

# ORANGE COUNTY TRANSIT PLAN UPDATE TRANSIT SUMMIT #1

October 1, 2020

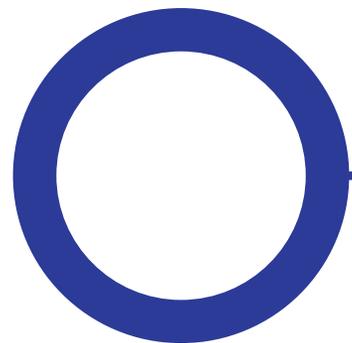


*Please note – this session is being recorded.*

# AGENDA

- Welcome
- Introductions
- Logistics and ground rules for virtual participation
- Project information
- “Transit Planning 101”
- Q & A
- Next Steps





# Welcome & Introduction

# WELCOME

- Craig Benedict, AICP;  
Orange County Planning  
and Inspections Director



# PLANNING TEAM: INTRODUCTIONS



RENAISSANCE  
PLANNING

JARRETT  
WALKER  
+ ASSOCIATES

Let's think about transit

 **Irma McClaurin**  
SOLUTIONS



English / Spanish

Bilingual Communications, Inc.

Translation • Interpretation • Video Voice-Over • Cultural Consultation



# ○ Participation & Logistics

# GROUND RULES FOR SUCCESSFUL VIRTUAL PARTICIPATION



- Have patience - new approaches may require occasional troubleshooting
- Please remain muted to minimize background noise
- Make use of the chat box for questions and suggestions
- Listen with an open mind
- Attack the problem, not the person
- Be present – mentally and physically

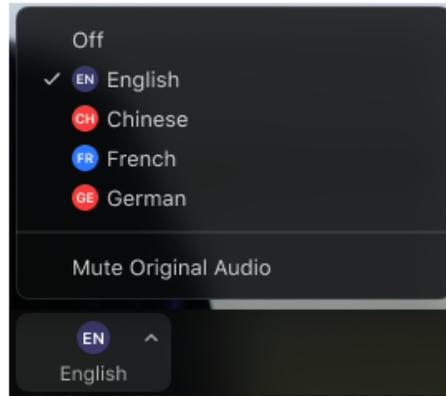
# LOGISTICS

## Access Spanish translation/ acceder a la traducción al español

1. In your meeting/webinar controls, click **Interpretation**.



2. Click the language that you would like to hear.



3. (Optional) To hear the interpreted language only, click **Mute Original Audio**.

Haces clic en “Interpretation”

Haces clic en el idioma que te gustaría escuchar – “Spanish”

# LOGISTICS

## Using Poll Everywhere

### How to join

#### Web

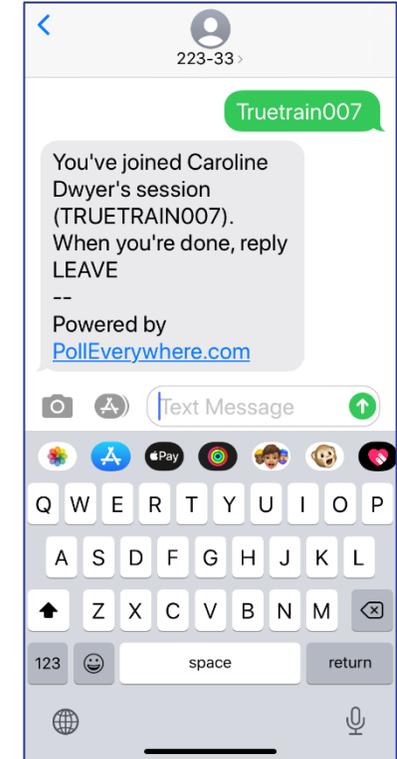
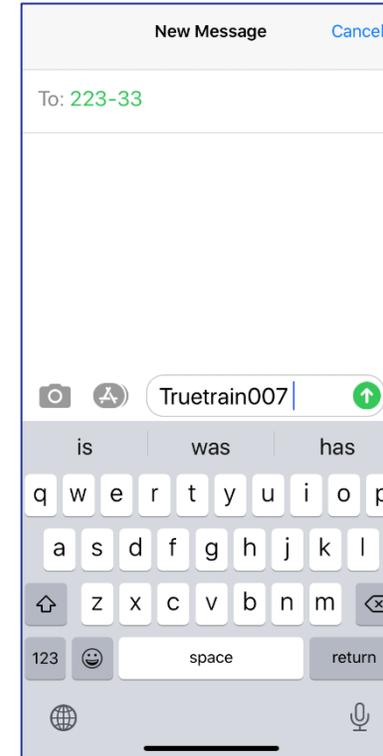


1. Go to PollEv.com
2. Enter TRUETRAIN007

#### Text



1. Text TRUETRAIN007 to 22333
2. Reply with poll responses





# What are you looking forward to most after the quarantine?

# LOGISTICS

## Using Zoom Chat

The chat box is being monitored, we will stop several times throughout the presentation to address questions and comments.

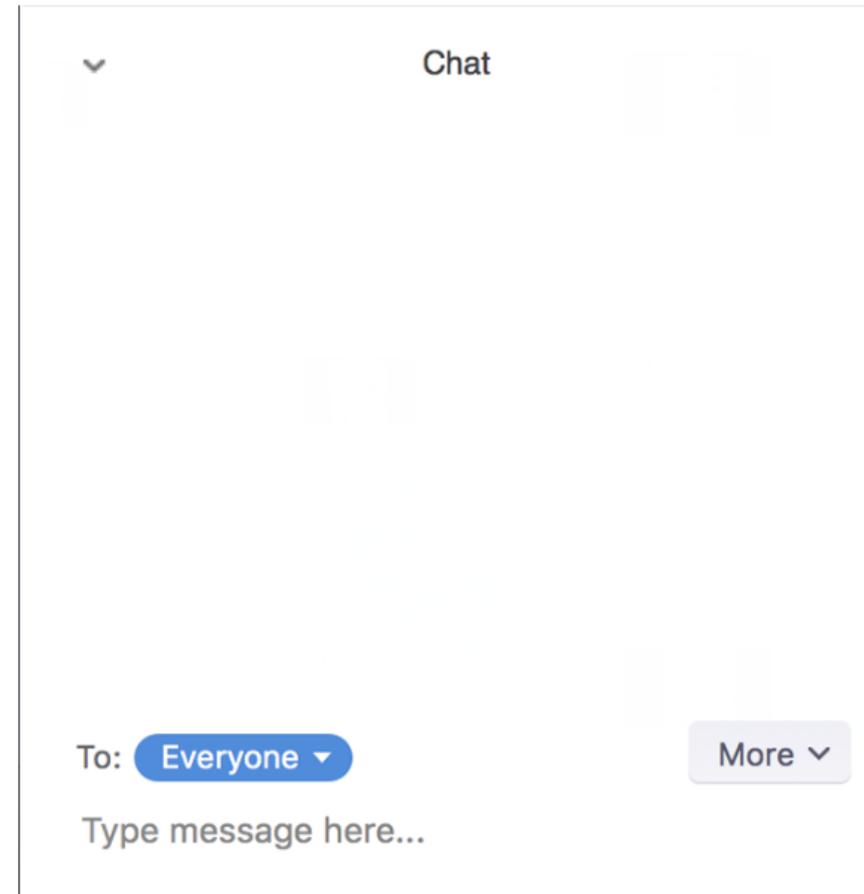
### Accessing in-meeting chat

#### Video only or while viewing a screen share

1. While in a meeting, click **Chat** in the meeting controls.



2. This will open the chat window. You can type a message into the chat box or click on the drop down next to **To:** if you want to send a message to a specific person.



# LOGISTICS

## Using Zoom Q & A

You can “upvote” questions but clicking the thumbs up

**Question & Answer:** Open the Q&A window, allowing you to ask questions to the host and panelists.

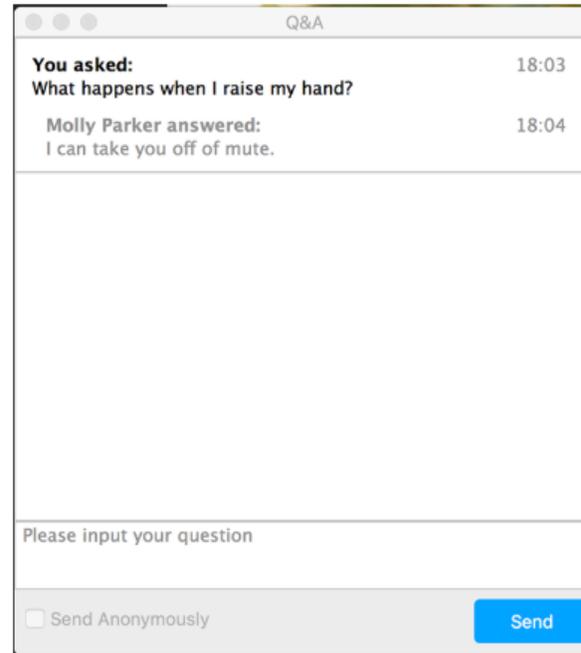
They can either reply back to you via text in the Q&A window or answer your question live.

To ask a question:

1. Type your question into the Q&A box. Click **Send**.

**Note:** Check **Send Anonymously** if you do not want your name attached to your question in the Q&A.

2. If the host replies via the Q&A, you will see a reply in the Q&A window.





# ○ Project Information

# WHY A NEW TRANSIT PLAN FOR ORANGE COUNTY?

- As one of the fastest growing regions in the US, transit is essential to the growth and development of the Triangle
- Durham and Orange Counties have been regional leaders, developing ambitious transit plans nearly a decade ago and backing them up with funding from a half-cent sales tax
- LRT was a central element to both the 2012 and 2017 transit plans; discontinuation of the DOLRT provides an opportunity to explore alternative strategies for enhancing public transit



# HOW WILL ORANGE COUNTY'S TRANSIT PLAN BE UPDATED?

Tasks by Phase		
Phase 1	T1	PSC Coordination
	T2	Transit Choices Brochure
	T2	Regional Connections Opportunities Report
	T3	Engagement Preparations
	T3	Engagement Wave 1
	T4	Conceptual Scenario Development
Phase 2	T5	Identify projects
	T5	Prioritization process development
	T5	Preferred Scenario
	T6	Engagement wave 2 prep
	T6	Engagement Wave 2
	T7	Revenue forecasting
	T7	Implementation Plan
	T8	Final Report

**PHASE 1** Introduces key transit planning concepts and frames choices in terms of easy-to-understand values to generate alternative conceptual transit scenarios

**PHASE 2** Identifies proposed projects, prioritization criteria, and available revenues to produce implementation recommendations through 2040.

# OUTREACH & ENGAGEMENT

- Policy Steering Committee & Staff Working Group
- Transit Summits (2)
- Elected Officials and Jurisdictional Status Updates
- E-mail Announcements
- Informational & Educational Materials
- Interactive Mapping
- Strategies for Diversity, Inclusion, and Equity
- Media Relations
- Website ([www.octransit2020.com](http://www.octransit2020.com))
- Surveys
- Social Media
- Email and Comments database





# How do you prefer to get information about plans/projects?



A Email/ electronic newsletter

B Website

C Public event

D Print media

E Social media

F Family/friends

G Educational materials

# How do you prefer to provide feedback on a project?

A Public meeting

B Survey

C Email

D Submit comments  
through website

E Social Media

# WHAT IS THE PURPOSE OF THE TRANSIT SUMMIT?



- Identify community goals/priorities related to transit
- Manage expectations (what can/can't a transit plan accomplish?)
- Establish shared understanding of transit systems, transit system users, budgeting/available funding (including potential impacts of COVID), and how choices/values impact service
- Clearly connect feedback received to plan development
- Promote transit services that are already available, that people may not be aware of (particularly rural, dispersed, and/or transit dependent populations)



# ○ Transit Planning 101

# Thinking Clearly about the Real Products of Your Transit Investment

Scudder Wagg, Jarrett Walker + Associates



WHAT IS THE TRANSIT  
“PRODUCT”?



Is this the transit product?



# WHAT'S THE ESSENTIAL PRODUCT OF A FIRE DEPARTMENT?

Firefighters participate in community programs, fundraising for good causes

Provide dramatic content for film, TV, video

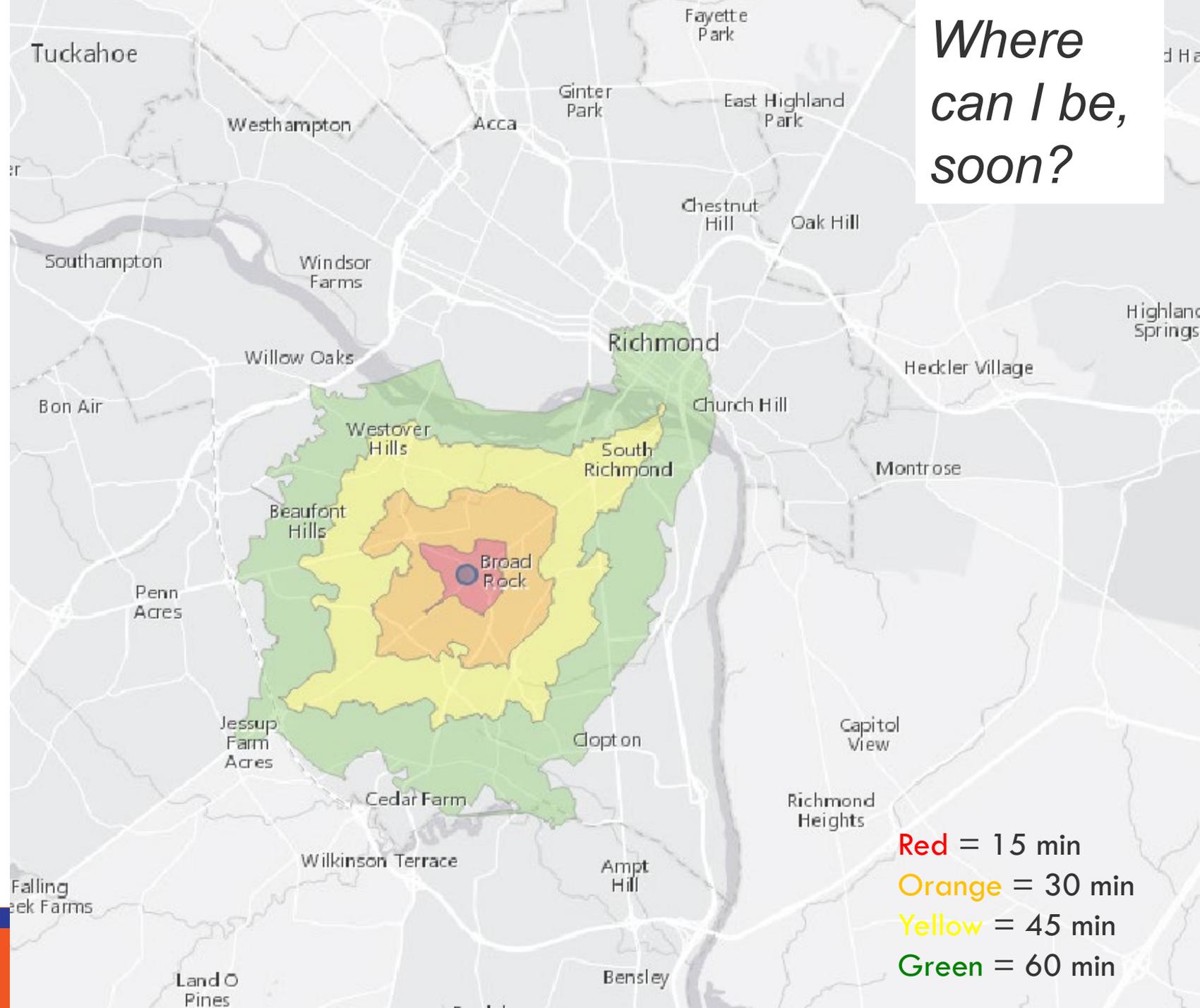
Build confidence in cities as places to live and invest

Fire and building safety

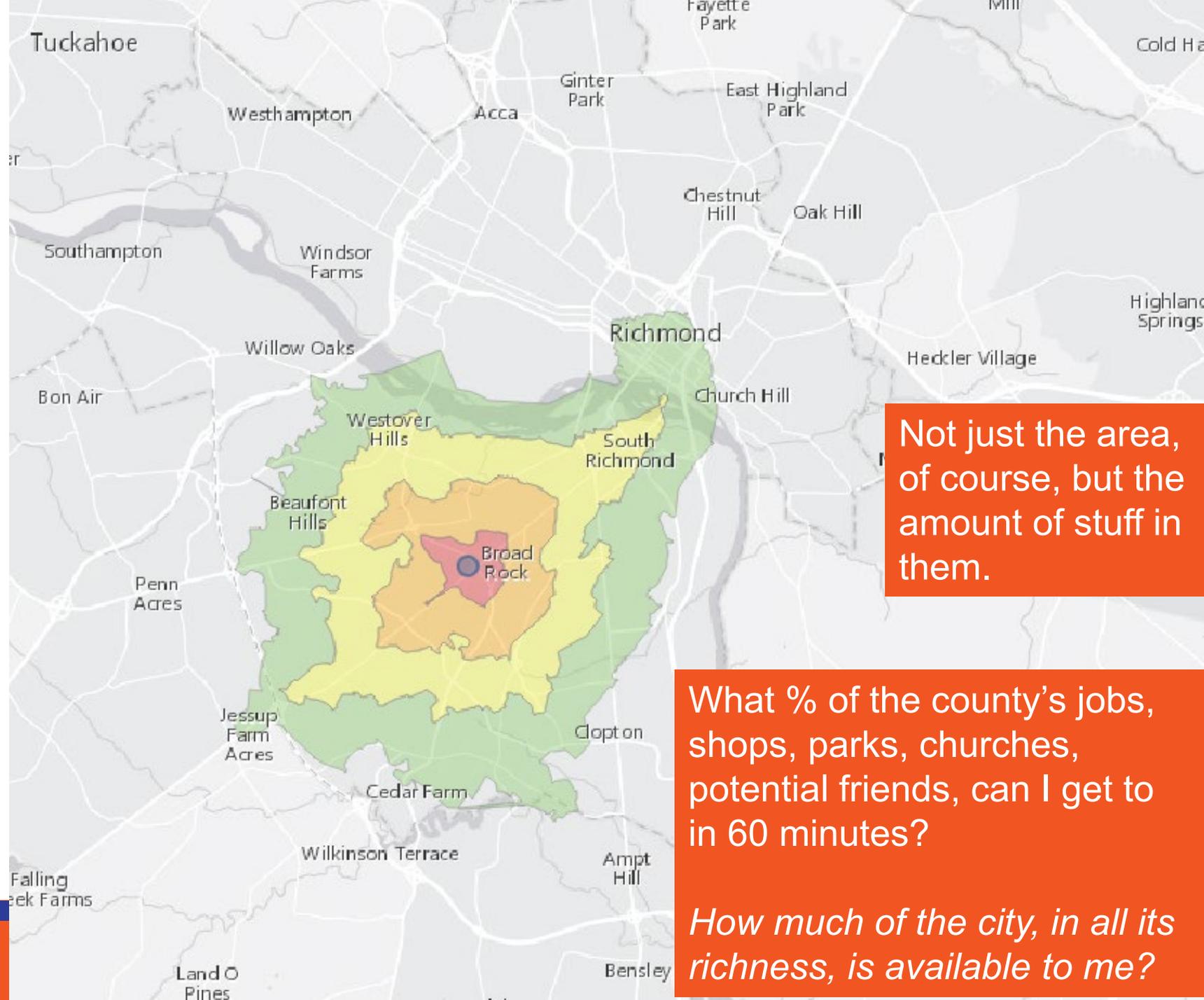
Sirens make city sound exciting

# The walls around your life

*Where can I be, soon?*



What if we were trying to grow these “blobs”?



Not just the area, of course, but the amount of stuff in them.

What % of the county's jobs, shops, parks, churches, potential friends, can I get to in 60 minutes?  
*How much of the city, in all its richness, is available to me?*

# THE FREEDOM (AND RIDERSHIP) RECIPE

High all-day frequency ...

Forming a connected network ...

With reasonable speed and reliability ...

With sufficient capacity ...

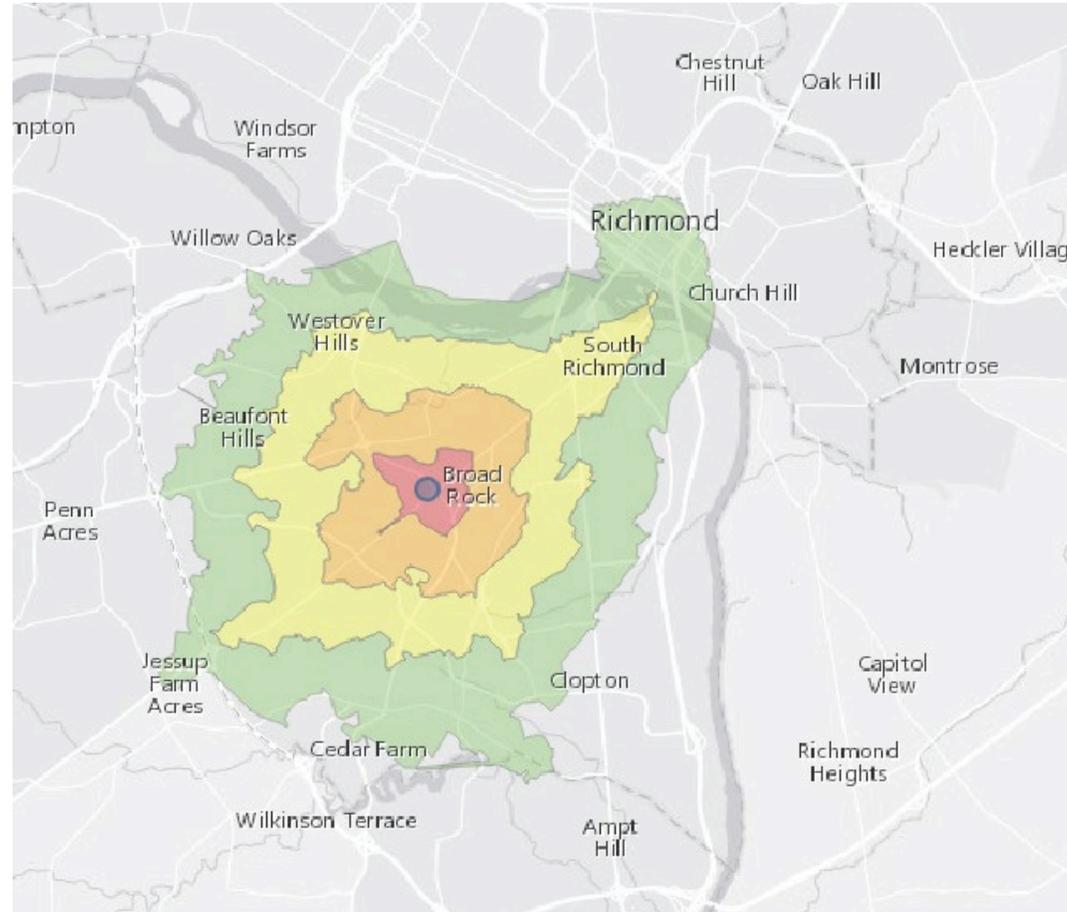
following patterns of ...

Density

Walkability

Linearity

Proximity



Another term for this: Abundant Access



How do they contribute to freedom?



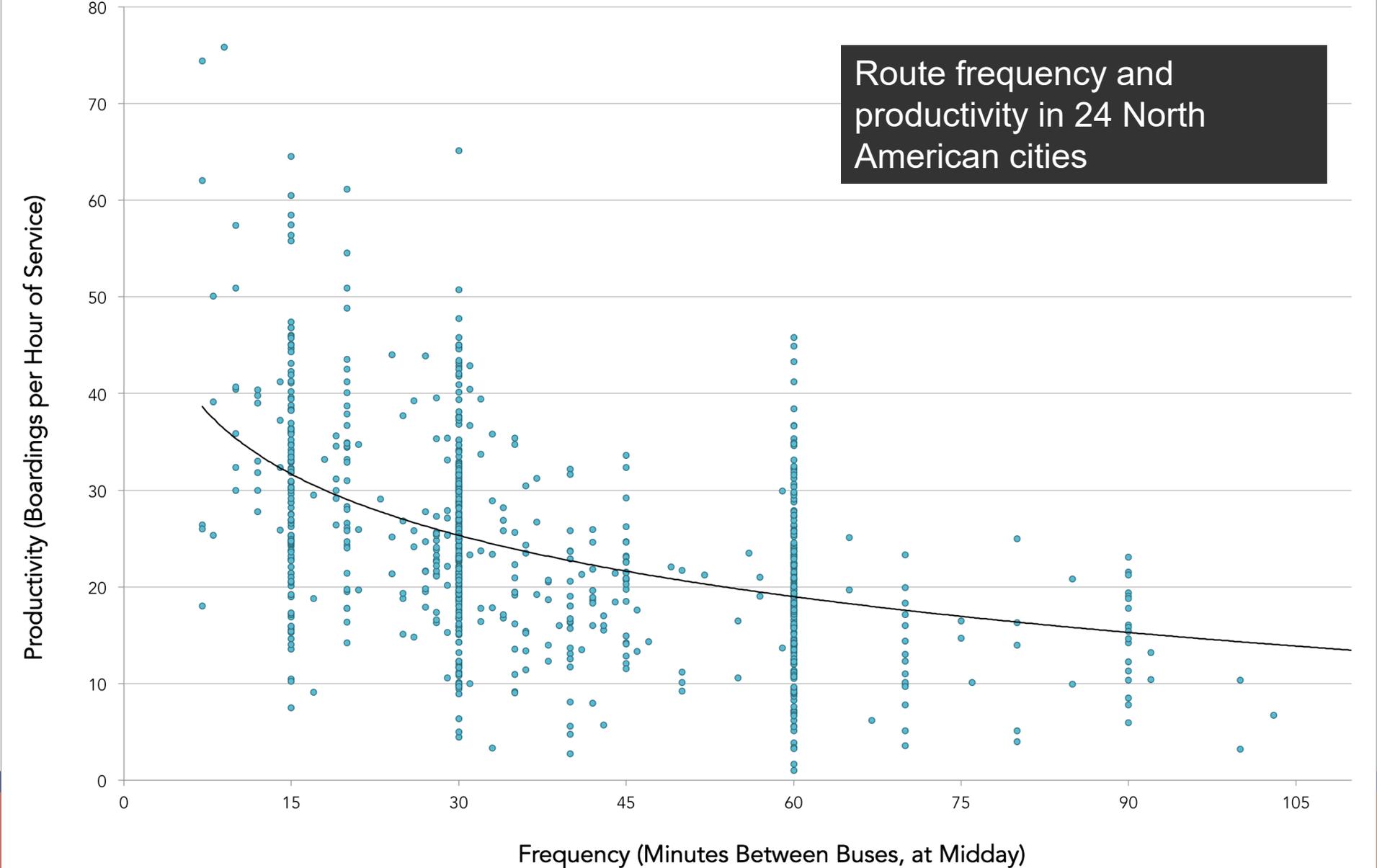
FREQUENCY

# FREQUENCY IS KEY

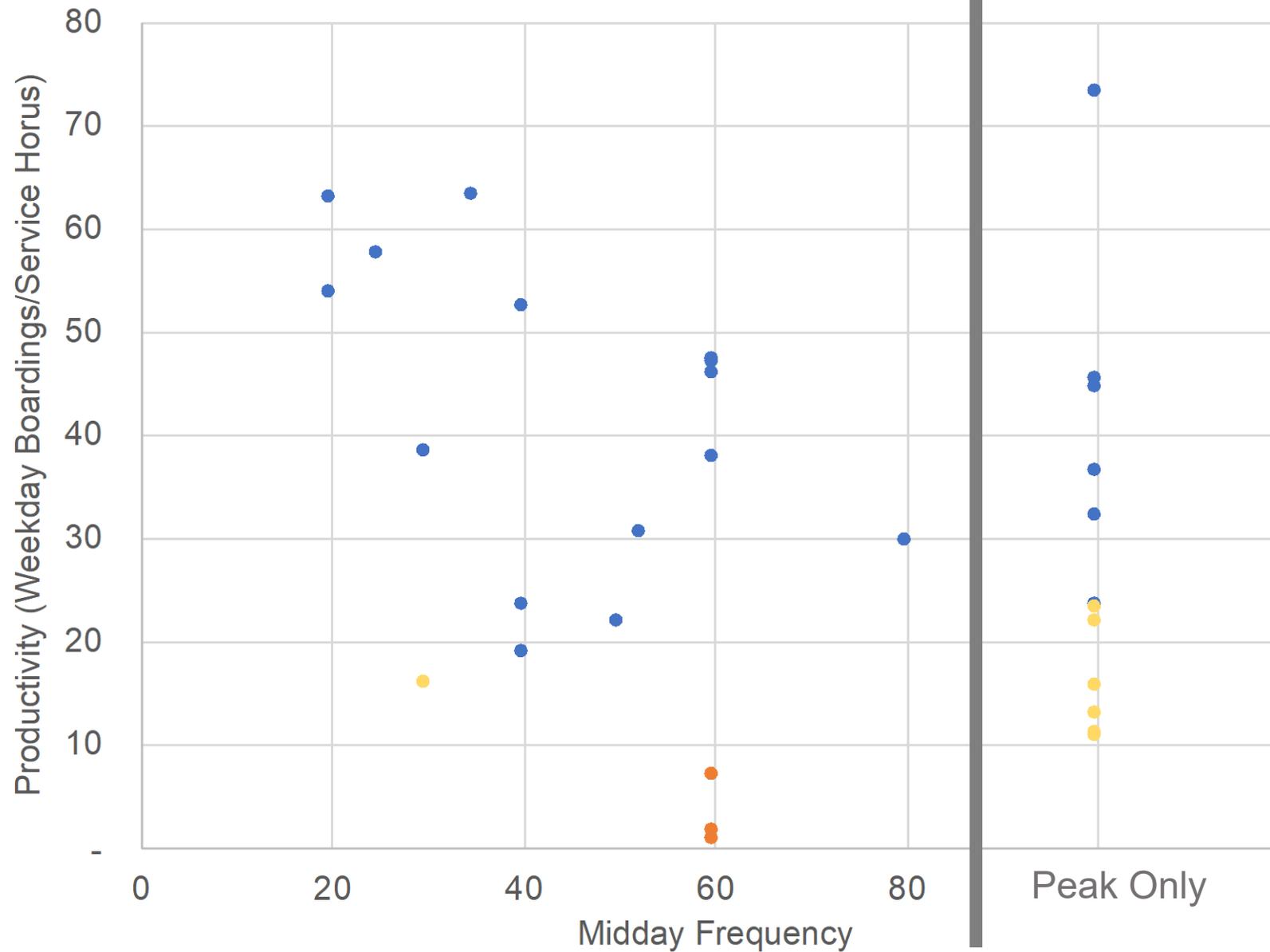
- Most overlooked
- Offers a “cubed” value:
  - Go when you want to
  - Connections!
  - Reliability
- Key to affordability



# HIGH FREQUENCY (LEFT) = HIGH PRODUCTIVITY



# Weekday Productivity and Midday Frequency



● CHT ● OCPT ● GoTriangle

# ... But frequency is hard to explain.

- Elevators?
- Traffic signals?



Imagine that there's a gate at the end of your driveway that opens only once an hour!

# WHERE DOES TRANSIT SUCCEED

. . . on ridership and freedom terms?

# DENSITY

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

High ridership



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

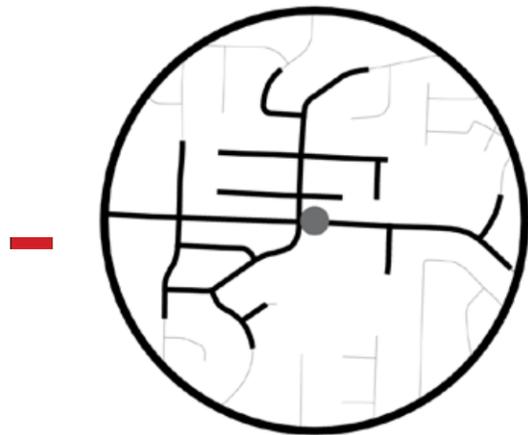
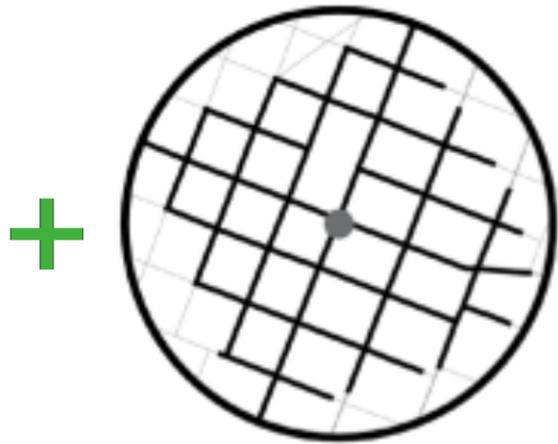
Lower ridership



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

# WALKABILITY

Can the people around the stop walk to the stop?



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*.

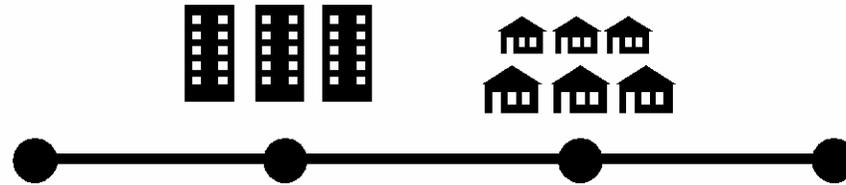


+ It must also be safe to cross the street at a stop. You usually need the stops on both sides for two-way



# PROXIMITY

Does transit have to cross long low-ridership gaps?



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

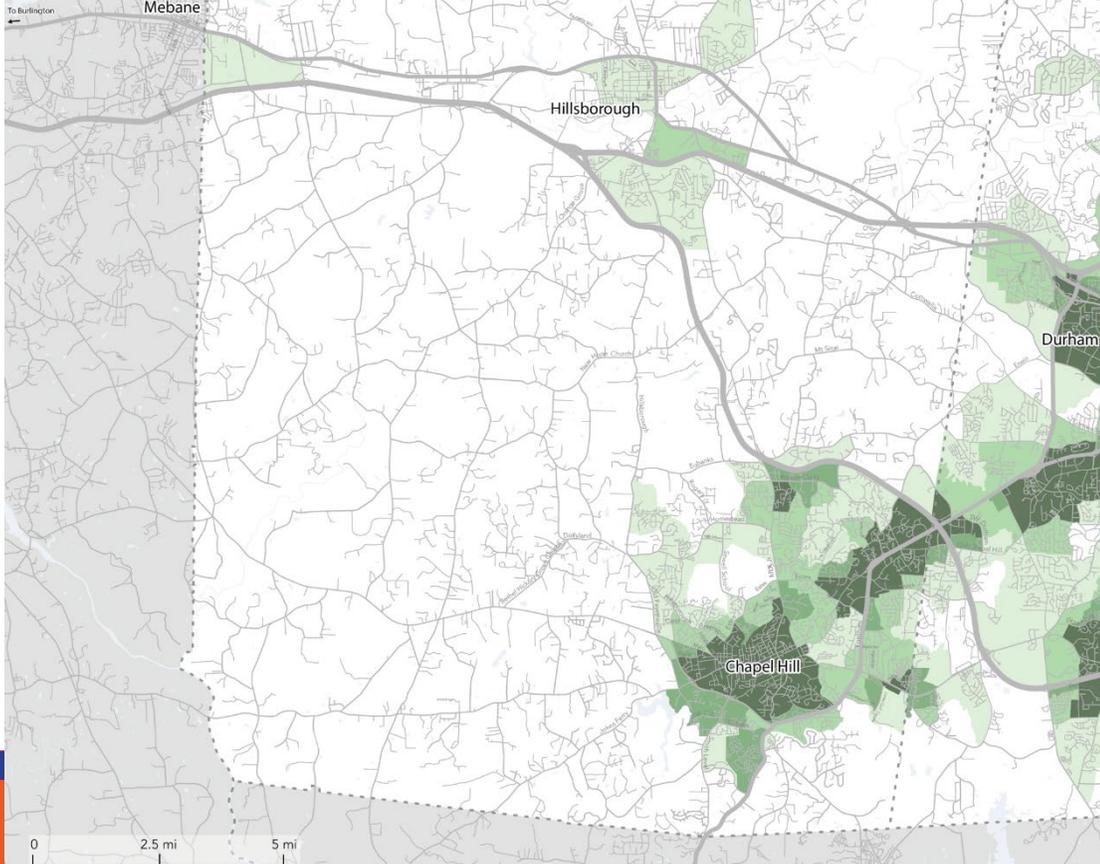


- Long distances between destinations means a higher cost per passenger.  
(Distance-based fares can compensate in part.)

Orange County, North Carolina  
**Population Density**

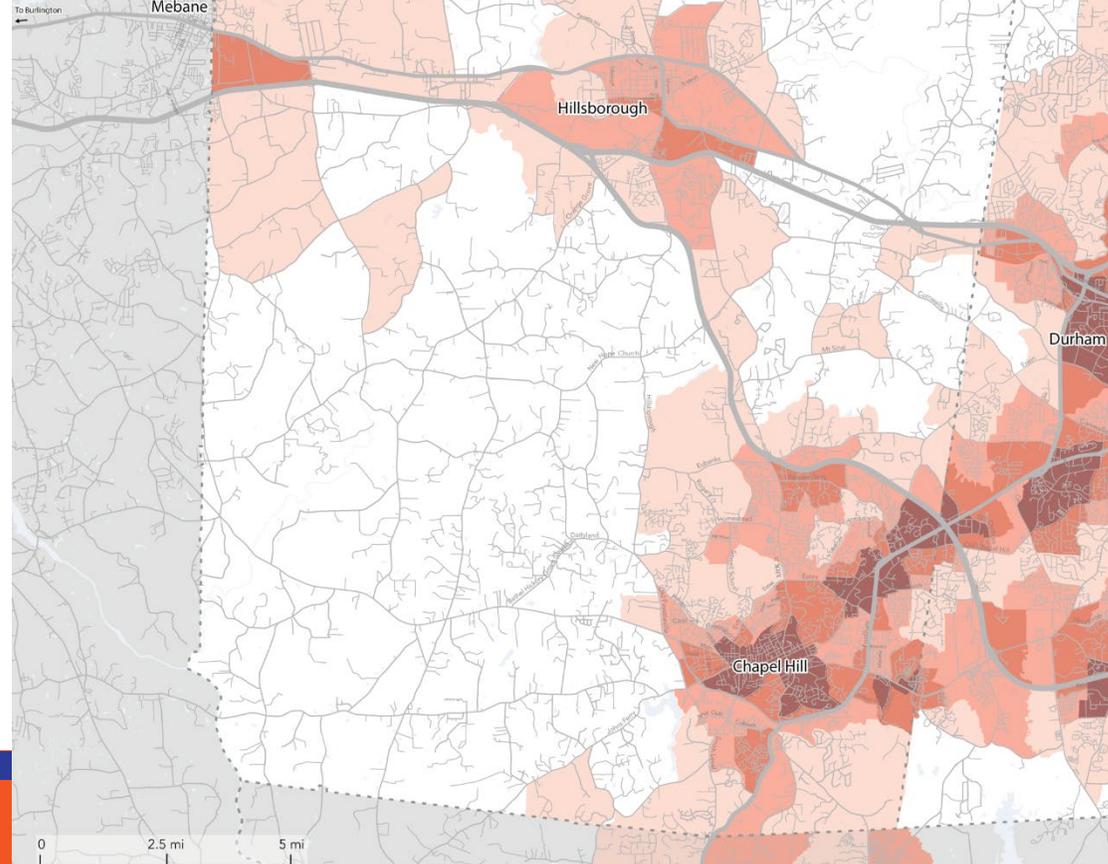
Residents per Square Mile

- Less than 1,500
- 1,501-3,000
- 3,001-4,500
- 4,500-6,000
- 6,001+



Orange County, North Carolina  
**Employment Density**

- 0-25
- 25-200
- 200-750
- 750-2,000
- More than 2,001
- Outside study area



# FREQUENCY OR COVERAGE?

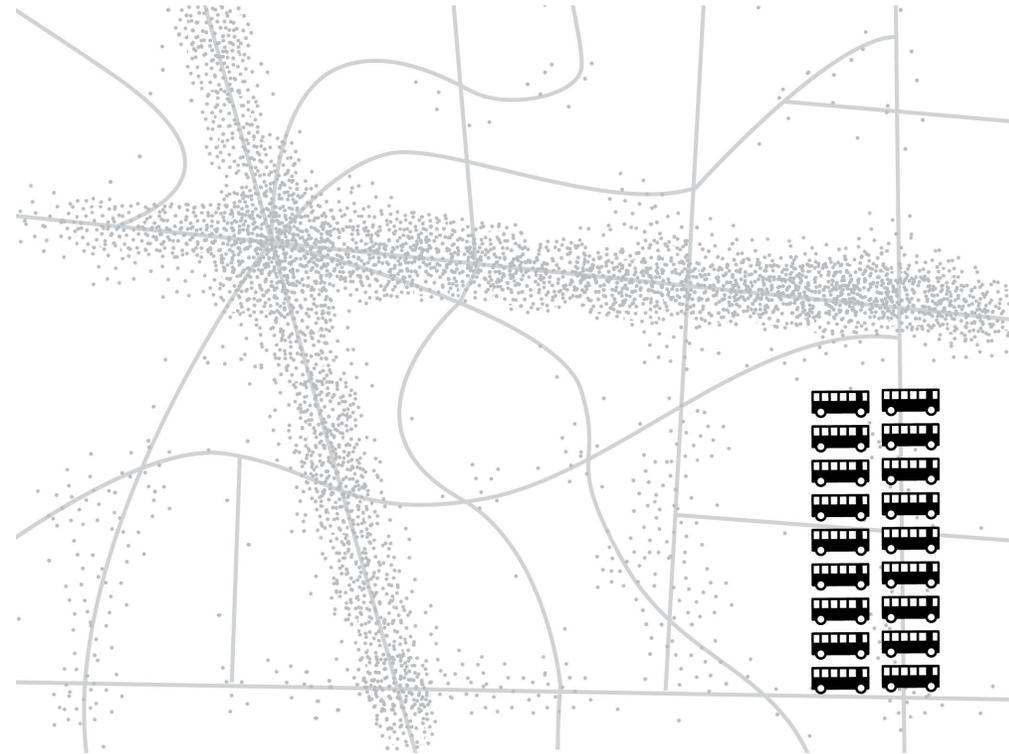
Access for many or something for all?

# HOW SHOULD A TRANSIT AGENCY ALLOCATE ITS RESOURCES?

Fictional Urban Area

Dots = residents and jobs

You have 18 buses



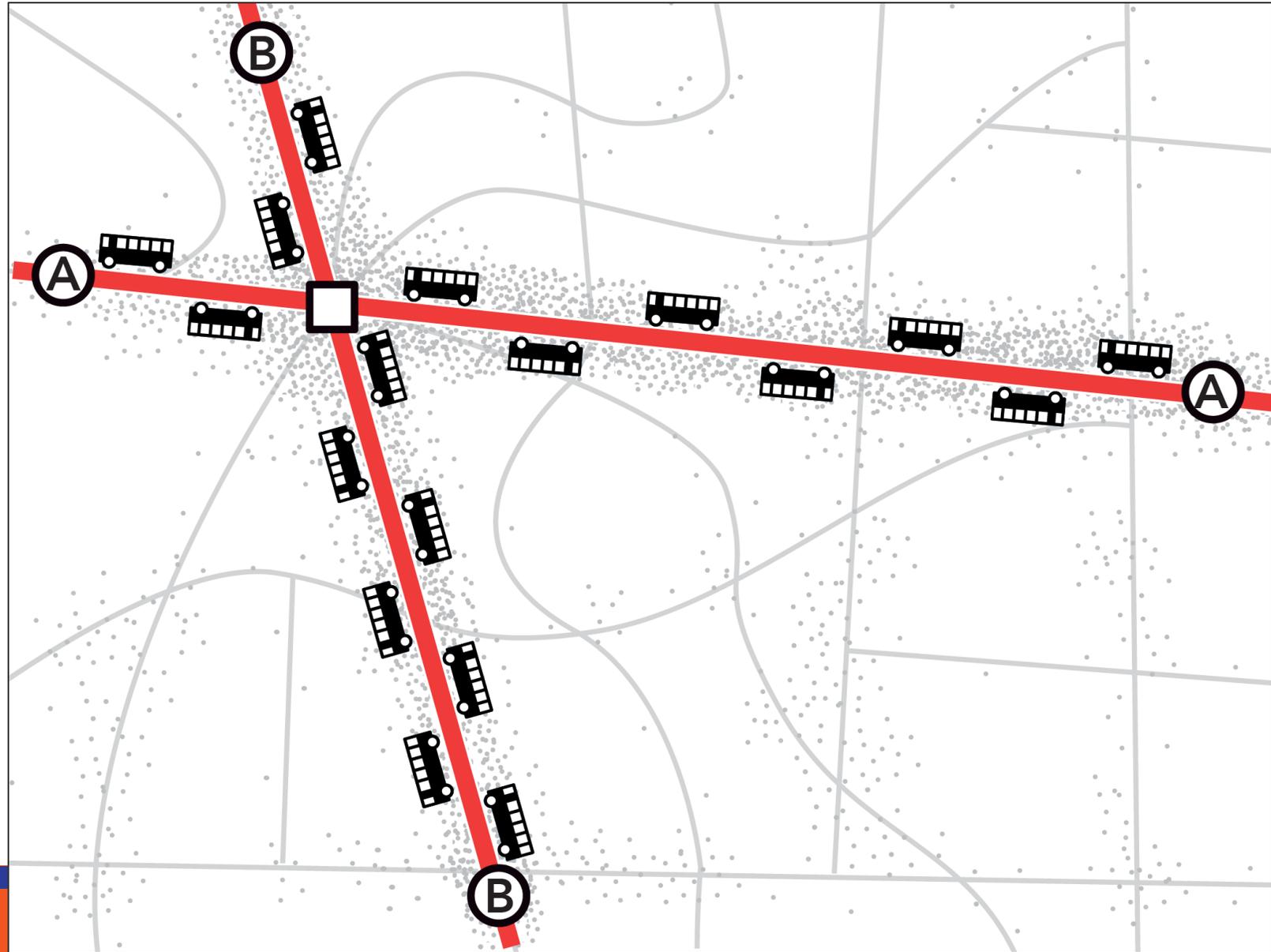
# Ridership Goal “Frequent Network”

Think like a business,  
*choosing which markets  
you will enter.*

High frequency for high  
ridership places, but no  
service elsewhere.

Performance Measure:  
*Productivity*

Ridership relative to cost



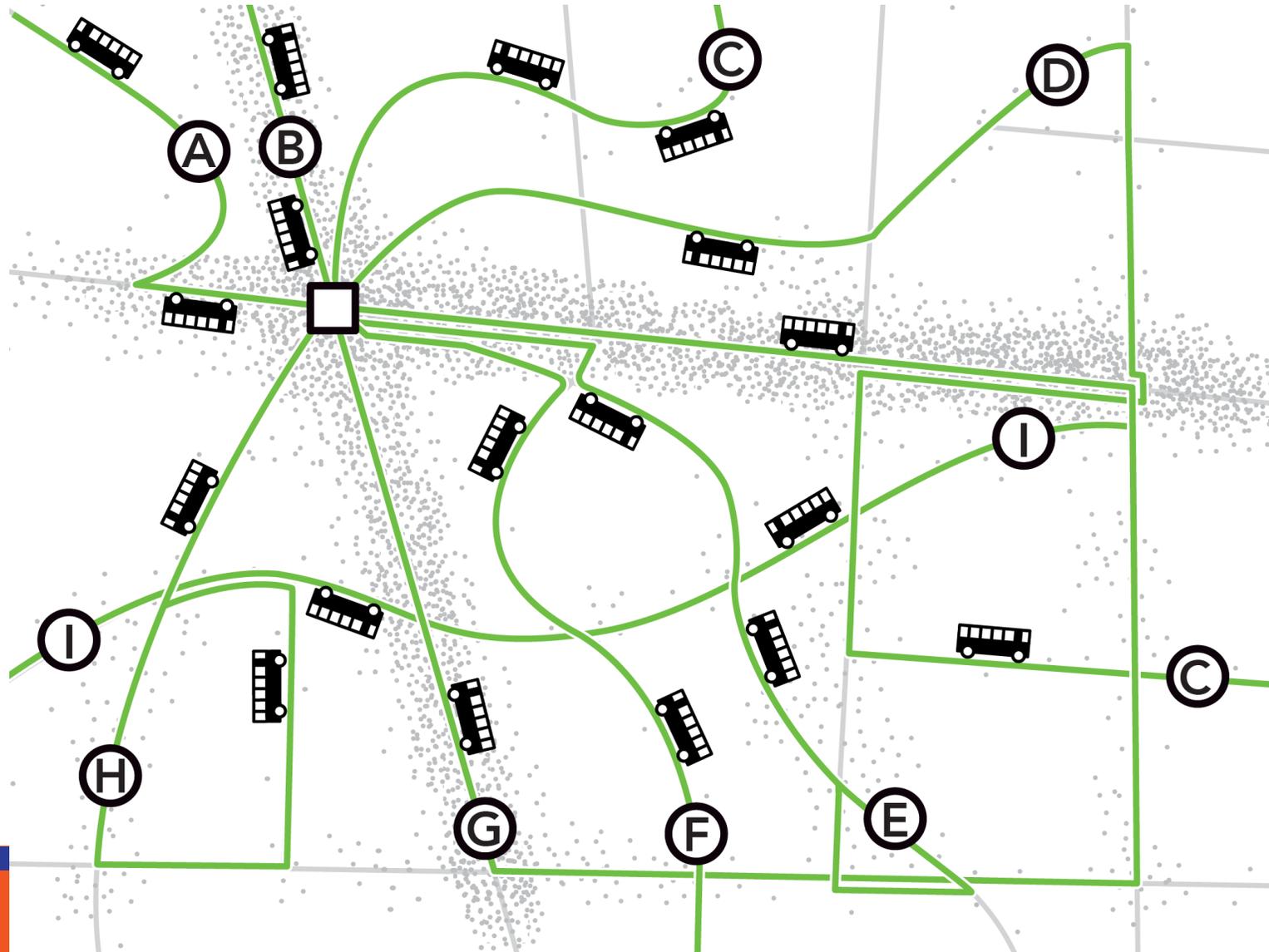
# Coverage Goal “Some service for everyone”

Go everywhere, *even those in expensive-to-serve places.*

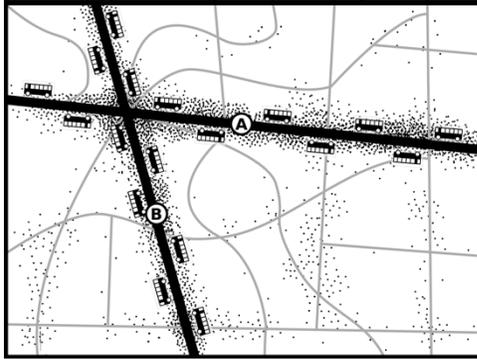
Low frequency.

Performance Measure:  
*Coverage*

% of population and jobs near  
any service

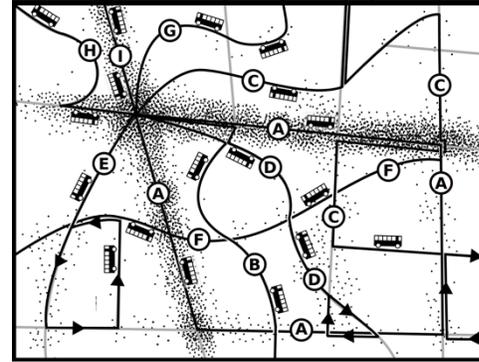


# Both goals are important, ... but they lead opposite directions!



*“Think like a business.”*

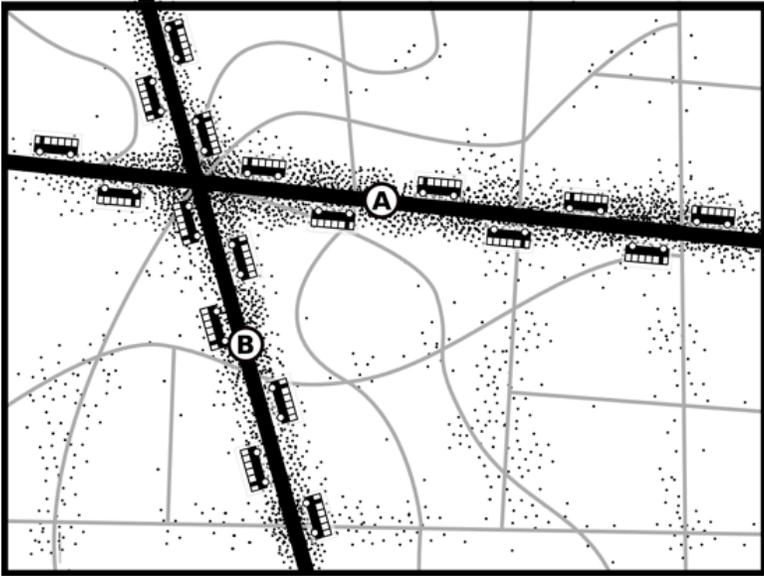
- Focus where ridership potential is highest.
- Supports dense redevelopment.
- Environmental benefits.
- Congestion benefits.
- Maximum job access.



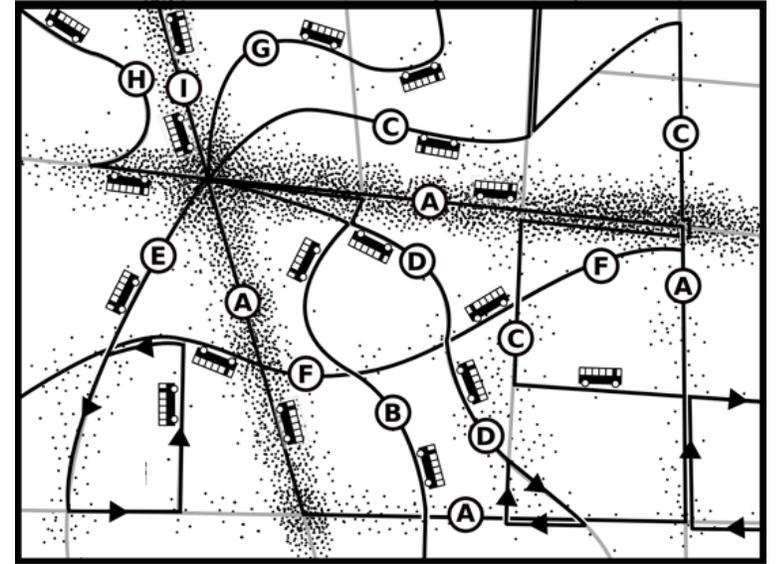
*“Access for all”*

- Services for suburban, hard-to-serve areas, despite low ridership.
- Lifeline access for everyone.
- Political equity: Service to every neighborhood or electoral district.

So it helps to choose a point on the spectrum ...



Ridership Goal



Coverage Goal



# 2012 AND 2017 PLAN GOALS

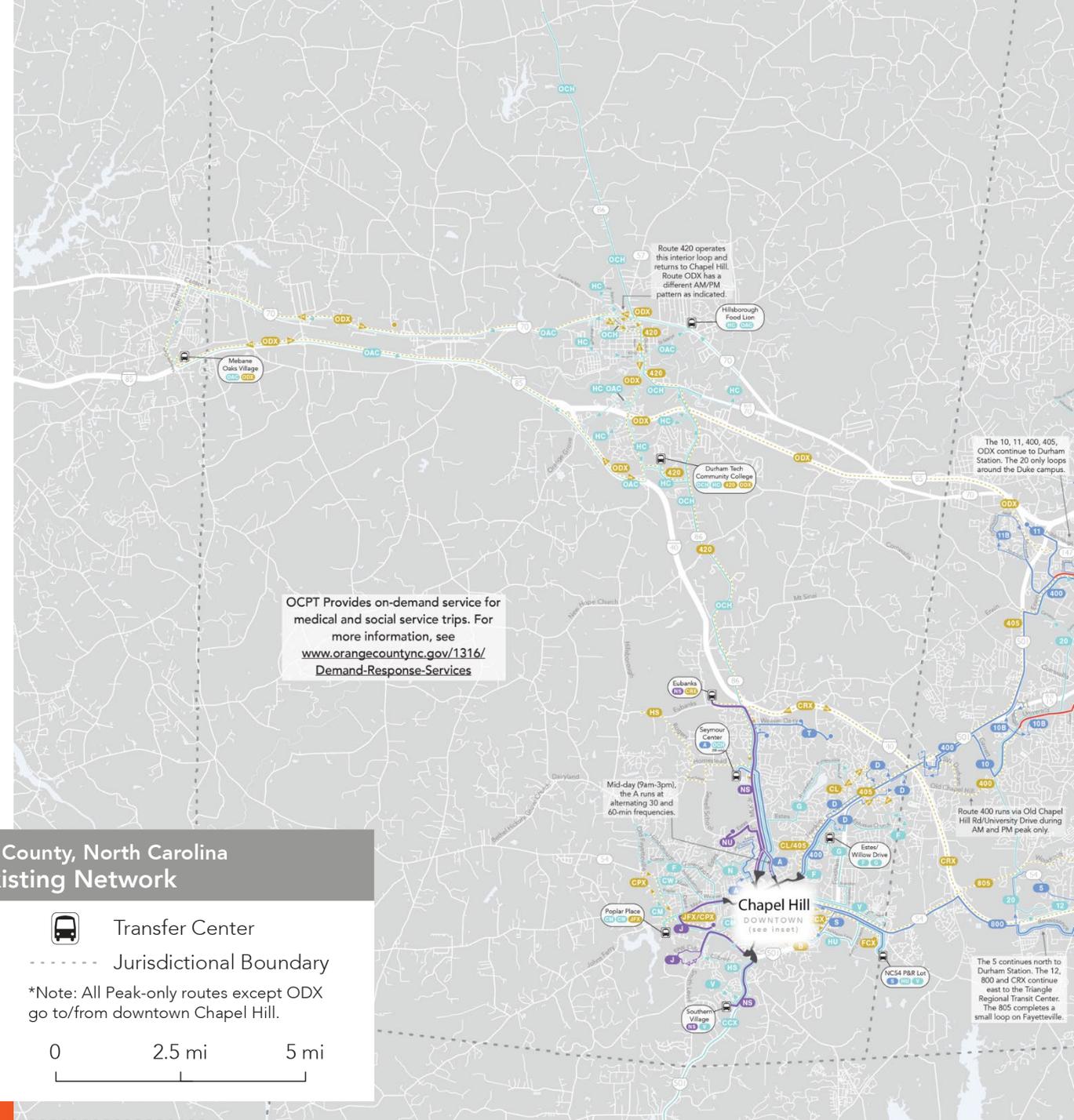
- Improving overall mobility and transportation options
- Providing geographic equity
- Supporting improved capital facilities
- Encouraging transit-supportive land use
- Providing positive impacts on air quality

# 2012 AND 2017 PLAN GOALS

- Ridership:
  - Improving overall mobility
  - Encouraging transit-supportive land use
  - Providing positive impacts on air quality
- Coverage:
  - Improving transportation options
  - Providing geographic equity
- Other
  - Supporting improved capital facilities

# 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



**Orange County, North Carolina  
Existing Network**

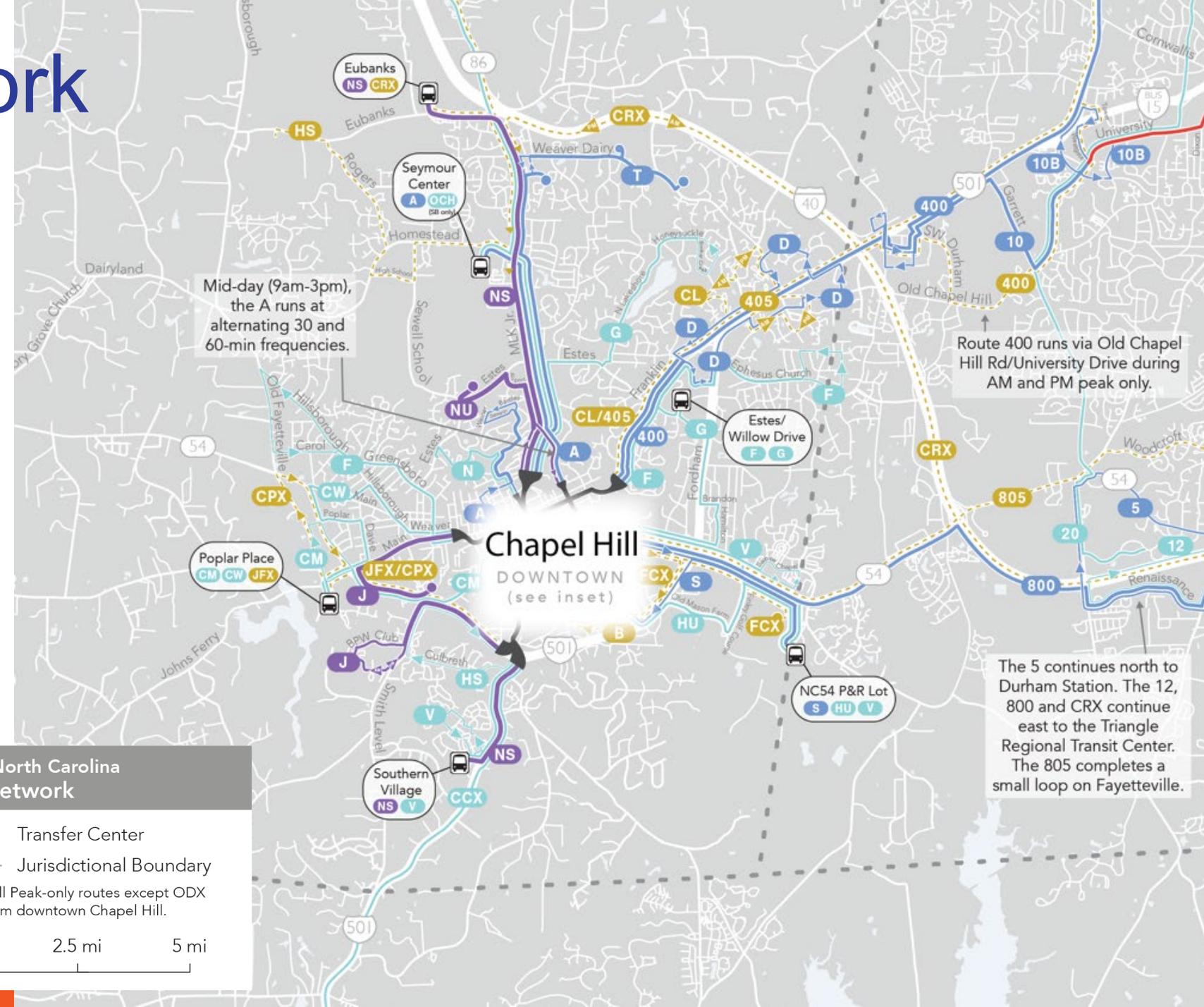
<b>Midday Frequency</b>	Transfer Center
15 min	----- Jurisdictional Boundary
20 min	
30 min	
60 min	
Peak only	

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

0      2.5 mi      5 mi

# “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



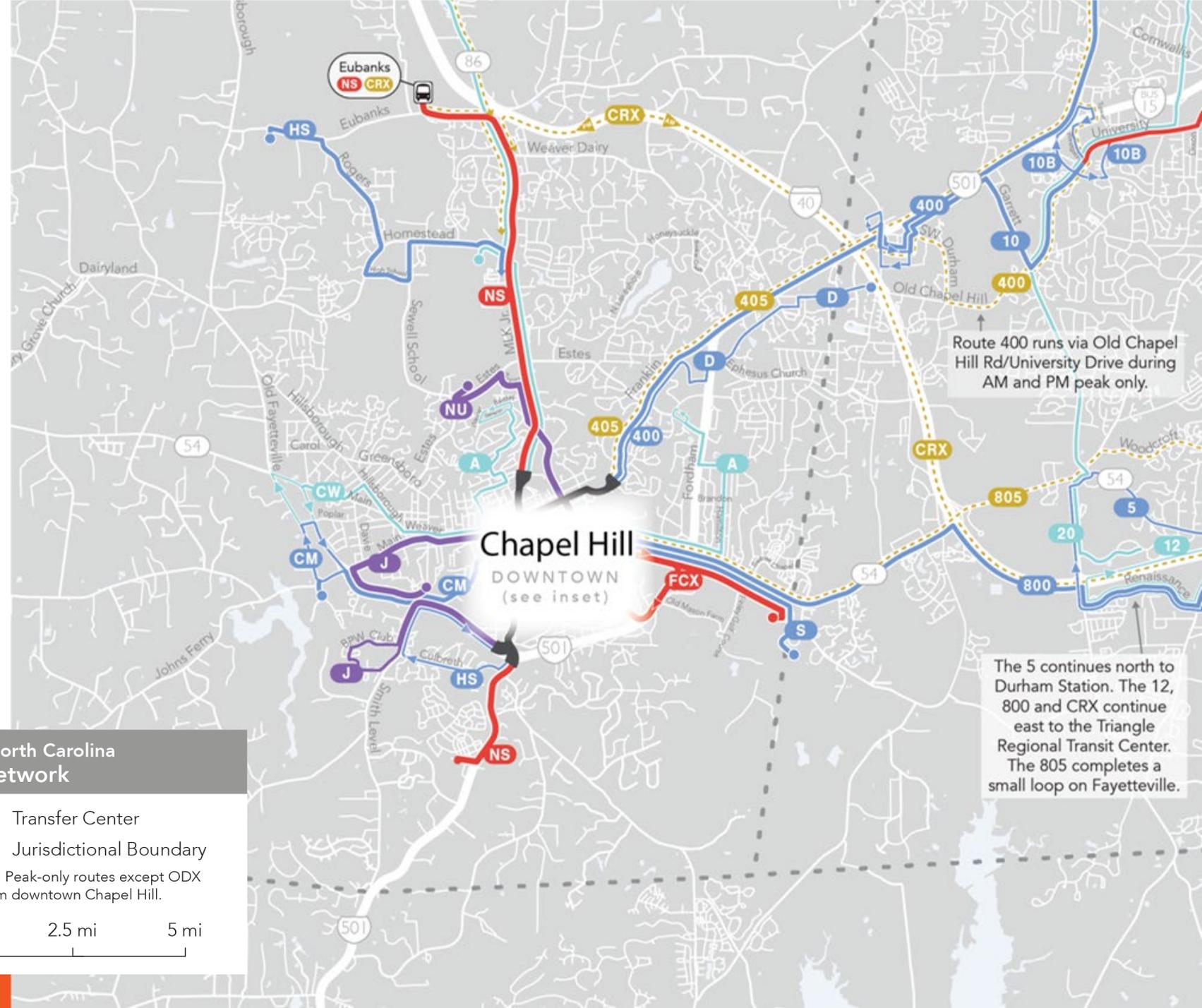
**Orange County, North Carolina  
Existing Network**

<b>Midday Frequency</b>	Transfer Center
15 min	Jurisdictional Boundary
20 min	
30 min	
60 min	
Peak only	

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

# New Network

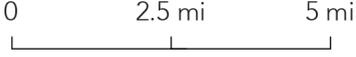
- Revised Network
- Launching now
  - Simpler
  - Concentrated service into fewer routes
  - More frequency on key corridors



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**

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

# Existing Network

## Orange County, North Carolina Existing Network

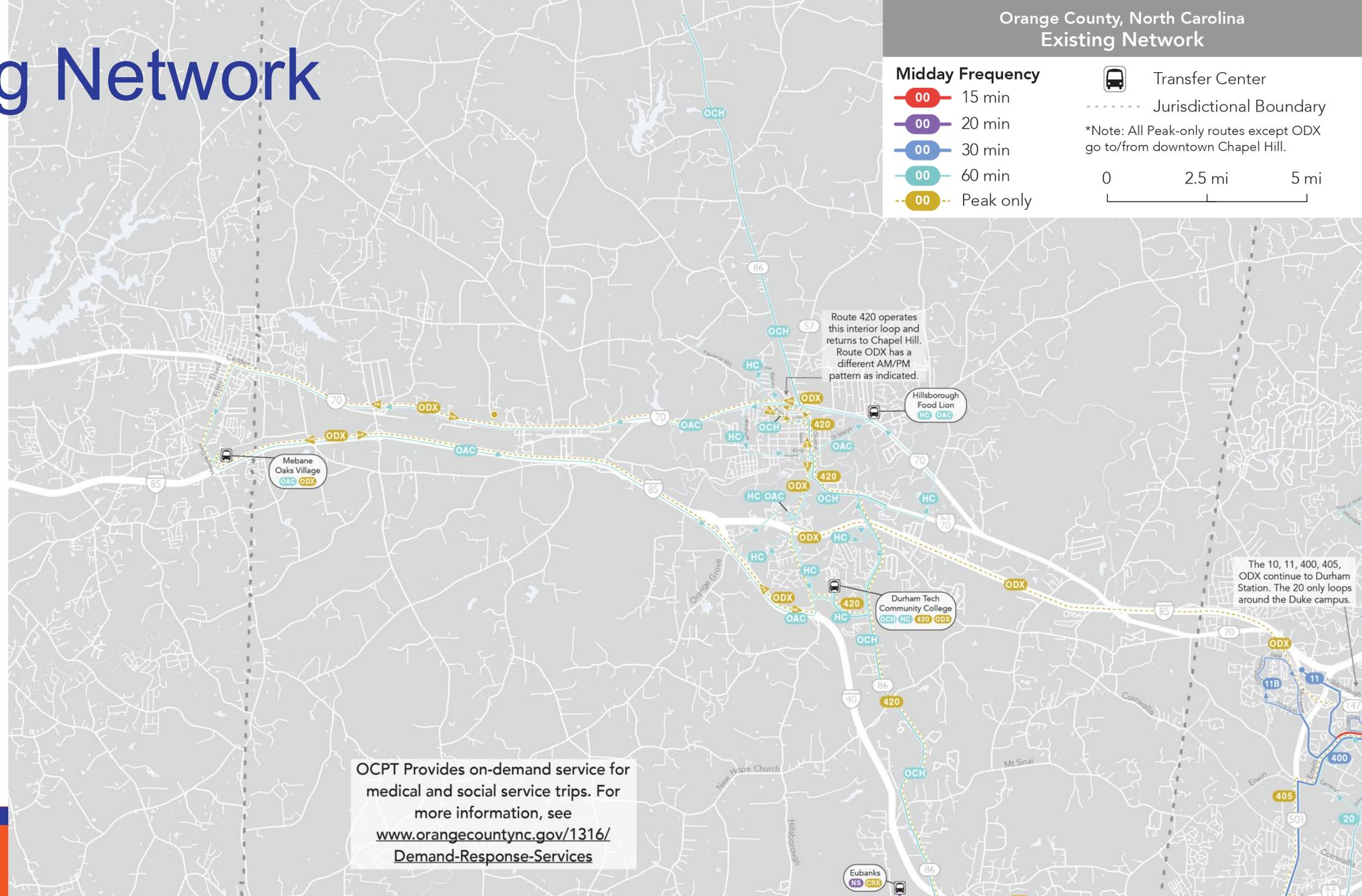
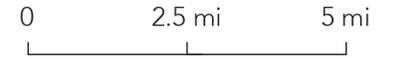
### Midday Frequency

-  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.



Route 420 operates this interior loop and returns to Chapel Hill. Route ODX has a different AM/PM pattern as indicated.

The 10, 11, 400, 405, ODX continue to Durham Station. The 20 only loops around the Duke campus.

OCPT Provides on-demand service for medical and social service trips. For more information, see [www.orangecountync.gov/1316/Demand-Response-Services](http://www.orangecountync.gov/1316/Demand-Response-Services)



# Ridership vs. Coverage: How should Orange County balance its investment?

- A 100% higher ridership service
- B 80% higher ridership service/  
20% higher coverage service
- C 60% higher ridership service/  
40% higher coverage service
- D 40% higher ridership service/  
60% higher coverage service
- E 20% higher ridership service/  
80% higher coverage service
- F 100% in higher coverage  
service



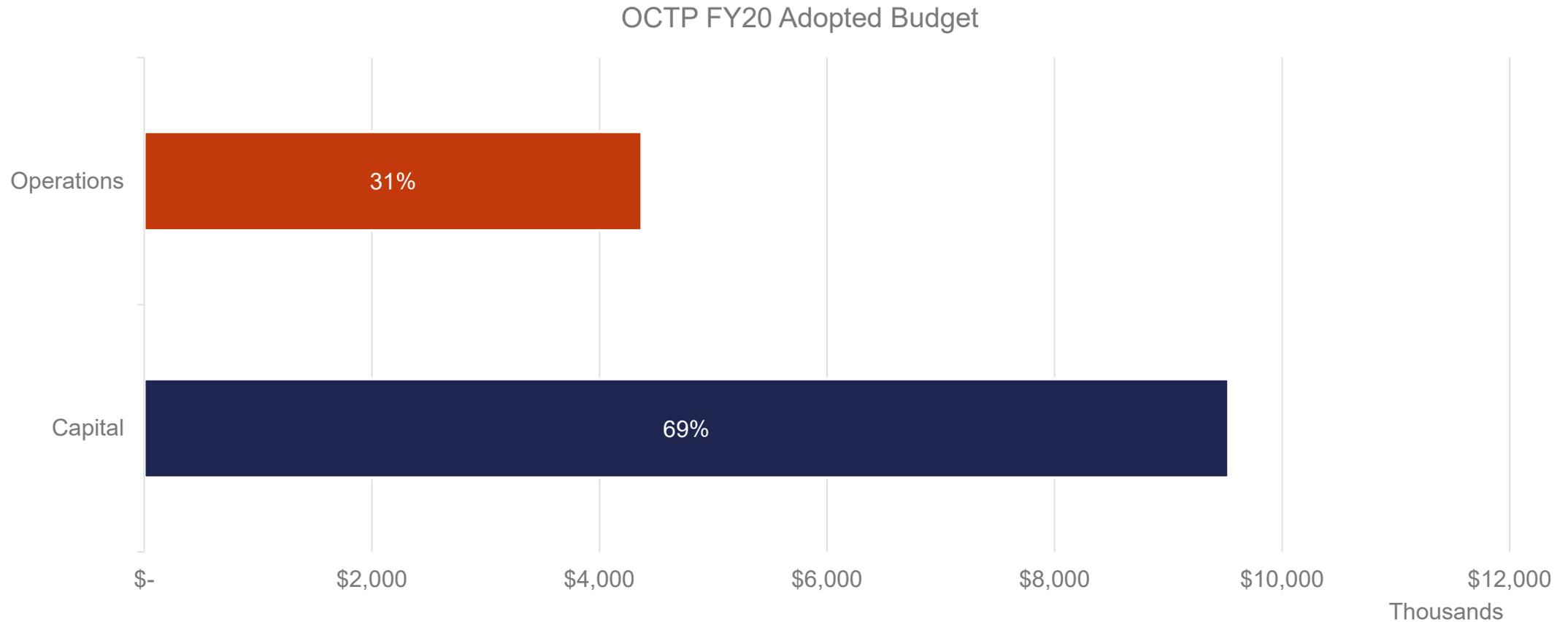
# Coverage Priorities: When we deploy coverage service, is the priority...

A Service where or when needs are greatest (low-income, seniors, etc.)

B Serving new development, even if it won't produce high ridership

C A little service everywhere

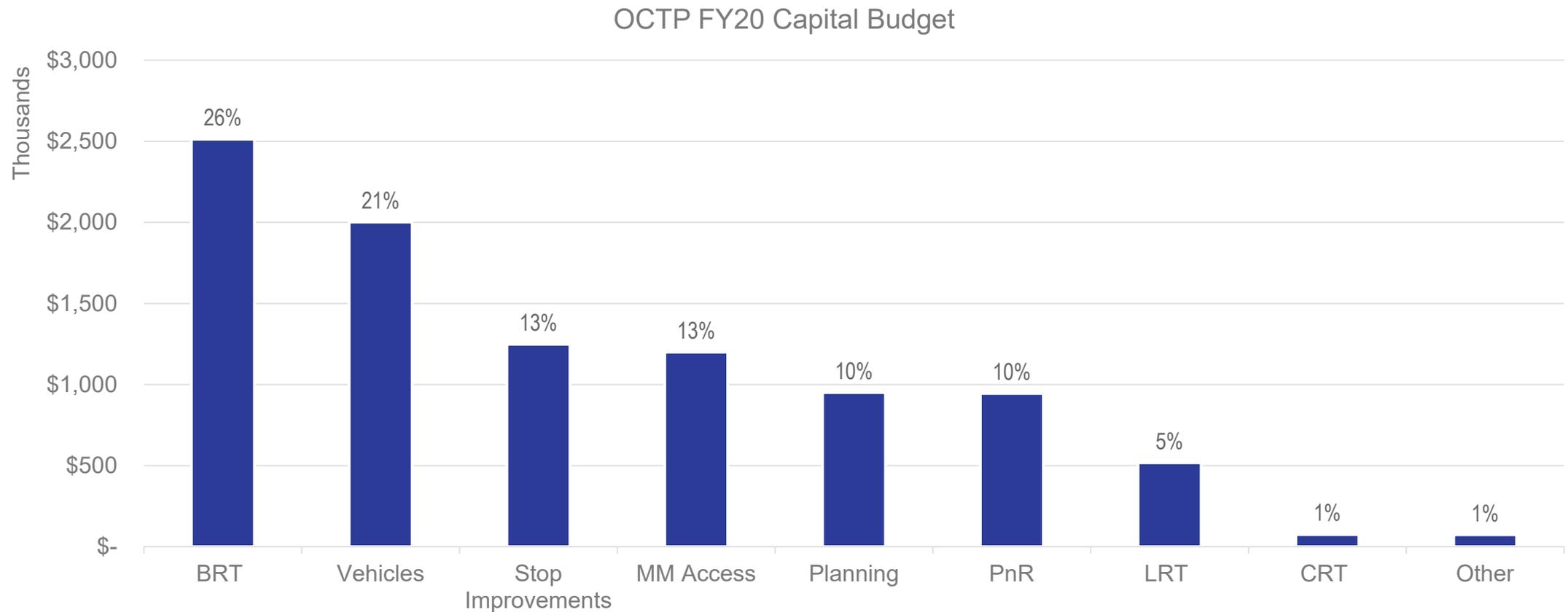
# Orange County Transit Plan Budgeted Funding (FY20)



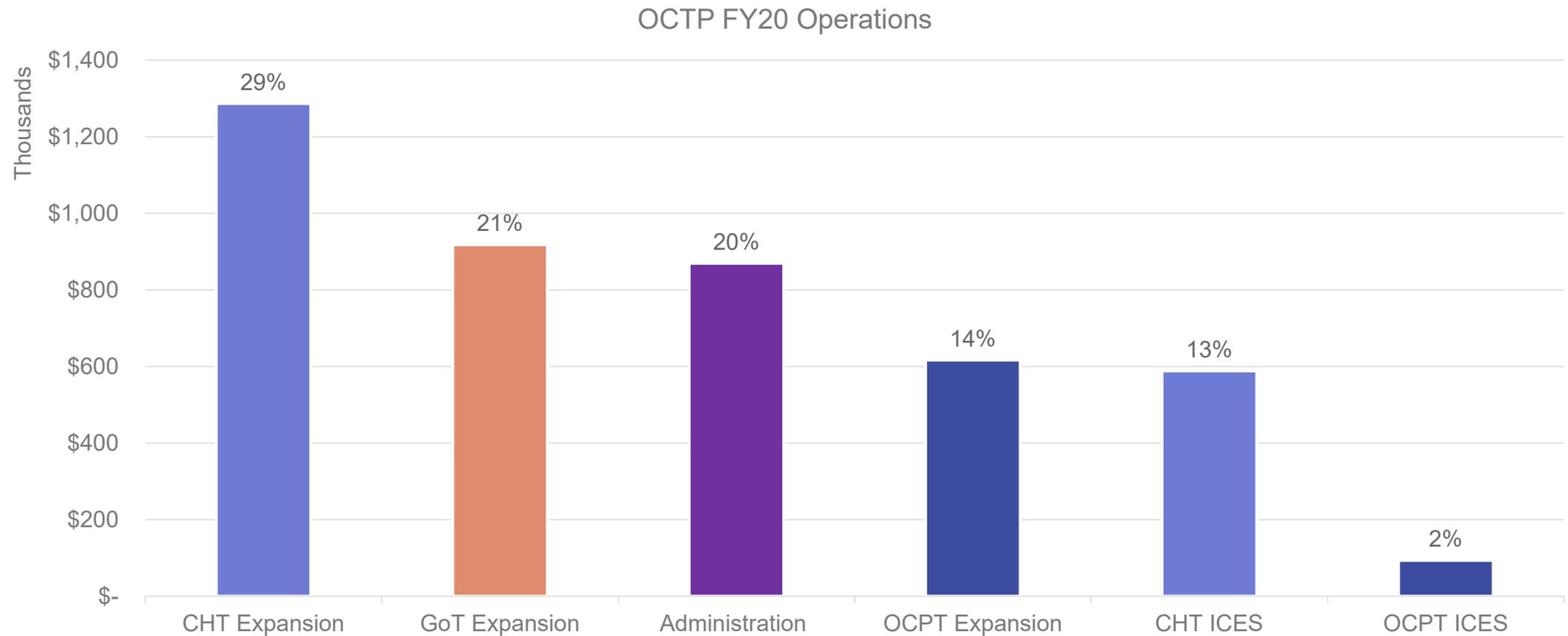
# CAPITAL VERSUS OPERATING

- 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

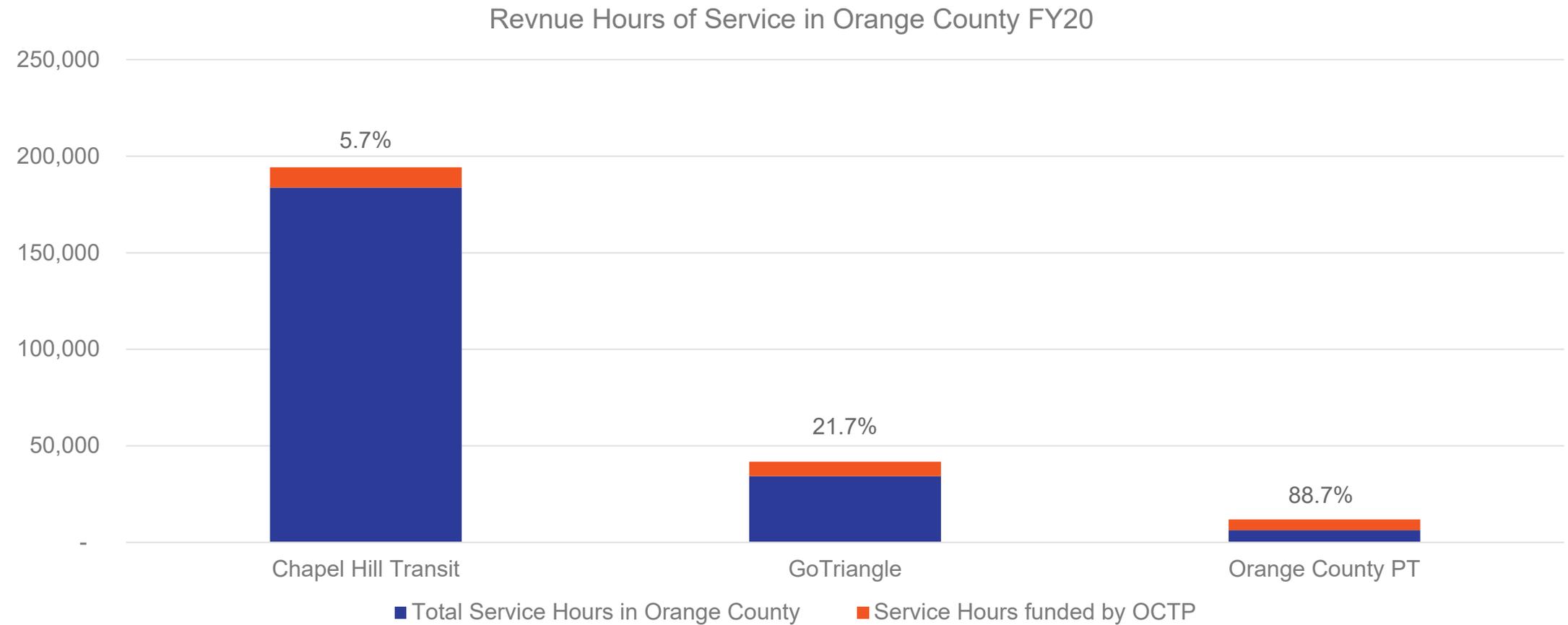
# WHERE ARE CAPITAL FUNDS GOING?



# WHERE ARE OPERATING FUNDS GOING?



# HOW MUCH SERVICE IS FUNDED BY OCTP?



# OPERATING VERSUS CAPITAL

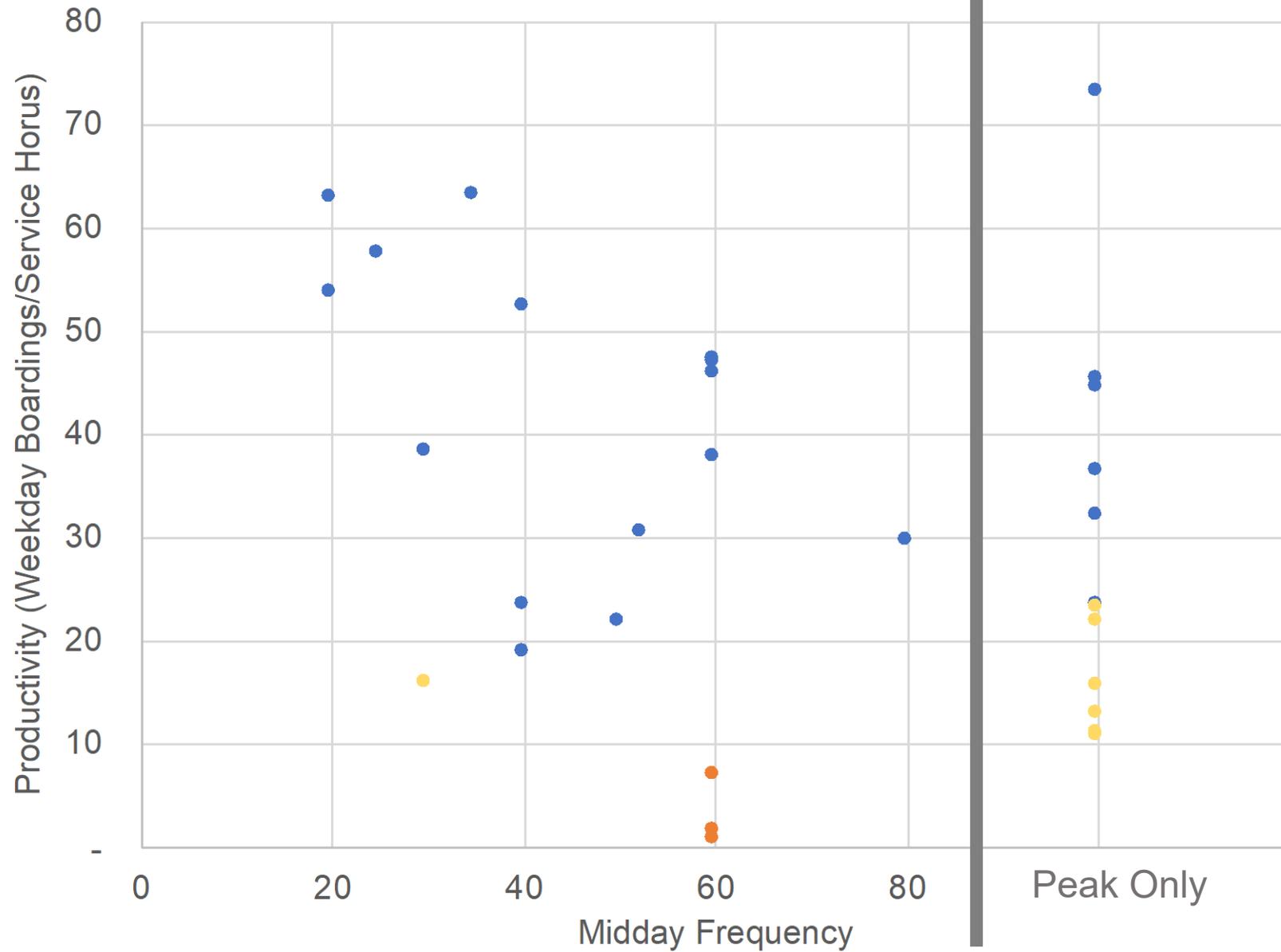
- Operating funding actually provides the services that people use
- Capital funding supports the service (vehicles, planning)
  - Pays for new vehicles
  - Provides amenities at stops
- Some communities over-invest in capital improvements since it is highly visible to all



# Operating vs. capital: How should Orange County balance investments in capital and operating?

- A Invest 100% in operating service
- B 80% in operating service/ 20% in capital improvements
- C 60% in operating service/ 40% in capital improvements
- D 40% in operating service/ 60% in capital improvements
- E 20% in operating service/ 80% in capital improvements
- F Invest 100% in capital improvements

# Weekday Productivity and Midday Frequency



● CHT ● OCPT ● GoTriangle

# 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

# PEAKING HAS EXTRA COSTS

- Extra buses in the fleet to:
  - Purchase
  - Maintain
  - Garage
  - Replace
- Slight additional labor costs
- Less service in the midday, evenings, and on weekends
- Requires a higher capital to operating ratio

# Trade-off: Longer distances, or more riders

Route	What does it do?	How should we measure it?	Results:	
A	4 people, 3 miles each	Number of people (boardings)	4 boardings	12 passenger miles
B	2 people, 10 miles each	Number of miles (people x miles)	2 boardings	20 passenger miles

*Which of these routes is doing work that you care about more?*



# Which is more important to you: the number of lives touched, or the distances traveled?

A More riders, shorter distances is of utmost importance.

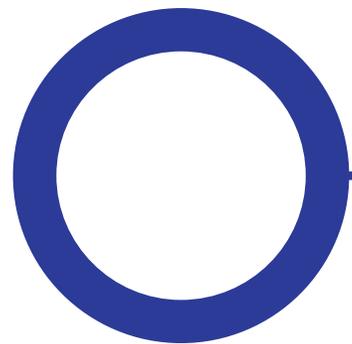
B More riders, shorter distances is a little more important.

C I value them equally.

D Longer distances, fewer riders is a little more important.

E Longer distances, fewer riders is of utmost importance.

F I'm not sure.



Q&A

---

# Q & A

- Please submit your questions and comments using Zoom's Q&A feature or in the chat box
  - Is there something you want to know more about?
  - Is there anything we missed?
  - Do you have ideas about potential transit opportunities in Orange County that you'd like to share?
  - How can you/your clients/your constituents be better served by transit in Orange County?
  - Are there areas of the county with high need that are currently being under-served?
  - What can we do to help you participate in the planning process?



# ○ Next Steps

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# We Need Your Help!

- Share link to public survey:  
<https://www.surveymonkey.com/r/OCTransit>
- Be a project “ambassador” – help us share accurate information about the transit plan update
- Stay informed – visit the project website and sign up for project updates!  
[www.octransit2020.com](http://www.octransit2020.com)



# Next Steps

- Summarize feedback from Transit Summit and share
- Use findings from Transit Summit to develop conceptual transit scenarios
- Transit Summit 2 (Winter 2021): Get more feedback and identify a preferred transit investment scenario



# Thank you!

Connect with the project team:

[www.octransit2020.com](http://www.octransit2020.com)



**MORE SLIDES!**



# Technology Will (NOT) Save Us!

Technology never changes geometry!

# What kind of certainty?

People don't like buses.

**Subjective**

Transit use is higher in denser places.

**Empirical**

A car takes up at least 50 sq ft.

**Geometric**



# Geometry bats last:



## Problem

## Solution

Emissions  
Efficient Use of Energy



Electric  
Vehicles

Efficient use of Human Labor  
Safety



Autonomous  
Vehicles

Efficient Use of Space  
(in dense cities)

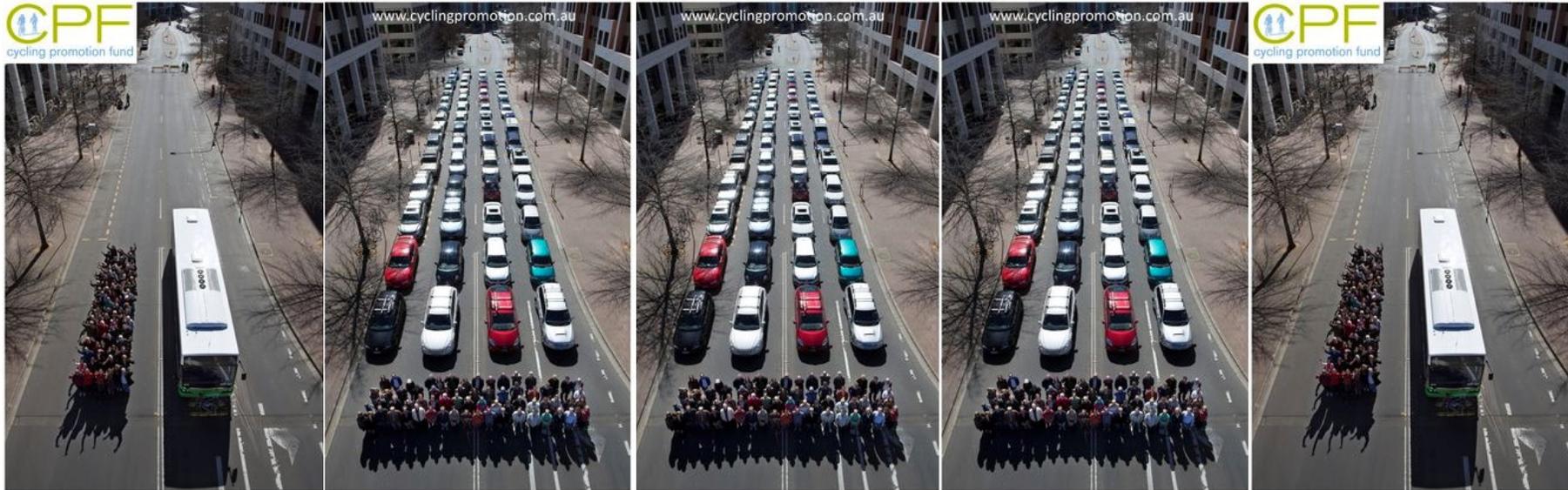


Big Vehicles  
(Transit)

# It's about Space

- Technology never changes geometry!

Much worse,  
really! Induced  
demand!



Bus

Private Car

Uber/Lyft Car

Driverless Car

Driverless Bus?

# Common Transit Fallacy: Technology Love

# The Tourist's Fallacy

1. Go somewhere.
2. See something you love.
3. Buy one and take it home.
4. Discover that you don't enjoy it in daily life the way you enjoyed it *as a tourist*.



# Does technology matter at all?

Yes, at the extremes ...

1. Frequency
2. Span
3. Speed
4. Reliability
5. Capacity

These two are about how long you spend stopped and what can get in your way.



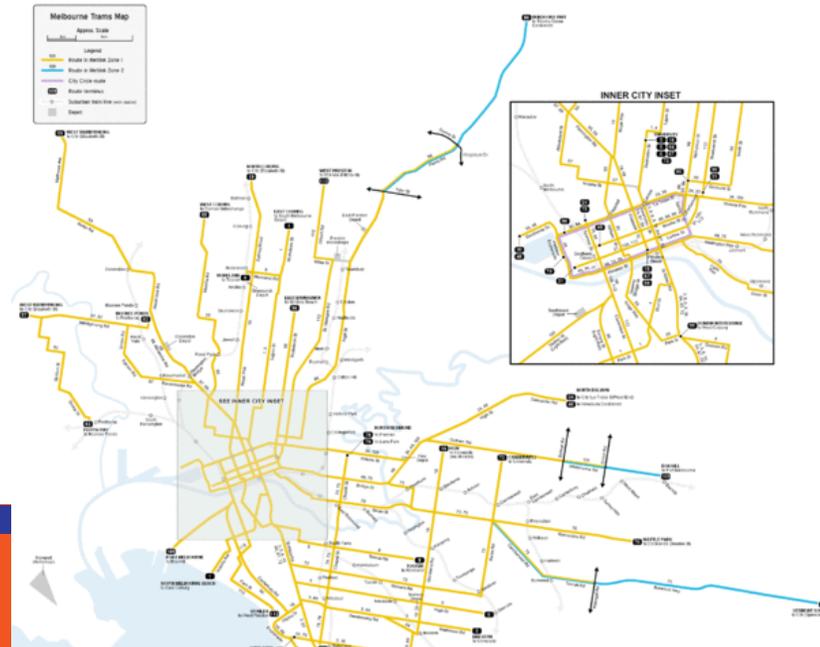


Isn't this the question?



# Focusing on choosing vehicles and technologies ...

- ... is easy because everyone has reactions to vehicles ...
- ... is a false analogy with choosing personal vehicles.
- ... presumes that people care about the vehicle more than about their freedom.



# Technology as Goal

1. What a great vehicle!



2. Where should we run it?

# Technology as Tool

2. What vehicle best provides that?



1. How can we maximize freedom?