



DURHAM • CHAPEL HILL • CARRBORO

**DCHC**

METROPOLITAN PLANNING ORGANIZATION

PLANNING TOMORROW'S TRANSPORTATION

# Determinants of Transit Ridership

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# Overview of Current Circumstances

Just 5.17% of commuters use transit

Less than 2% of households in the MPO have day round access to high frequency transit

64% of commuters and 76% of jobs in the MPO are within ½ mile of a transit stop

Average household has access to 6 bus routes

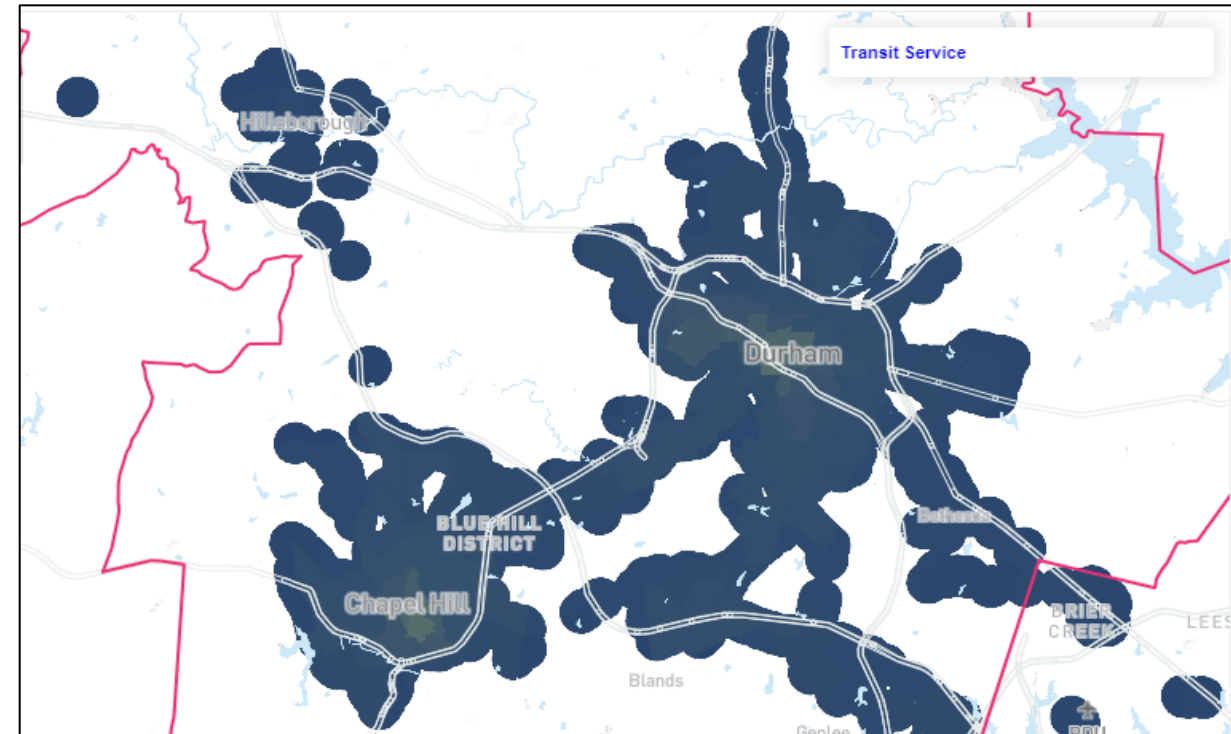
4.0 out of a 10pt scale measuring connectivity, access to jobs and service frequency. This ranks 40<sup>th</sup> in the country for MPO's and #1 best in NC.

AllTransit™ Performance Score

4.0

MPO: Durham-Chapel Hill-Carrboro MPO  
Low combination of trips per week and number of jobs accessible enabling few people to take transit to work

In short: most people have access to some transit, but it is either not frequent enough or does not go where they need it to



The Transit Connectivity Index (TCI) was developed by CNT as a measure of transit service levels. The TCI is based on the number of bus routes and train stations within walking distance for households in a given Block Group scaled by the Frequency of Service.

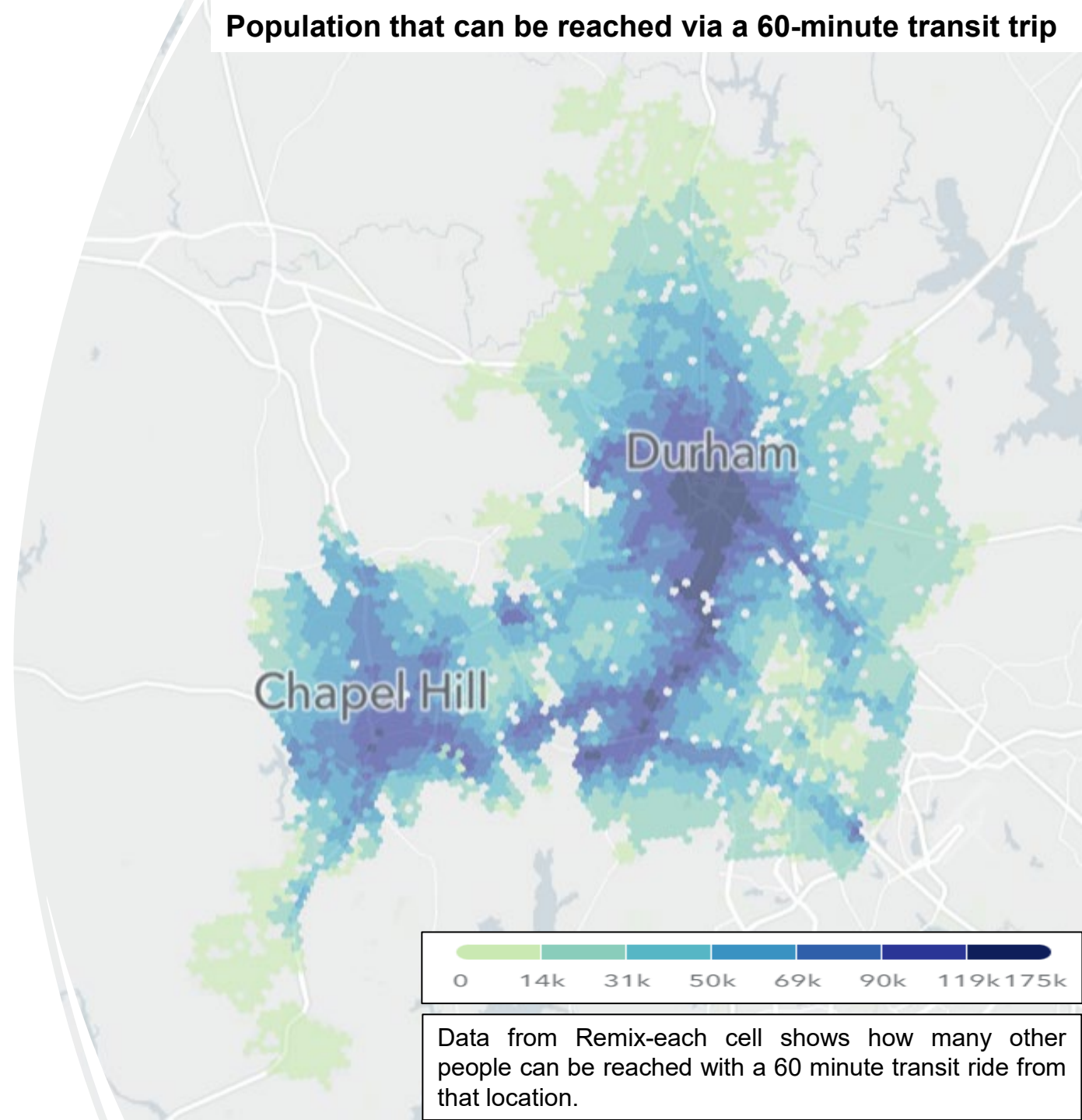
■ < 10 ■ 10-15 ■ 15-20 ■ 20-30 ■ 30-40 ■ 40-50 ■ 50-60 ■ 60+

**“The 700 only runs every 30 minutes, it gets stuck in the same traffic cars commuters create, it drops me off on the side of a highway[...]the bus feels like an accommodation for “other” people-not a proud public resource. Taking the bus should feel like a normal thing to do, not something you do because you have no other option. It takes me 15 minutes to drive to work, 50 minutes to take the bus”- MPO Resident**



# Factor 1: Travel Time

- Transit travel time should be under 1.25X personal vehicle travel time
  - If a trip is a 10-minute drive it needs to take less than 13 minutes by transit
- To maximize ridership, transit needs to be time competitive with driving
- Travel time is impacted by stop characteristics and service reliability, frequency and transfers
- On mixed traffic routes, increases in congestion also impacts travel time reducing ridership



# Factor 2: Service Quality

- Distance to Stop
  - 80% of riders walk to bus stops, distance to stop should be under .5 miles or a 10-minute walk
- Transfers
  - 1 and 2 transfers increases driving likelihood by 4.7% and 24.3% respectively with 2 or more stops also decreasing trip satisfaction by 40%
- Stop Characteristics
  - Sidewalks are an accessibility and safety requirement
  - Benches, shelters and sidewalks increase ridership by 5.7%
  - Can incorporate small benches and shelter into pole design at lower usership stops



Example low ridership pole bench  
Tri Met (Portland Oregon)



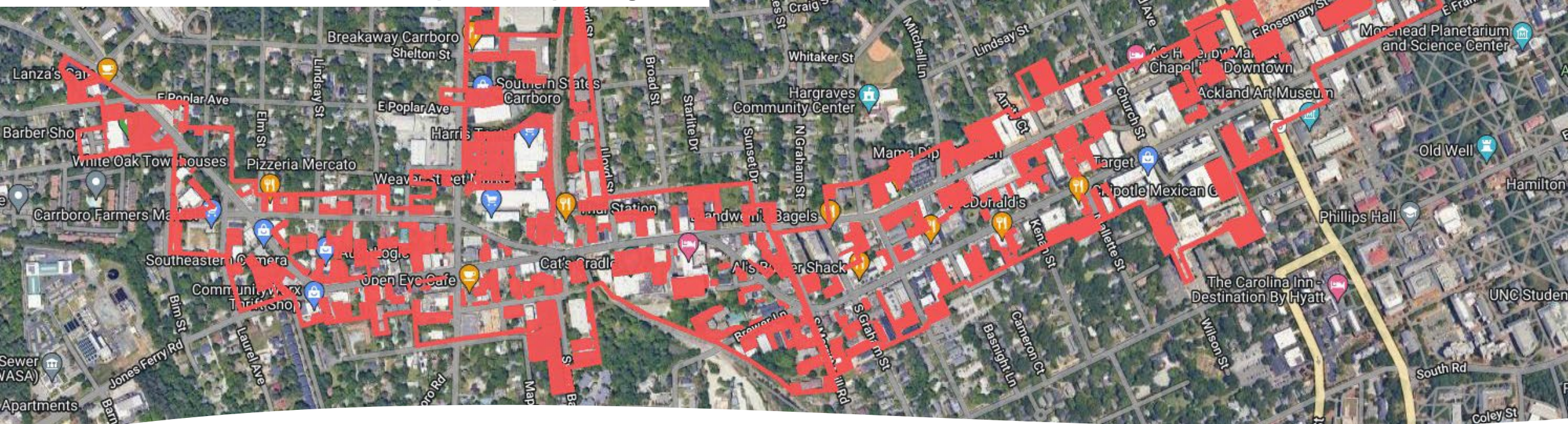
# Factor 3: Service Reliability

- Service Reliability is associated with peak workday commuter travel
  - People want to know when they'll get to and back from work reliably
- Reliability is impacted by land use characteristics
  - Number of signalized intersections, zoning types, total roadway network length
- Mixed traffic buses have a maximum expected on time performance of 70%
  - Traffic congestion negatively impacts bus reliability





## 37% of Downtown Carrboro and Chapel-Hill is parking!



### Factor 4: Parking Access

- Free parking at work increases solo driving by up to 60%
  - Effect remains when even with free transit passes and installation of bike/ped facilities
  - Offering cash outs for parking spots eliminates the effect of parking
- People are more willing to transit when parking is limited than when congestion increases
- People value consistency- they will adjust to traffic increases by leaving earlier but the unpredictability of parking access can incentivize transit ridership.

# Recommendations

Focus on making transit a proud public resource, transit should be something people want to take! Because its convenient, takes less time than driving and allows them to play Wordle on the way to work.

To disincentivize driving- focus on making drivers pay the true cost of driving. Charging for parking, and a VMT tax feel like extra expenses, while the gas tax just gets rolled into the cost of doing business.

It is essential that bus stops are accessible and safe- no one wants to walk on a grass shoulder to a bus stop on the side of the highway

Reducing transfers and increasing reliability for home to work trips, along known commuter corridors could significantly increase ridership and decrease VMT