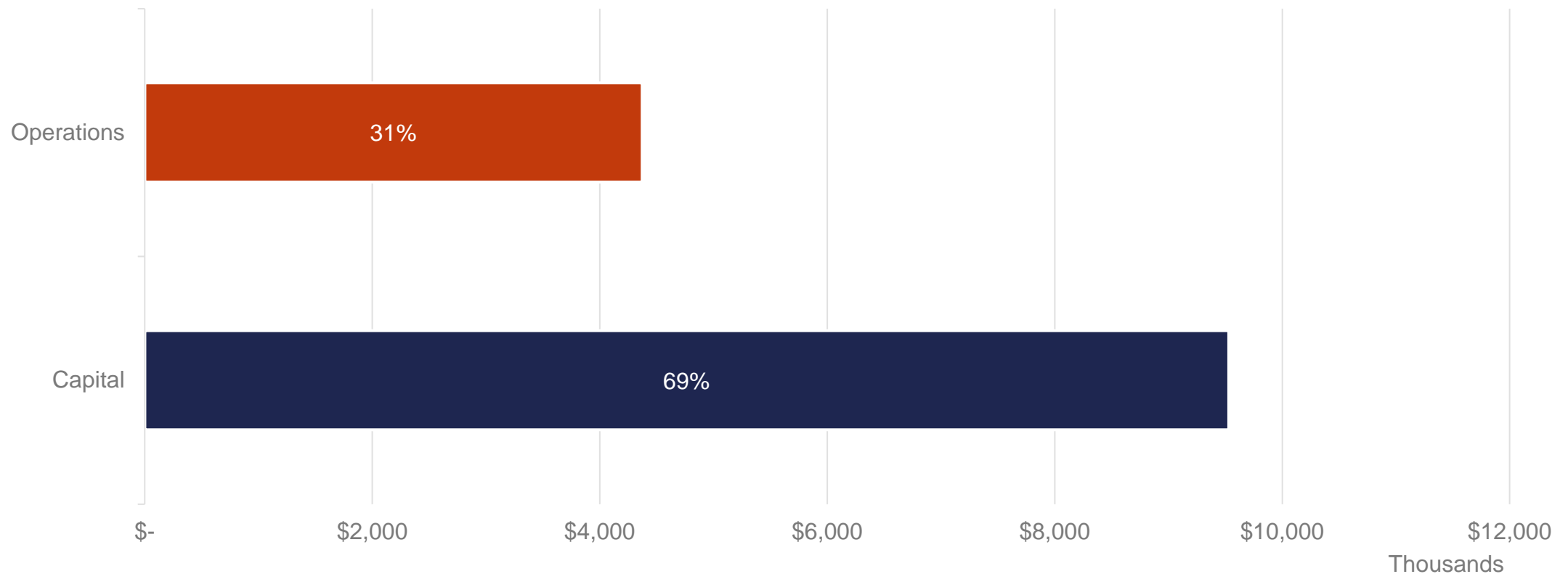
Jurisdictional Boundary

*Note: All Peak-only routes except ODX go to/from downtown Chapel Hill.

0 2.5 mi 5 mi

ORANGE COUNTY TRANSIT PLAN BUDGETED FUNDING (FY20)

OCTP FY20 Adopted Budget



CAPITAL VERSUS OPERATING COSTS

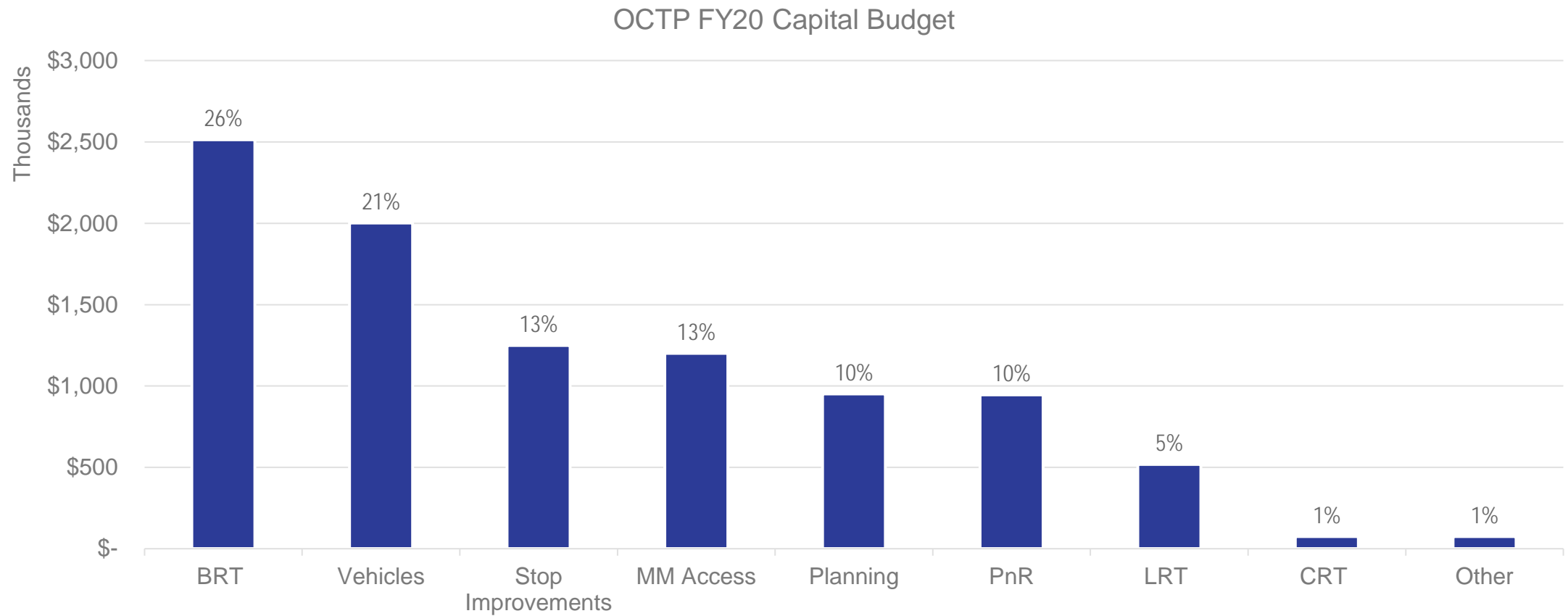
Operating

- Provides the actual transit “service”
- Is hard to fund from other sources

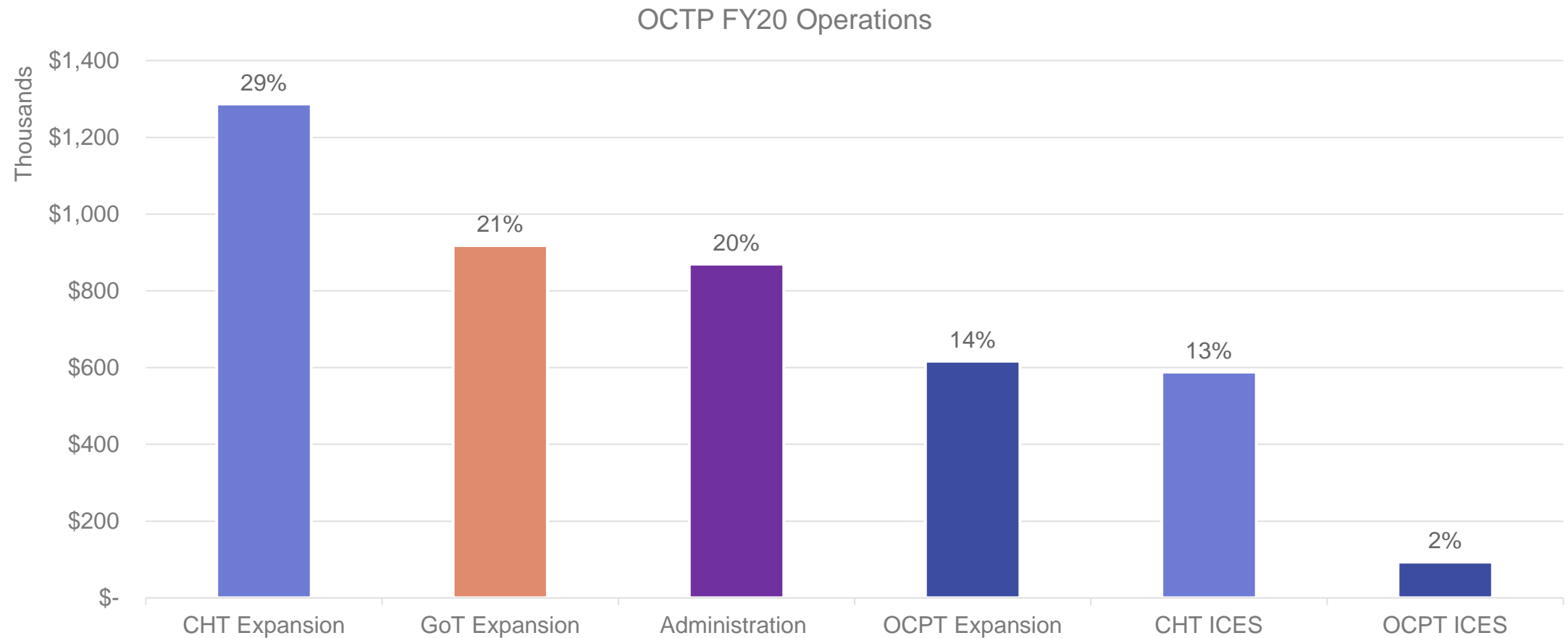
Capital

- Necessary for long-term service provision (vehicles, garages)
- Can leverage other funding sources for high impact
- Can improve operating cost or service levels
 - speed and reliability
- Can build ridership
 - sidewalk improvements, shelters
- Highly visual

WHERE ARE CAPITAL FUNDS GOING?










WHERE ARE OPERATING FUNDS GOING?

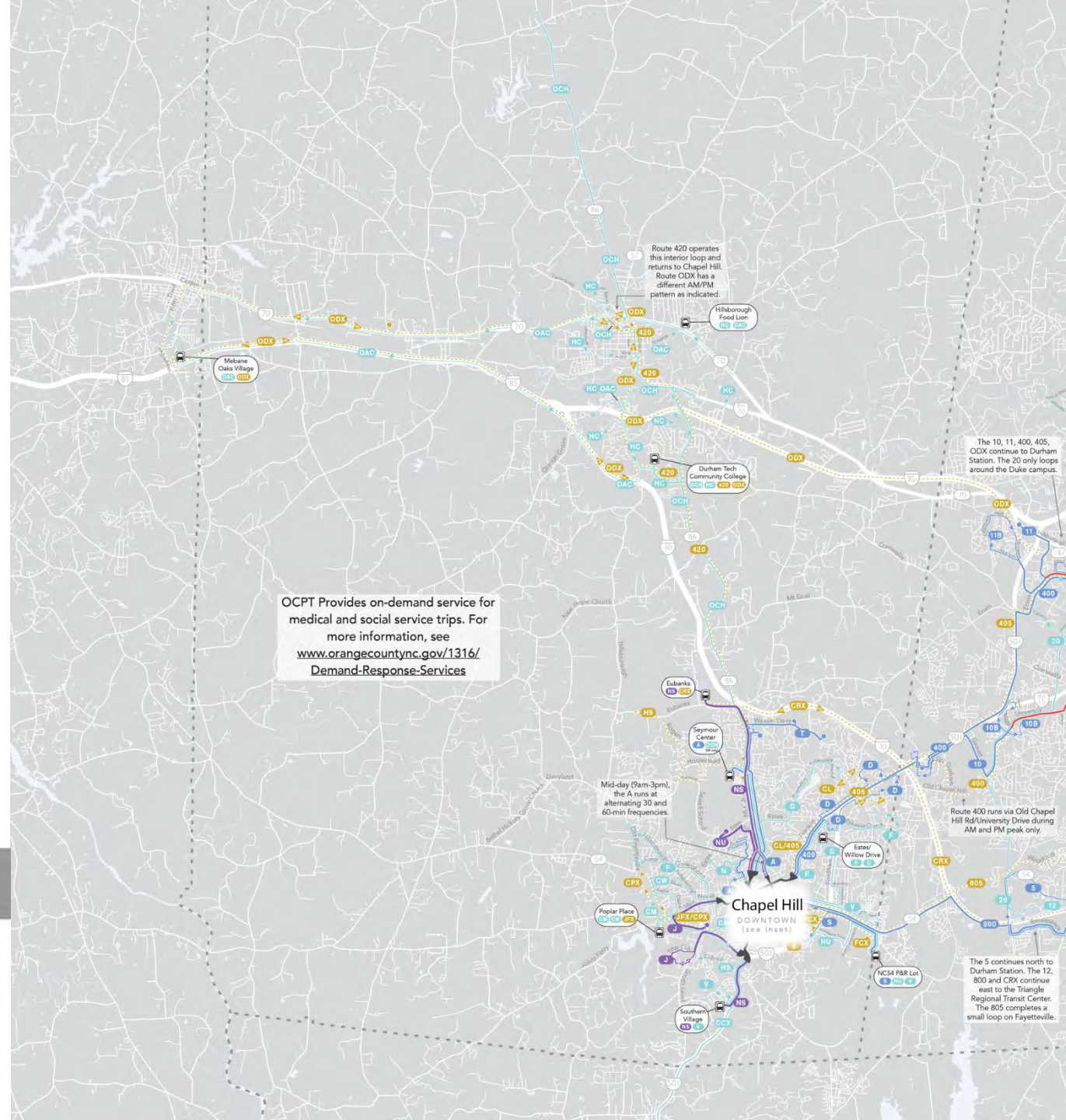


EXISTING NETWORK

- Only 10% of the service hours on this map are paid for by the Orange County Transit Plan.

Orange County, North Carolina
Existing Network

	15 min		Transfer Center
	20 min		Jurisdictional Boundary
	30 min	*Note: All Peak-only routes except ODX go to/from downtown Chapel Hill.	
	60 min	0	2.5 mi
	Peak only	5 mi	



ADDITIONAL COVERAGE SERVICE

- Orange County Public Transportation provides on-demand, dial-a-ride type service under the following programs:
 - Medicaid Transportation Service (Non-Emergency Medical Transportation)
 - Elderly and Disabled Medical Transportation (EDTAP)
 - EMPL (Department of Social Service: Work First)
 - Rural General Public (RGP)
 - Origin or destination must be in non-urbanized area, high fare (\$12.75)
- OCPT will be piloting a more expansive on-demand service

PRODUCTIVITY FOR CHT AND GOTRIANGLE

Most CHT services are highly productive

- Average more than 40 boardings per hour, around \$3 per boarding.
- Being “fare free” helps

GoTriangle Services vary in productivity and cost per rider

- Route 400, 405, 800, and 800S average
 - 16-23 boardings per hour
 - \$5-7 in cost per boarding
- ODX, CRX, and 420 are the least productive and highest cost per rider
 - Average 11 to 13 boardings per hour
 - Average \$8.57 to \$10.18 in cost per riders

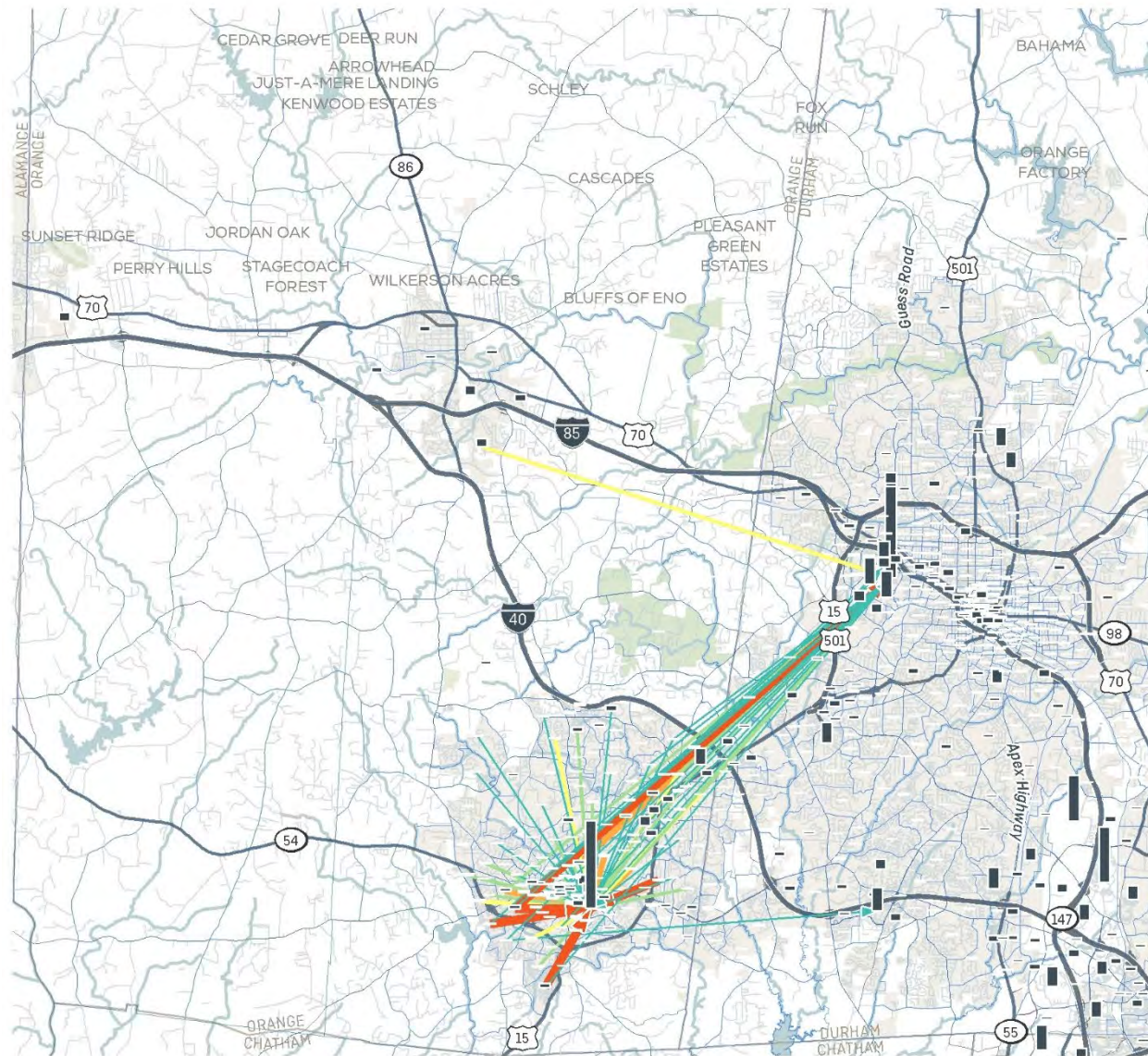
OCTP PRODUCTIVITY

OCTP Services have lower productivity and some very high cost per rider

- HC: 7 boardings per hour, \$8.39 per boarding
- OCH: 1.7 boardings per hour, \$35.17 per boarding
- OAC: 0.9 boardings per hour, \$67.77 per boarding
- **Demand responsive productivity is about 2 boardings per hour:**
 - This equates to about \$30 per boarding.

EXISTING TRANSIT TRIP MAKING POTENTIAL

Origin-destination pairs with the highest transit trip-making potential under existing conditions for trips **originating** in Orange County



LEGEND

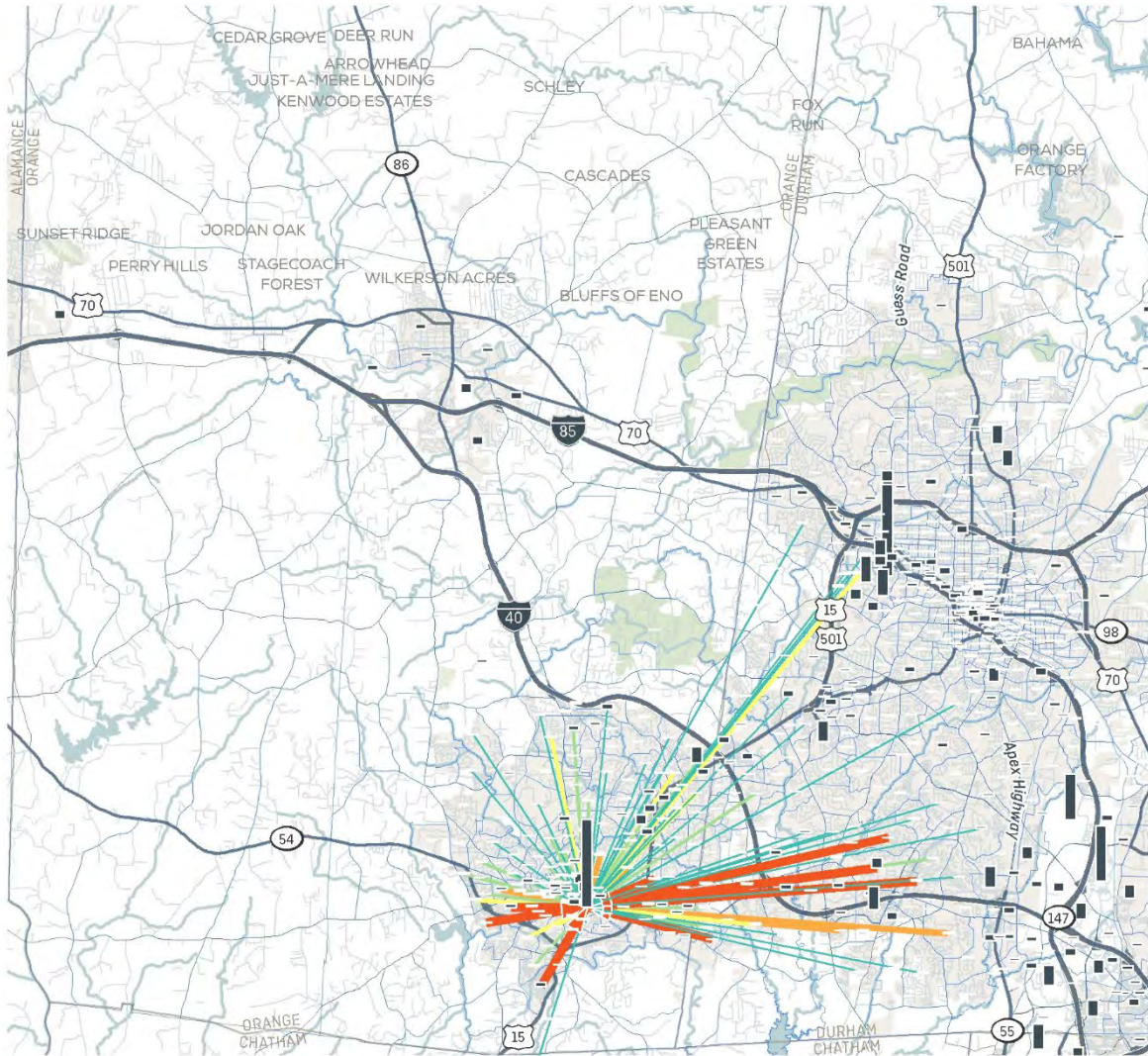
- From Orange County TAZs
Minimum potential=100
- 100 - 150
 - 151 - 200
 - 201 - 250
 - 251 - 300
 - More than 300

- TAZs
- 8,100
 - bar height = number of Jobs



EXISTING TRANSIT TRIP MAKING POTENTIAL

Origin-destination pairs with the highest transit trip-making potential under existing conditions for trips **destined to** Orange County



LEGEND

To Orange County TAZs

Minimum Potential = 100

- 100 - 150
- 151 - 200
- 201 - 250
- 251 - 300
- More than 300

TAZs

8,100

bar height = number of Jobs

EXISTING TRANSIT TRIP MAKING POTENTIAL: TAKEAWAYS

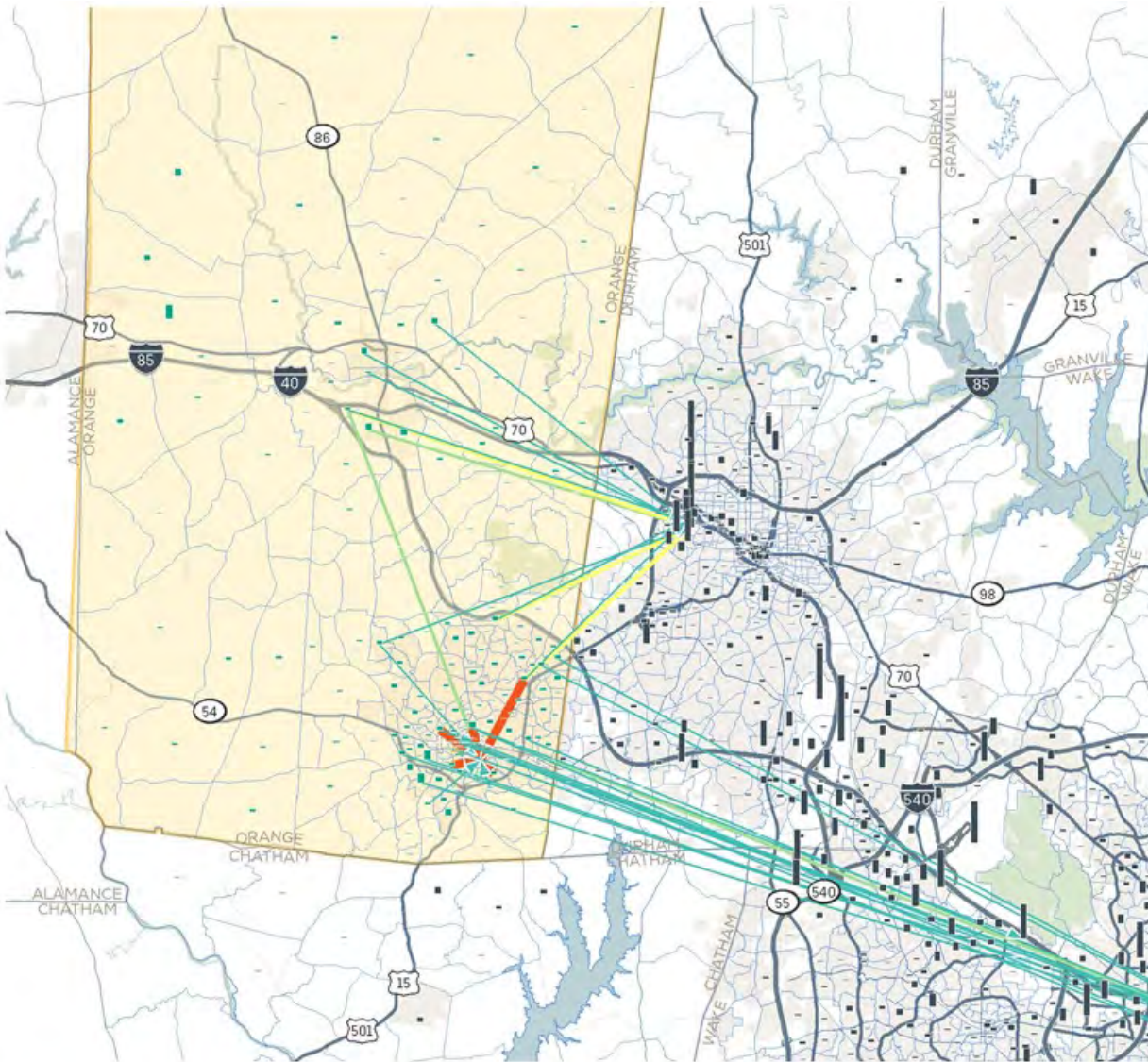
- Under current conditions, westward-oriented routes are unlikely to register among the connections with high trip-making potential due to the relatively low densities of housing and jobs compared to connections to/from Durham County
- Within Orange County, analysis highlights transit trip-making opportunities in the urbanized areas of Chapel Hill and Carrboro primarily, especially to/from the downtown areas to nodal developments like Southern Village, the Blue Hill District, and Carraway/Weaver Dairy Road.

UNDERSERVED TRANSIT TRIP OPPORTUNITIES

- Adaptations to the trip-making potential analysis can identify origin-destination pairs that present numerous trip-making opportunities by car but few by transit.
- Pairs with high auto trip-making potential but low transit trip-making potential represent underserved origin-destination pairs.
- These indicate opportunities to better connect residents to jobs with transit services that offer travel times that are competitive with those available by car.

UNDERSERVED TRANSIT TRIP OPPORTUNITIES

Origin-destination pairs with high auto trip-making potential but low transit trip-making potential
destined to Orange County



LEGEND

From Orange County TAZs

Transit OD Potential Index (min. 15)

- 15 - 25
- 26 - 35
- 36 - 45
- 46 - 55
- Over 55

Orange County

TAZs in Orange County

970
bar height = number of households

TAZs outside Orange County

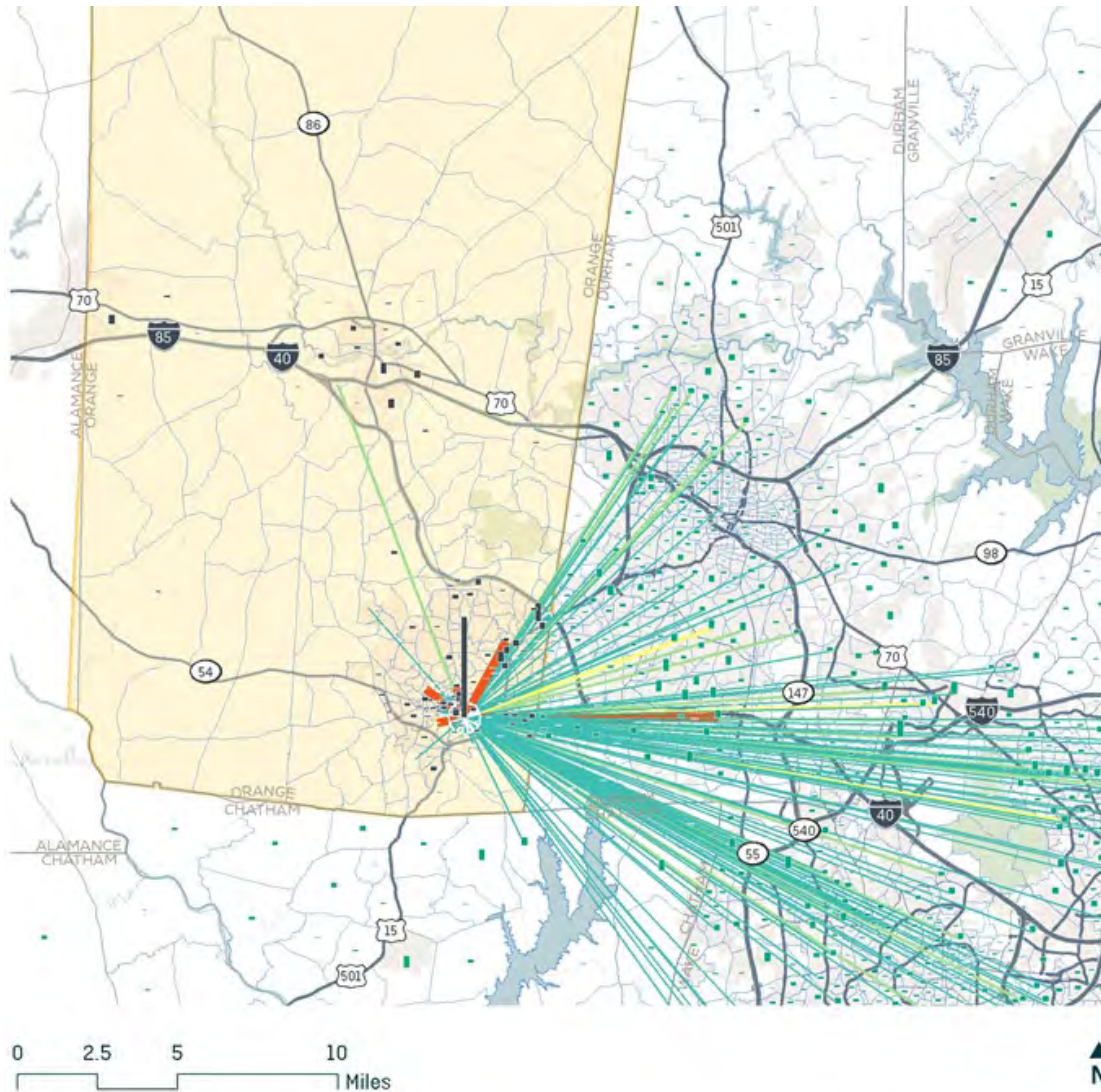
6,800
bar height = number of Jobs

0 2.5 5 10
Miles



UNDERSERVED TRANSIT TRIP OPPORTUNITIES

Origin-destination pairs with high auto trip-making potential but low transit trip-making potential
originating in Orange County



LEGEND

To Orange County TAZs

Transit OD Potential Index (min. 15)

- 15 - 25
- 26 - 35
- 36 - 45
- 46 - 55
- Over 55

OrangeCounty

TAZs in Orange County

6,800

bar height = number of Jobs

TAZs outside Orange County

970

bar height = number of households

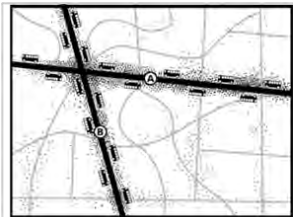
CONCEPTUAL SCENARIOS

BACKGROUND INFORMATION

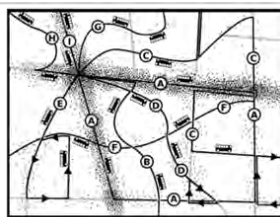
- Two 2040 transit spending scenarios: A and B
- Both scenarios incorporate different combinations of projects addressing a range of transit priorities
- Both assume continued investment in currently supported services (e.g., Hillsborough Circulator, Increased Cost of Existing Services)
- Both assume roughly 2/3 of expected 2040 budget spent on operations; remaining 1/3 reserved for capital expenditures (i.e., vehicle acquisition) and future inter-county joint ventures
- Feedback (public, PSC, service providers) informs development of the final “preferred” or “balanced” scenario

SCENARIO "A"

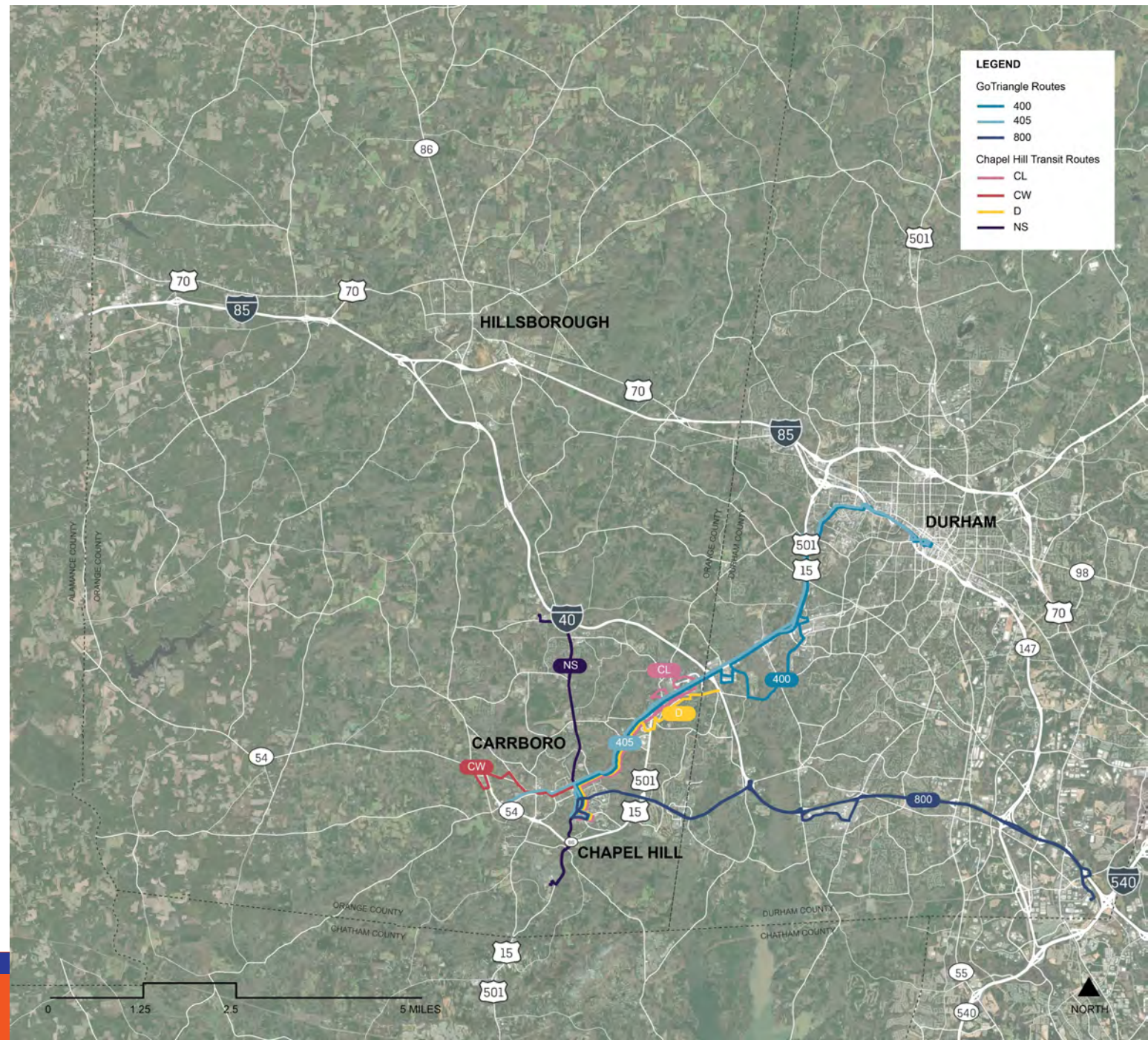
Invest funds to primarily gain high ridership by creating a high frequency transit network that many people find useful



Ridership Goal



Coverage Goal



SCENARIO "A"

Key Features:



Increase service to at least every 15 minutes on current high ridership routes

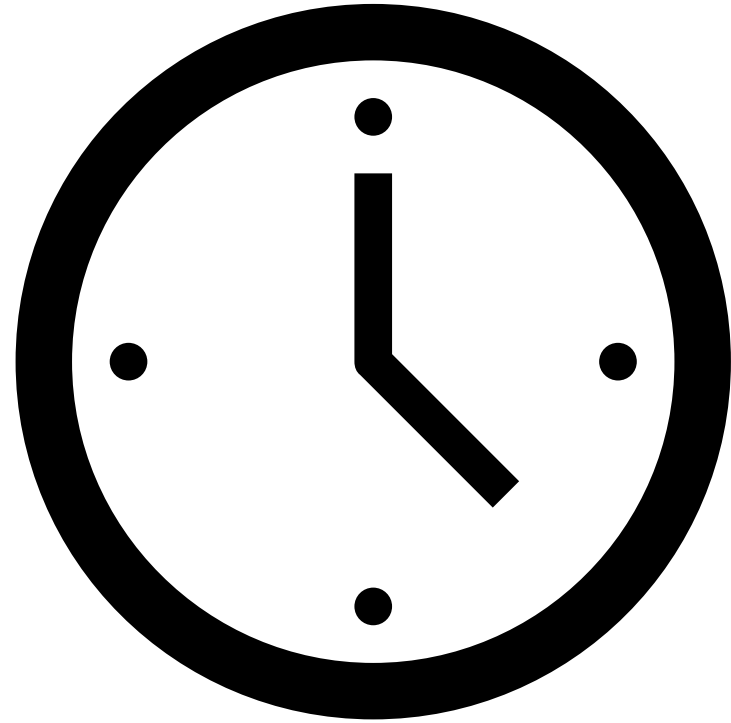


Increase evening and weekend service, extending the time when useful transit is available

SCENARIO "A"

Increase service to at least every 15 minutes on current high ridership routes

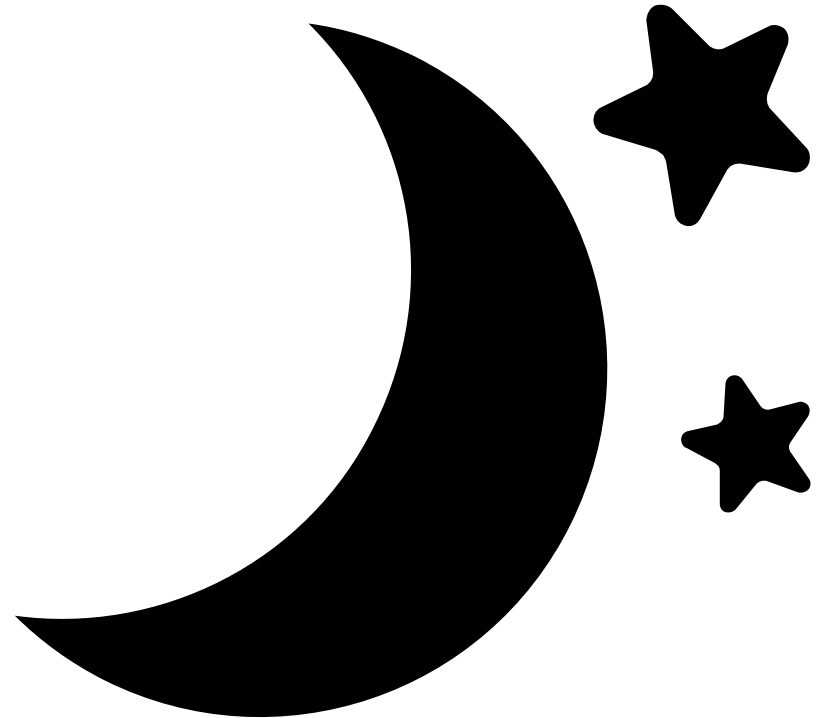
- Create effective 15-minute service on the 400/405 by scheduling the two routes to offset each other
- Increase to service on the 800 to run every 15-min at times when it currently runs every 30 minutes
- Improve weekday midday service to 30 minutes on the CW
- Improve morning peak frequency on the NS to every 6 minutes



SCENARIO "A"

Increase evening and weekend service, expanding the time when useful transit is available

- Expand evening and Sunday service on the 400/405 to match the service pattern on the 100
- Improve weekend and evening service on the 800.
- Add weekend service to the CL.
- Extend service on the D to Patterson Place and provide Saturday service until 9 PM.
- Improve weekend service on the NS: Saturday service until 11 PM and Sunday service until 9 PM



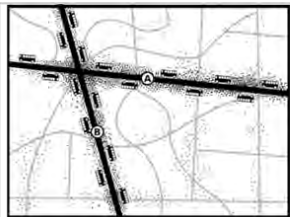
SCENARIO "A" Projects/ Service

Transit Project/ Service	Net New Rev Hours	Cost	Cost in 2040
<input checked="" type="checkbox"/> 400/405: Schedule effective 15-minute service	3,825	\$511,403	\$837,993
<input checked="" type="checkbox"/> 400/405: Evening service to match 100 service profile - 30 min Sun and increased evening service	1,947	\$260,314	\$426,555
800: Improved weekend and night service	2,000	\$236,000	\$386,713
800: Increasing to 15-min service whenever it's currently 30	11,678	\$1,377,945	\$2,257,923
CL: Add weekend service.	1,300	\$153,400	\$251,364
CW: Improve weekday midday service to 30 minutes.	1,500	\$177,000	\$290,035
<input checked="" type="checkbox"/> D: Extend service to Patterson Place and provide Saturday service until 9 PM	5,300	\$625,400	\$1,024,791
NS: Improve morning peak frequency to every 6 minutes. Provide Saturday service until 11 PM and Sunday service until 9 PM.	2,300	\$271,400	\$444,721
Total Operations Cost		\$5,920,094	67.5%
Budget Remaining for Capital		\$2,854,953	32.5%
Total 2040 Transit Budget		\$8,775,047*	

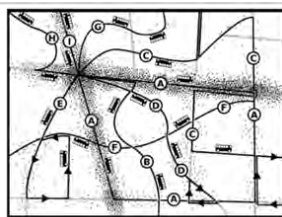
Notes: Revenue hours reflect that half of the 400/405 is paid for by Durham. *GoTriangle's expected 2040 budget is based on the expected and anticipated revenues minus expected 2040 capital and operating expenses in 2040 dollars.

SCENARIO "B"

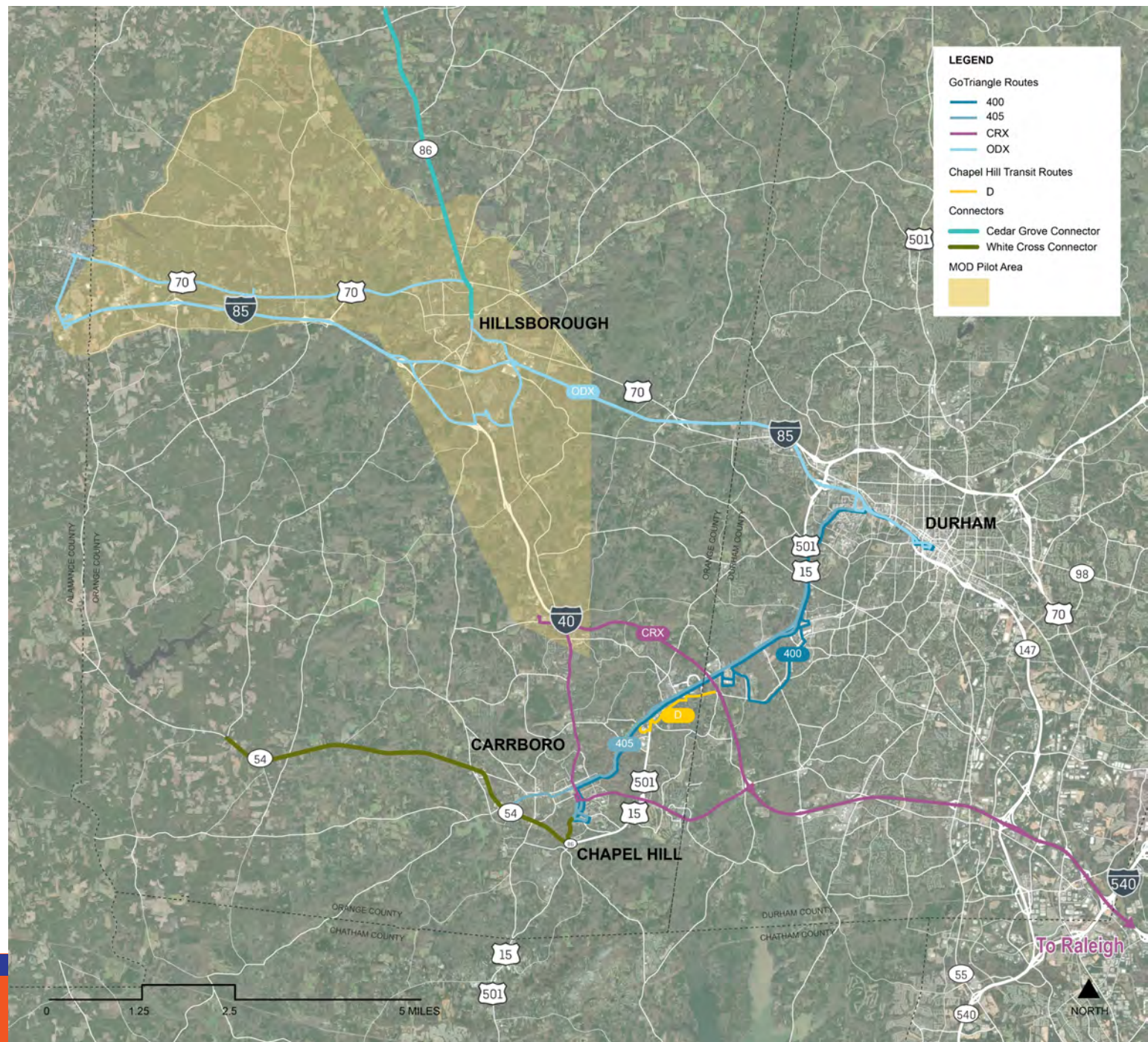
Invest funds to serve a wide geographic area and ensure that most county residents can use transit, even if the transit available to them is infrequent



Ridership Goal



Coverage Goal

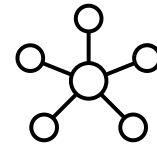


SCENARIO "B"

Key Features:



Make regional bus services between cities in the region more useful



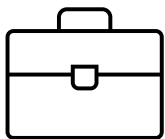
Connect rural areas through connector and vanpool services



Expand mobility-on-demand service



Invest in a few high-frequency services



Expand peak commuter services to Durham

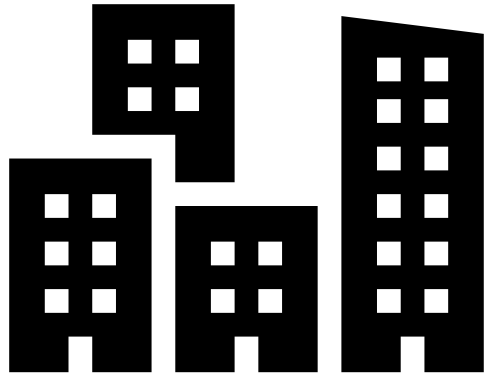


Select expansion of evening service

SCENARIO "B"

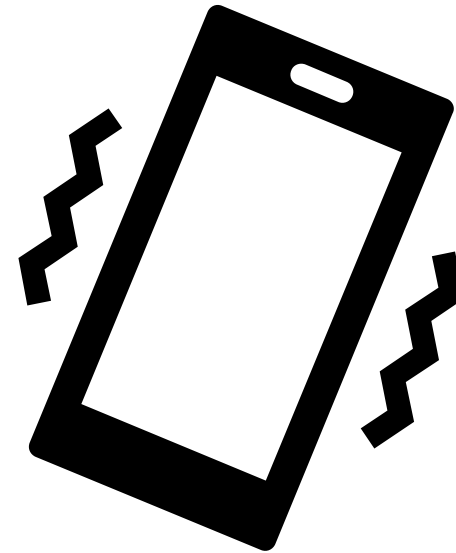
Make regional bus services between cities in the region more useful

- Add hourly weekday midday service on the CRX and the ODX



Expand mobility-on-demand service

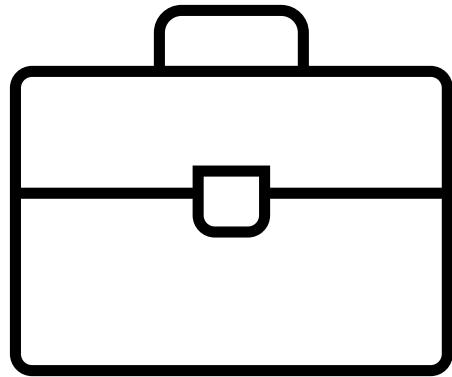
- Provide Mobility-on-Demand services: 5 AM-10 PM, 7 days/week



SCENARIO "B"

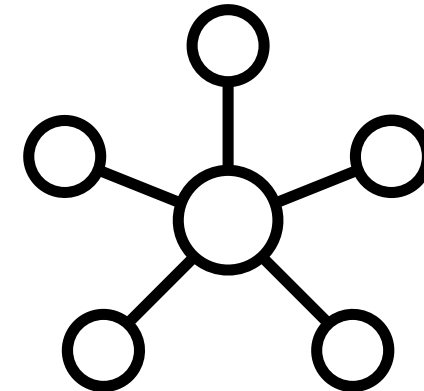
Expand peak commuter services to Durham

- Improve peak frequency to every 15-20 minutes on the CRX.
- Increase service on the ODX from 60 to 30 min at peak, remove reverse peak, and no longer serve downtown Mebane



Connect rural areas through connector and vanpool services

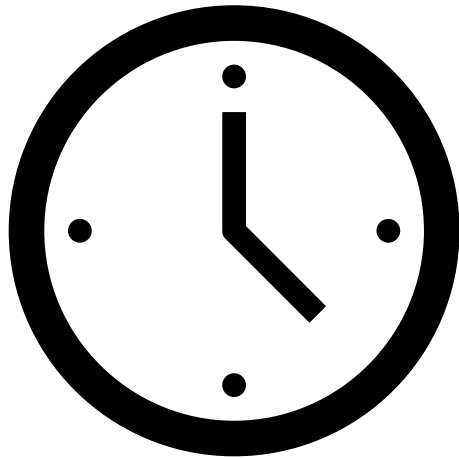
- Operate the Cedar Grove Peak Connector every 60 min from 6-9 AM and 3:30-7 PM on weekdays.
- Run the White Cross Commuter Service
- Expand OCPT Vanpool



SCENARIO "B"

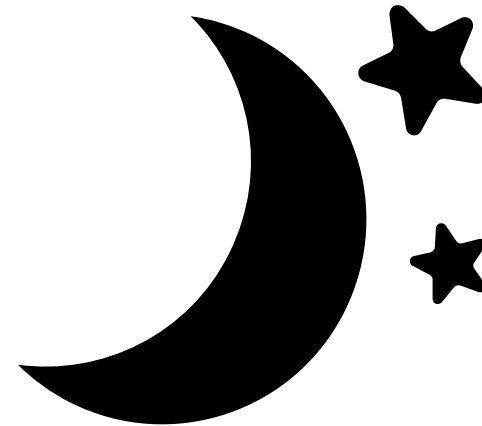
Invest in a few high-frequency services

- Create effective 15-minute service on the 400/405 by scheduling the two routes to offset each other



Select expansion of evening service

- Expand evening and Sunday service on the 400/405 to match the service pattern on the 100
- Extend service on the D to Patterson Place and provide Saturday service until 9 PM

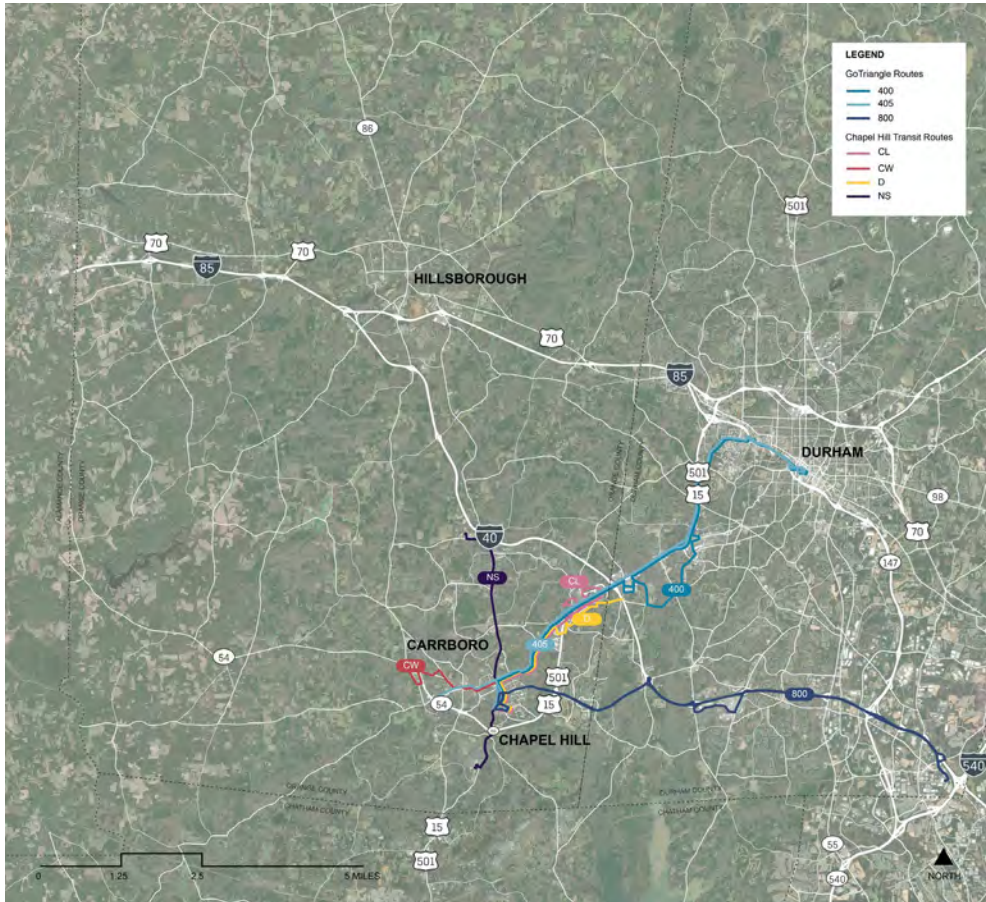


SCENARIO "B" Projects/ Service

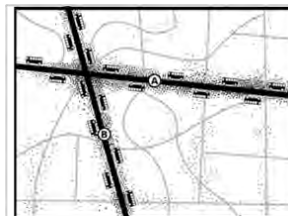
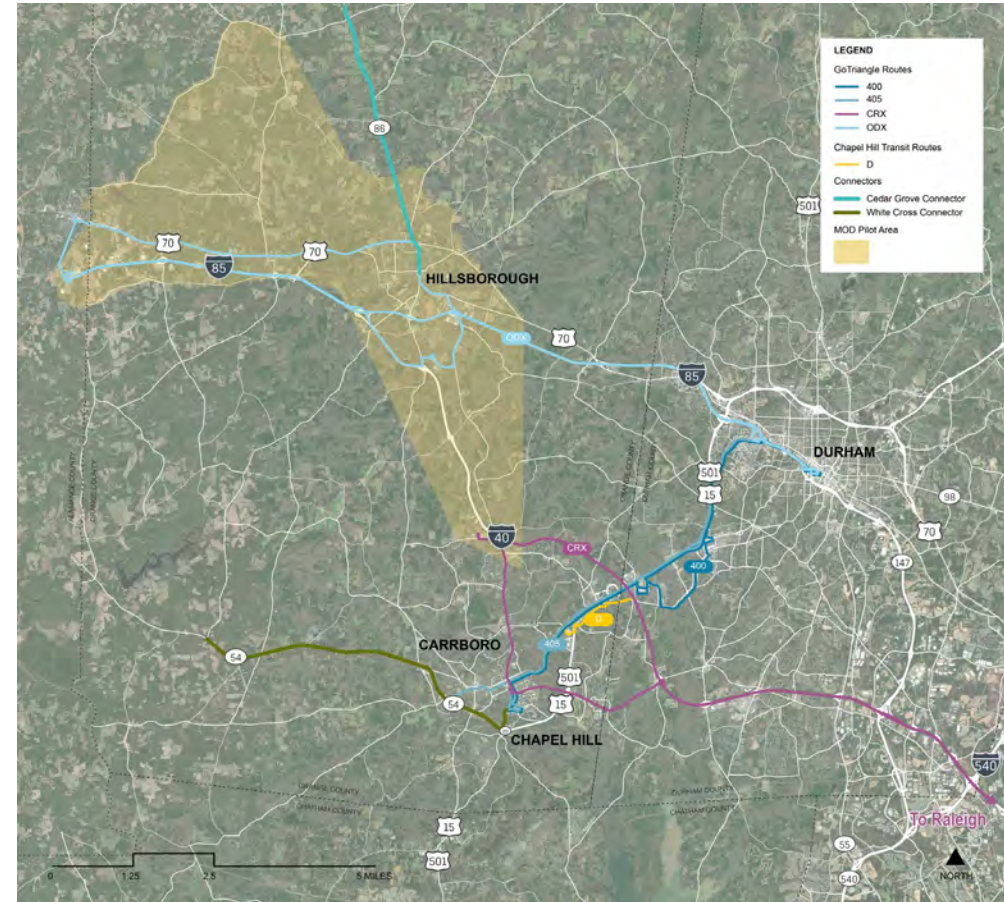
Transit Project/ Service	Net New Rev Hours	Cost	Cost in 2040
Provide Mobility-on-Demand services: 5am- 10pm, 7 days/week	16,290	\$944,820	\$1,548,198
CRX: Improve peak frequency to every 15-20 minutes	2,136	\$285,516	\$467,852
CRX: Add hourly weekday midday service	1,530	\$204,561	\$335,197
ODX: 60 to 30 min at peak, remove reverse peak, and no longer serve downtown Mebane		\$169,129	\$277,138
Cedar Grove Peak Connector: Operate every 60 min from 6am-9am, 3:30-7pm weekdays	1,625	\$94,250	\$154,440
White Cross Commuter Service	1,500	\$87,000	\$142,560
Expand OCPT Vanpool		\$150,000	245,792
<input checked="" type="checkbox"/> 400/405: Schedule effective 15-minute service	3,825	\$511,403	\$837,993
<input checked="" type="checkbox"/> 400/405: Evening service to match 100 service profile - 30 min Sun and increased evening service	1,947	260,314	426,555
<input checked="" type="checkbox"/> D: Extend service to Patterson Place and provide Saturday service until 9 PM.	5,300	625,400	1,024,791
Total Operations Cost		\$5,795,711	66.0%
Budget Remaining for Capital		\$2,979,336	34.0%
Total 2040 Transit Budget		\$8,775,047*	

Notes: Revenue hours reflect that half of the CRX service is funded by Wake County. Revenue hours reflect that half of the ODX and the 400/405 services are funded by Durham. *GoTriangle's expected 2040 budget is based on the expected and anticipated revenues minus expected 2040 capital and operating expenses in 2040 dollars.

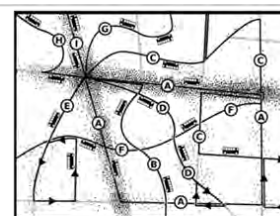
SCENARIO "A"



SCENARIO "B"



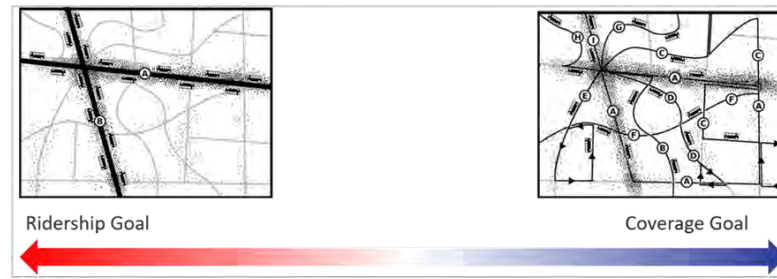
Ridership Goal



Coverage Goal



ADDRESSING PRIORITIES



	SCENARIO A	SCENARIO B
Prioritizes routes/service with higher ridership	✓	
Prioritizes service to a wider geographic area		✓
Prioritizes transit service that operates longer hours, more days per week	✓	
Enhances regional connections between Chapel Hill and Durham along US 15-501	✓	✓
Leaves room for future joint transit investments and ensures financial sustainability	✓	✓
Addresses CHT unfunded priorities	✓	
Supports enhanced regional connections for commuters	✓	✓