

***Denton County*** 

# ***Transit Study***

**Project Advisory Committee  
Meeting #2**

Sept. 21, 2022



North Central Texas  
Council of Governments



# Agenda & Introductions

**Welcome**

**Shannon Stevenson, NCTCOG**

**Project Overview**

**Scott Boone, Cambridge Systematics**

**Public Engagement**

**Leigh Hornsby, PIA**

**Existing Conditions**

**Scott Boone**

**Scenario Development**

**Jim Baker, Nelson\Nygaard**

**Next Steps**

**Scott Boone**

**Questions + Answers**

**Scott Boone**



# PROJECT OVERVIEW

# Project Overview

**Time:**  
0–5+ Years



**Geography:**  
Denton County  
(especially outside  
of DCTA)



**Audience:**  
Municipalities



**Outcomes:**  
Mobility options  
& next steps





# Project Outcomes

Conditions +  
Need



Mobility  
Options



Funding



Implementation



# PAC Objectives

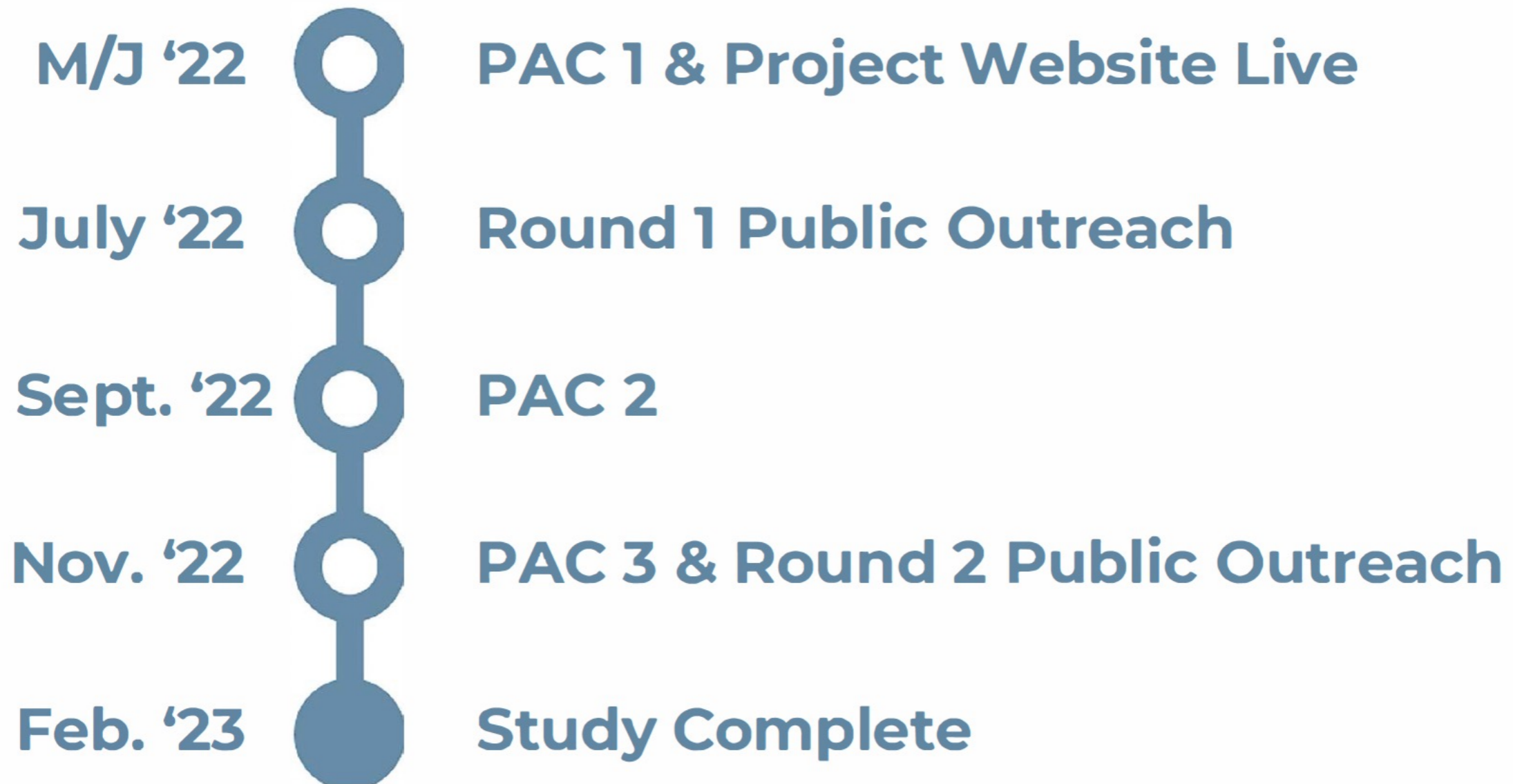
Make sure we have the **right people** in the room.

Bring to the surface any relevant **history**, areas of **investigation**, **ideas**, and **obstacles**.

Describe **next steps** in the study.

Highlight opportunities for **future input** and engagement.

# Project Schedule





# PUBLIC ENGAGEMENT



# Public Meeting

Thursday, September 8, 2022, 6:30 pm  
DCTA Downtown Denton Transit Center





# Public Meeting

Number of Attendees: 51  
Number of Breakout Sessions: 6





# Public Meeting

## Key Takeaways

- Concern over fixed-route elimination in Denton
- Strong desire for buses to replace GoZone
  - Concerns over safety and timing of GoZone
- Better syncing of buses to trains
- Mechanisms for getting to Plano and other cities from Denton





# Website + Survey Statistics

Hits

• 1,192

Participants

• 169

Comments

• < 285

Total Virtual Responses to Date: 3,936

# Project Website

[bit.ly/DentonCoTransitStudy](https://bit.ly/DentonCoTransitStudy)

NCTCOG > Denton County Transit Study



## Denton County Transit Study

### **Welcome to the Denton County Transit Study Website!**

Initiated in March 2022, the Denton County Transit Study aims to develop a comprehensive public transportation plan, particularly for cities and portions of the county that are not members of the Denton County Transportation Authority (DCTA). Efforts will focus on strategic implementation and coordination with other planning efforts. The study will identify transit options, funding and implementation strategies, governance structure and the institutional delivery approach of recommended services or projects, and potential impacts on the community. A Transit Vision, along with specific goals and objectives, will be developed that guide the transit planning process, recommendations, and implementation.

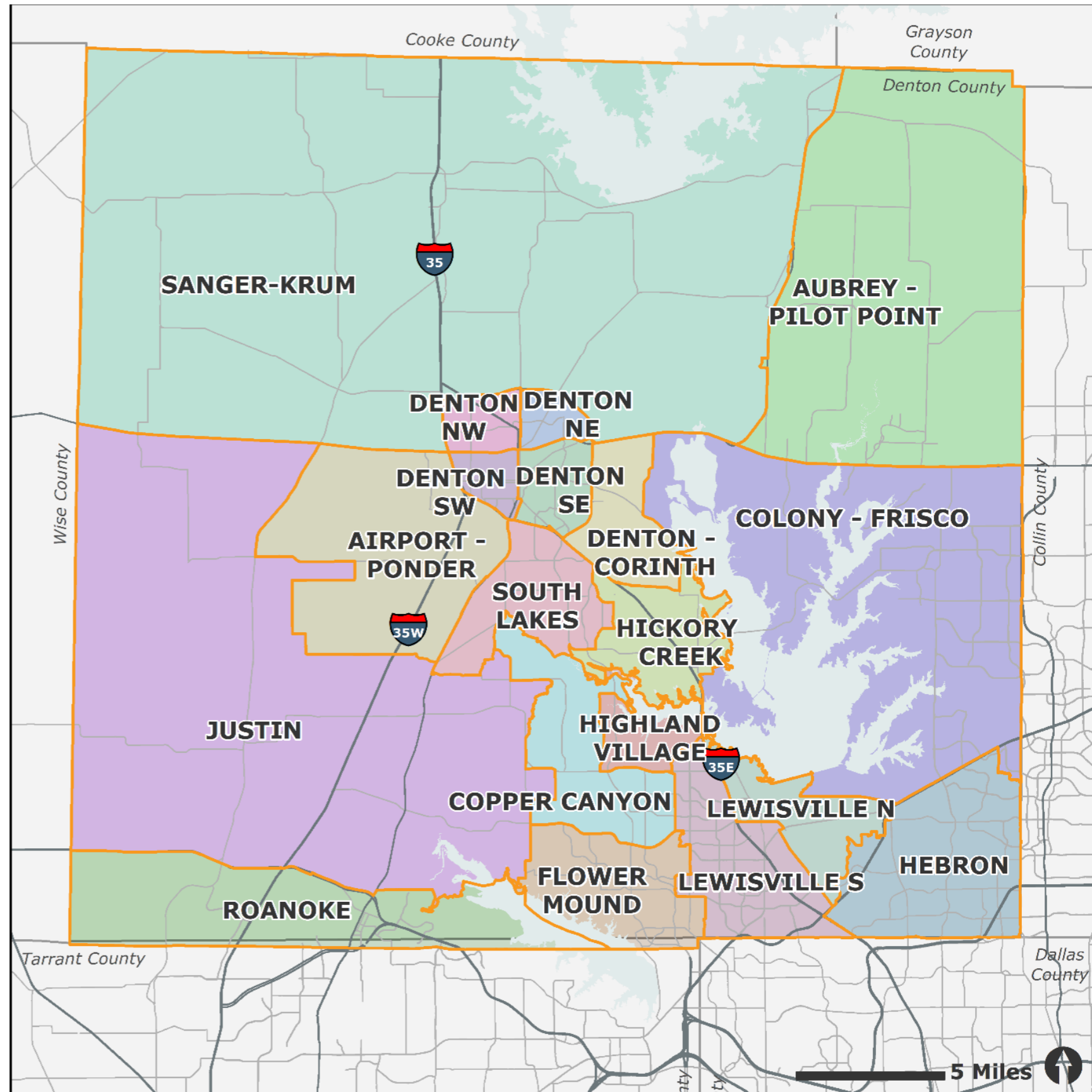


EXISTING CONDITIONS

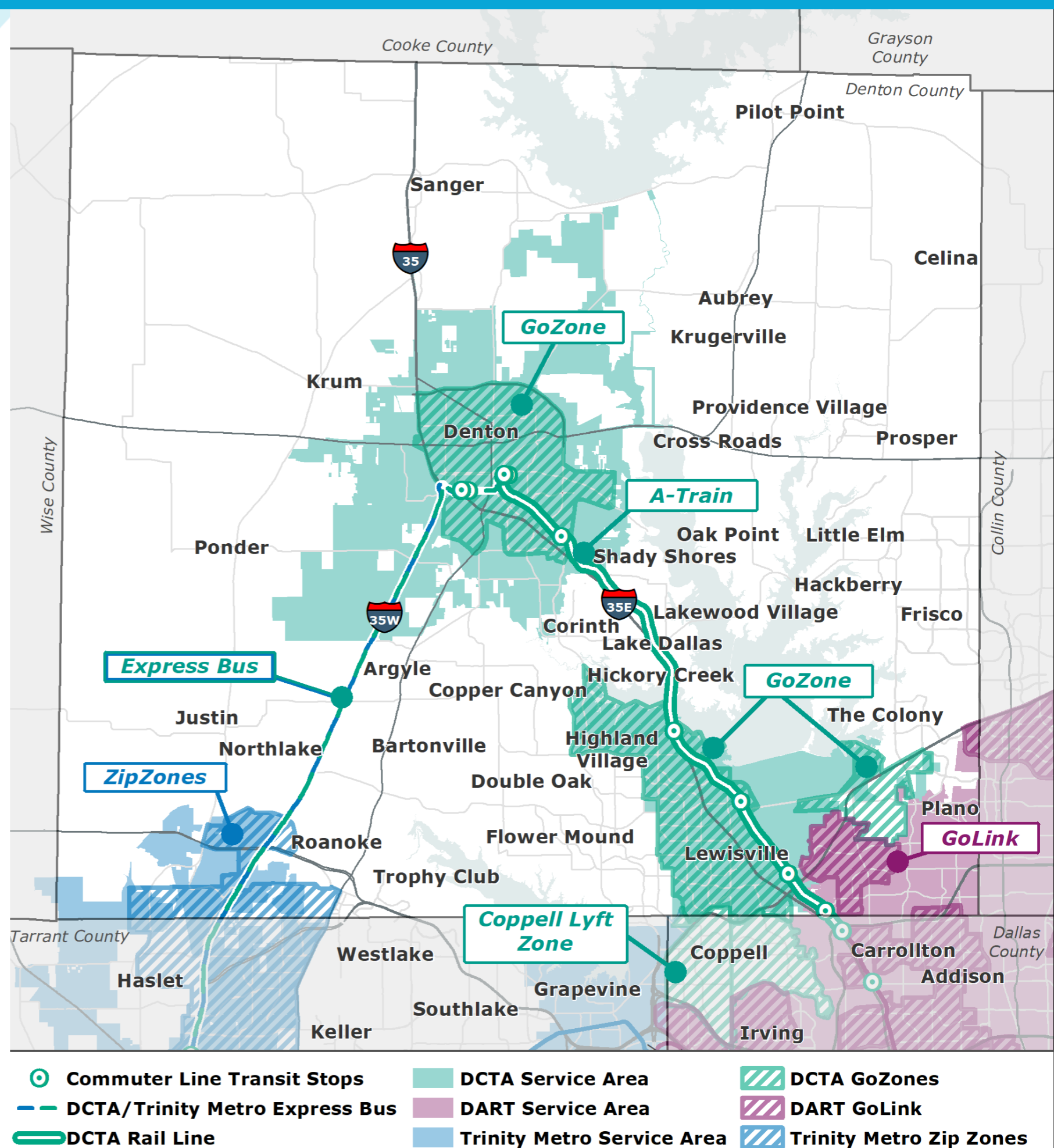
Existing Transit Services

Demand for Transit Services

Gaps between Demand and Services

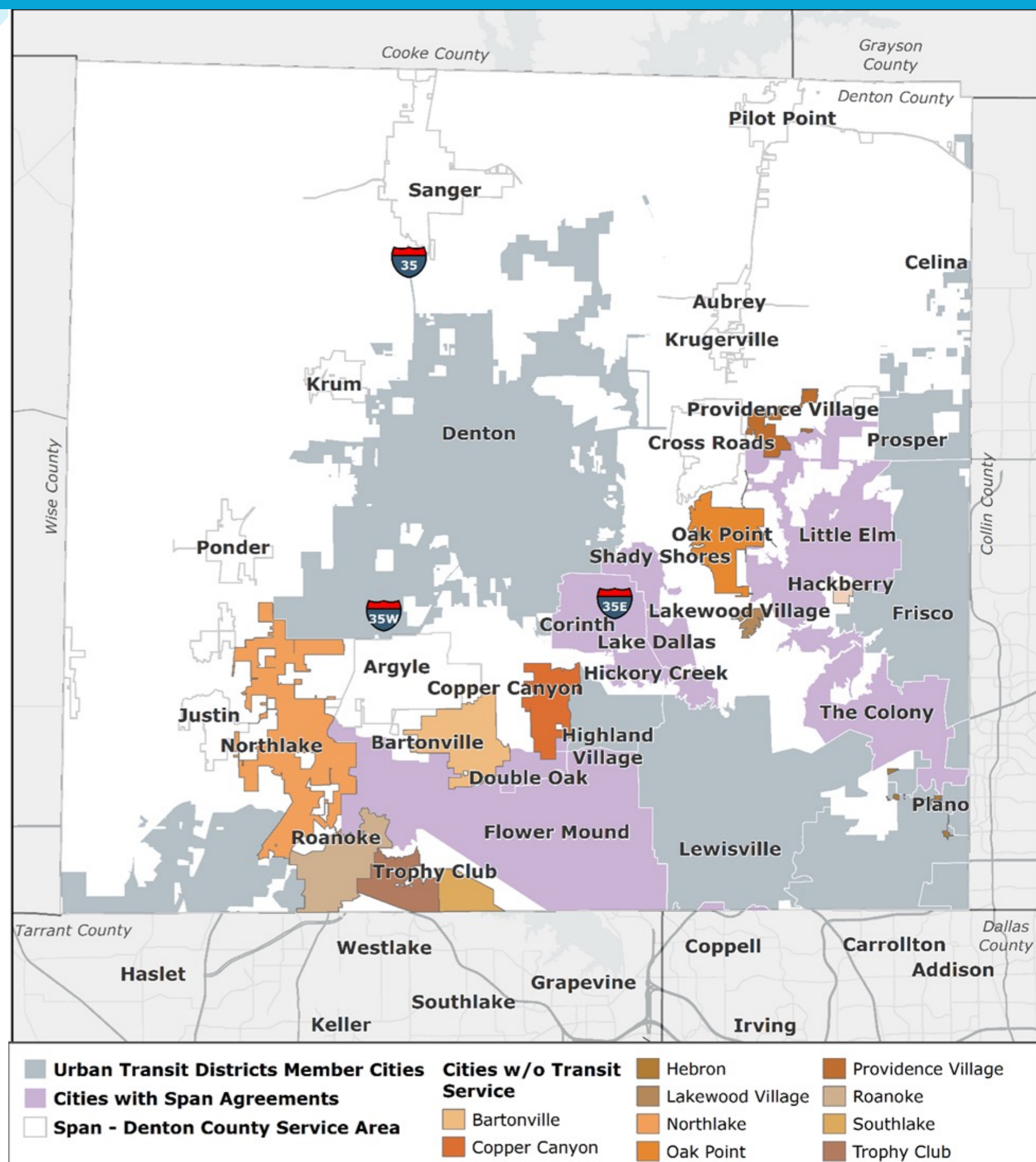


# Existing Transit Services



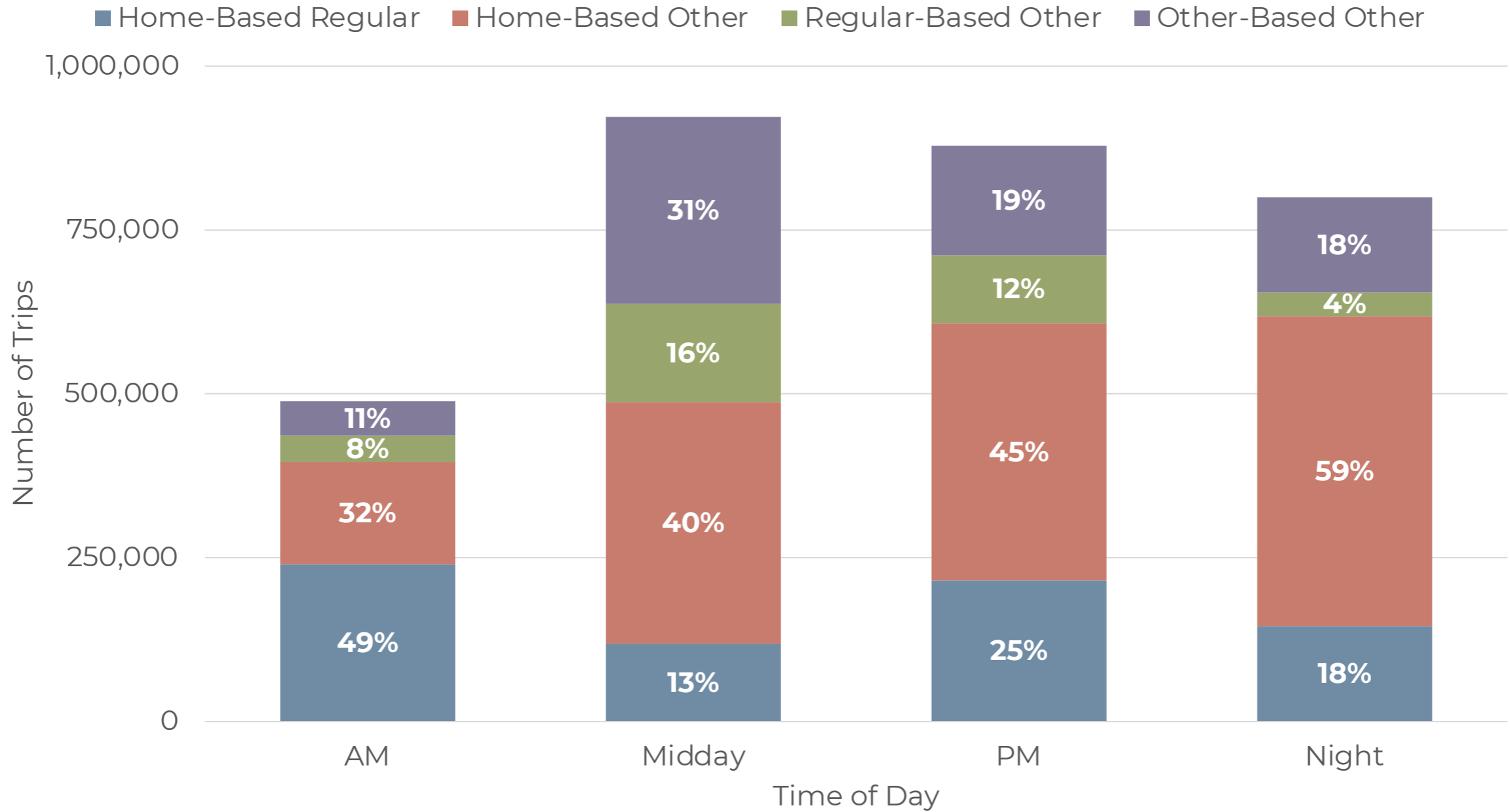


# Existing Transit Services



# Demand for Transit Services

# Purpose and Time of Day



Demand for Transit  
Services

County Trip Flows

*destination*

*origin*

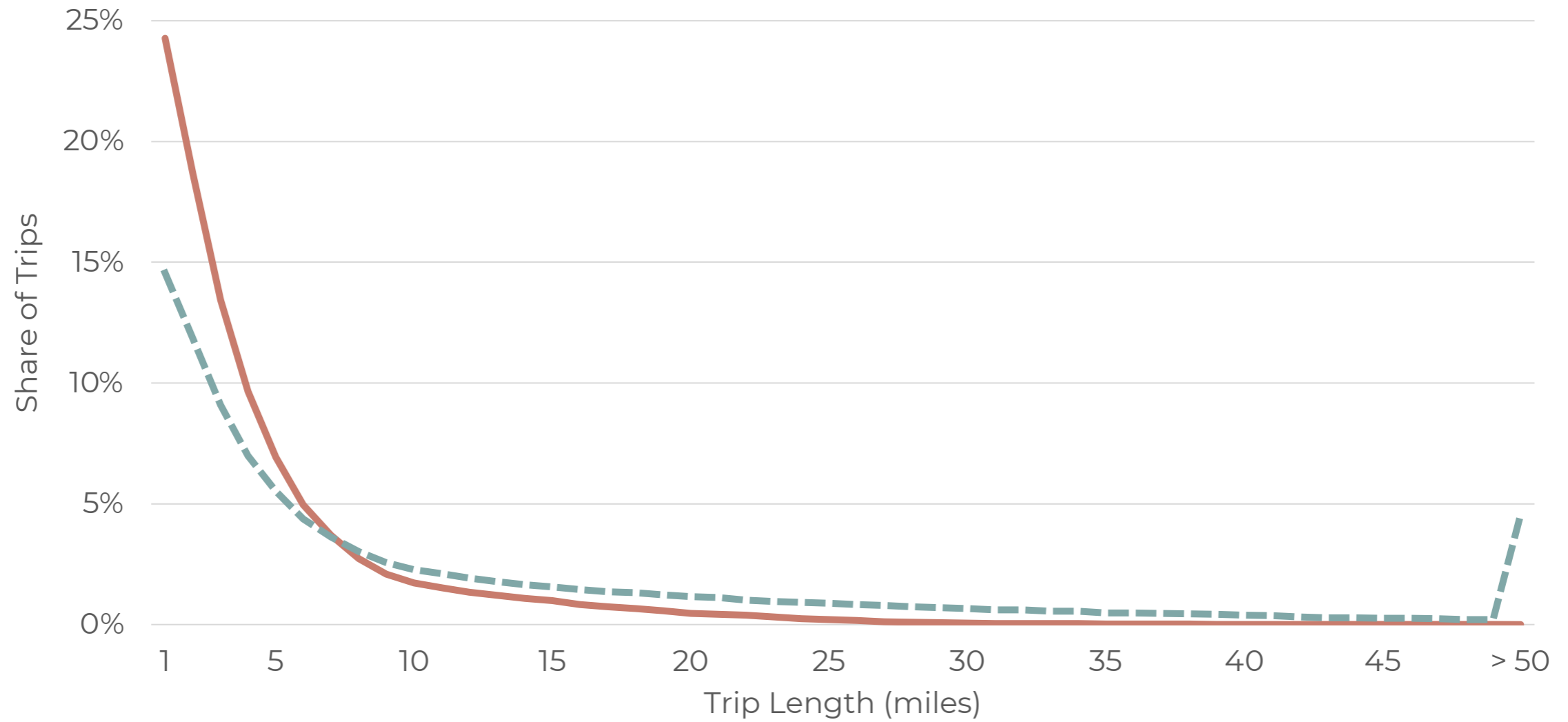
|         | <b>Dallas</b> | <b>Tarrant</b> | <b>Collin</b> | <b>Denton</b> |
|---------|---------------|----------------|---------------|---------------|
| Dallas  | 7,325,800     | 478,300        | 431,300       | 256,200       |
| Tarrant | 475,000       | 5,793,700      | 42,700        | 127,900       |
| Collin  | 431,300       | 46,000         | 2,353,900     | 182,900       |
| Denton  | 260,200       | 130,300        | 181,200       | 1,812,500     |



Demand for Transit Services

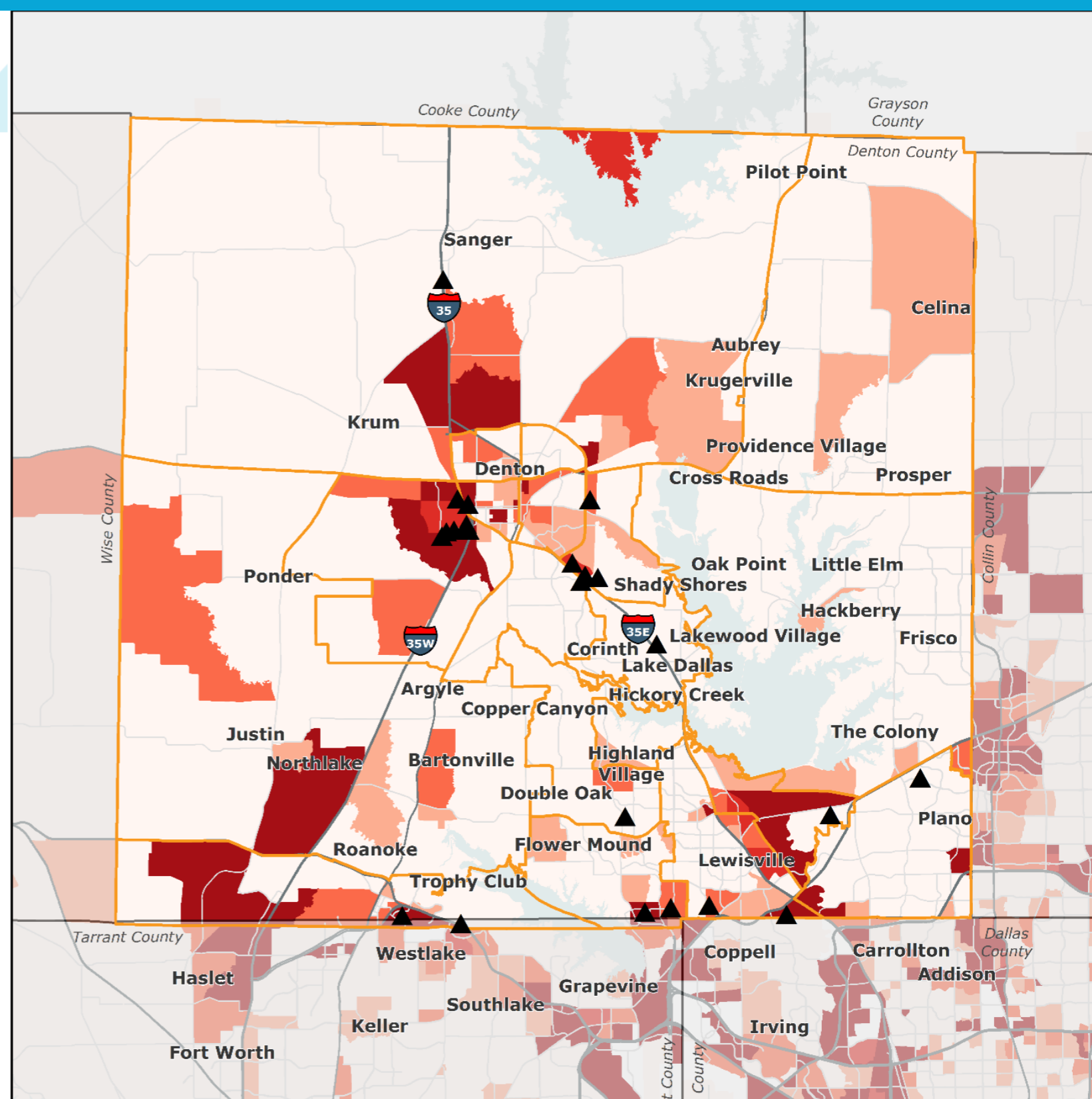
Trip Distance

- Trips Starting AND Ending in Denton County
- - - Trips Starting AND/OR Ending in Denton County



Demand for Transit Services

Job-Worker Balance



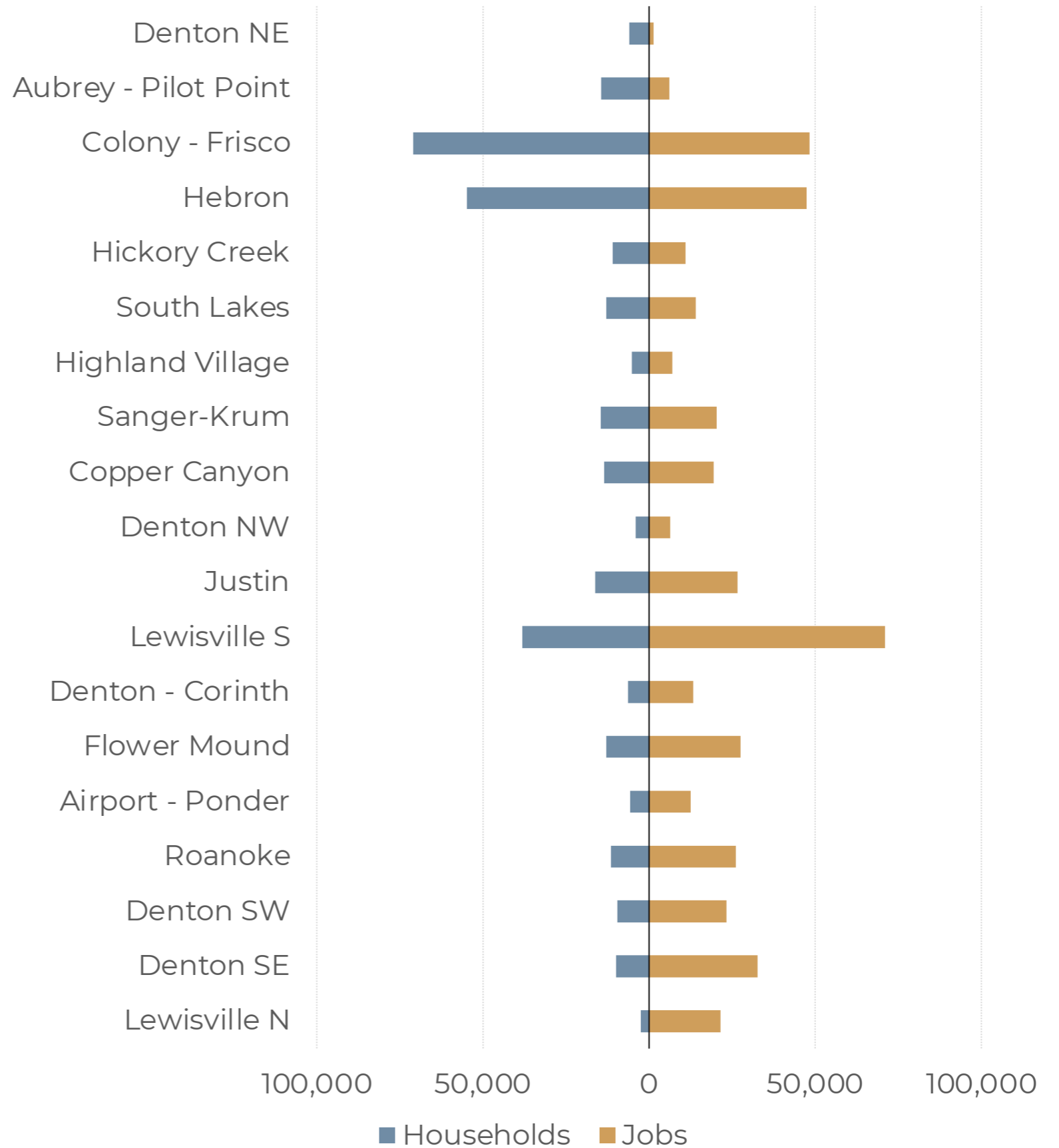
**Jobs to Population Ratio**

- 0 - 1 Jobs per Person
- 1 - 2 Jobs per Person
- 2 - 4 Jobs per Person
- 4 - 5 Jobs per Person
- > 5 Jobs per Person

- ▲ Location of Major Employers
- ▭ Sector Outline

Demand for Transit Services

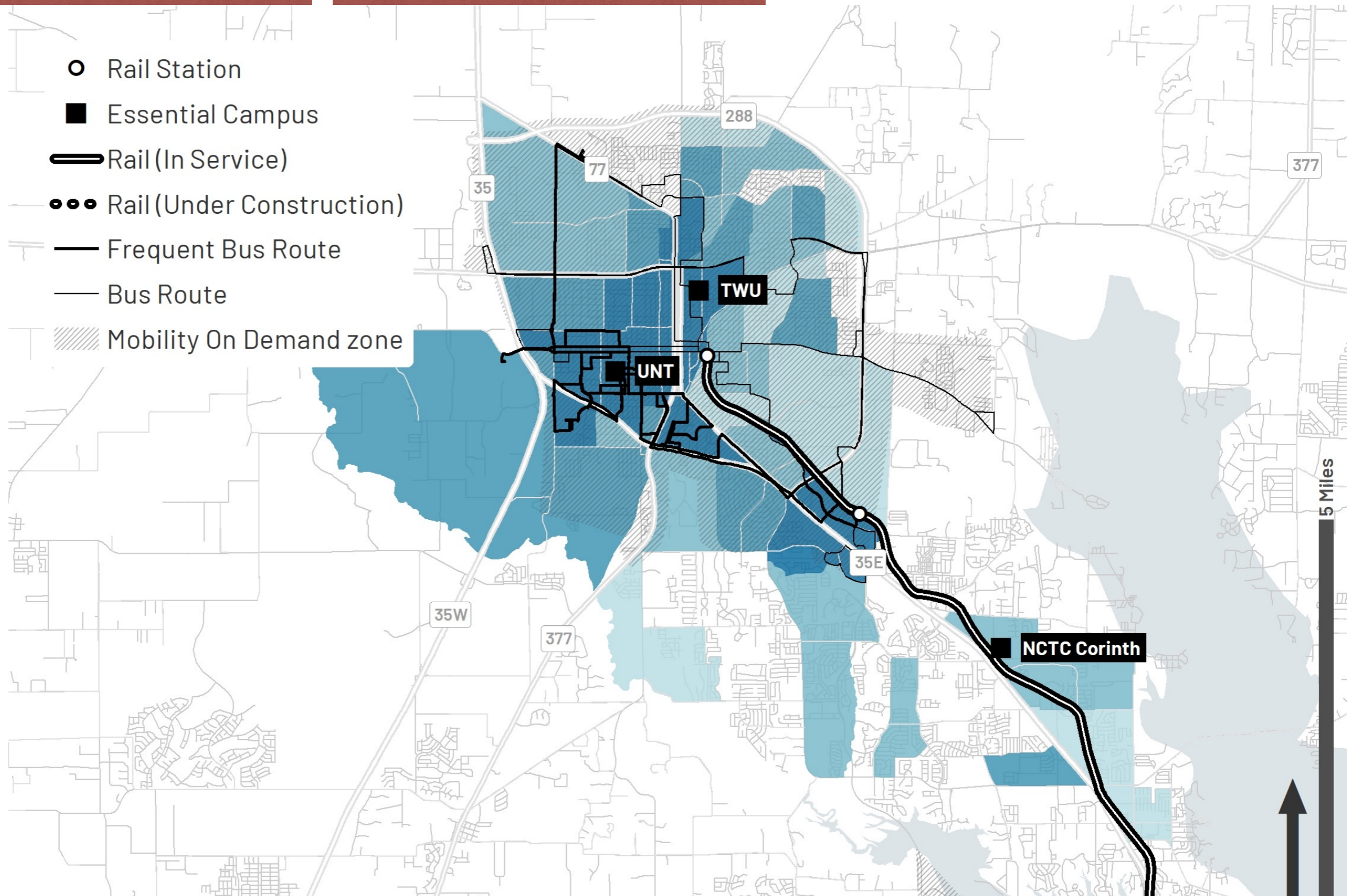
Job-Worker Balance





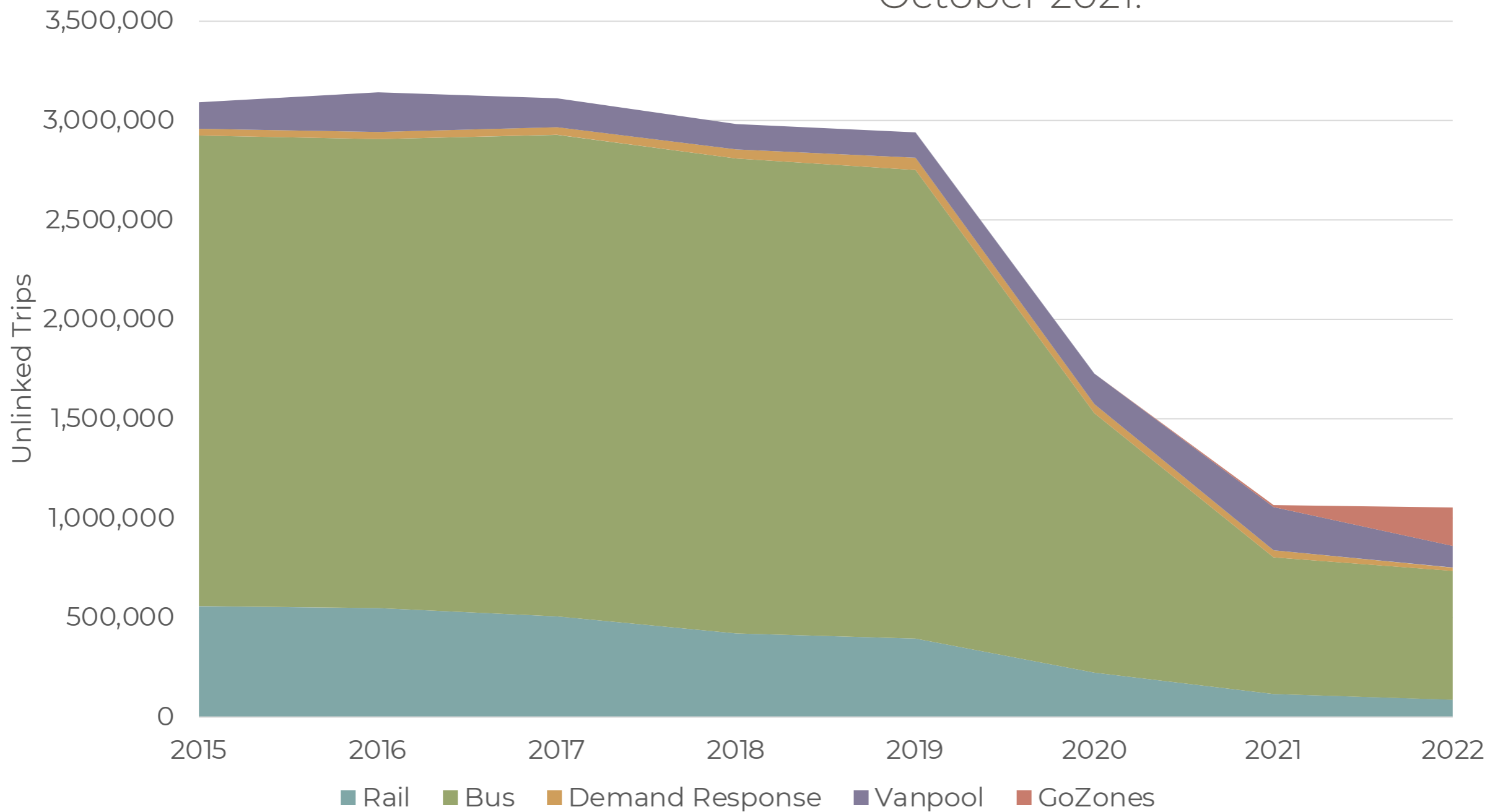
# Demand for Transit Services

# Educational Trips



## Demand for Transit Services

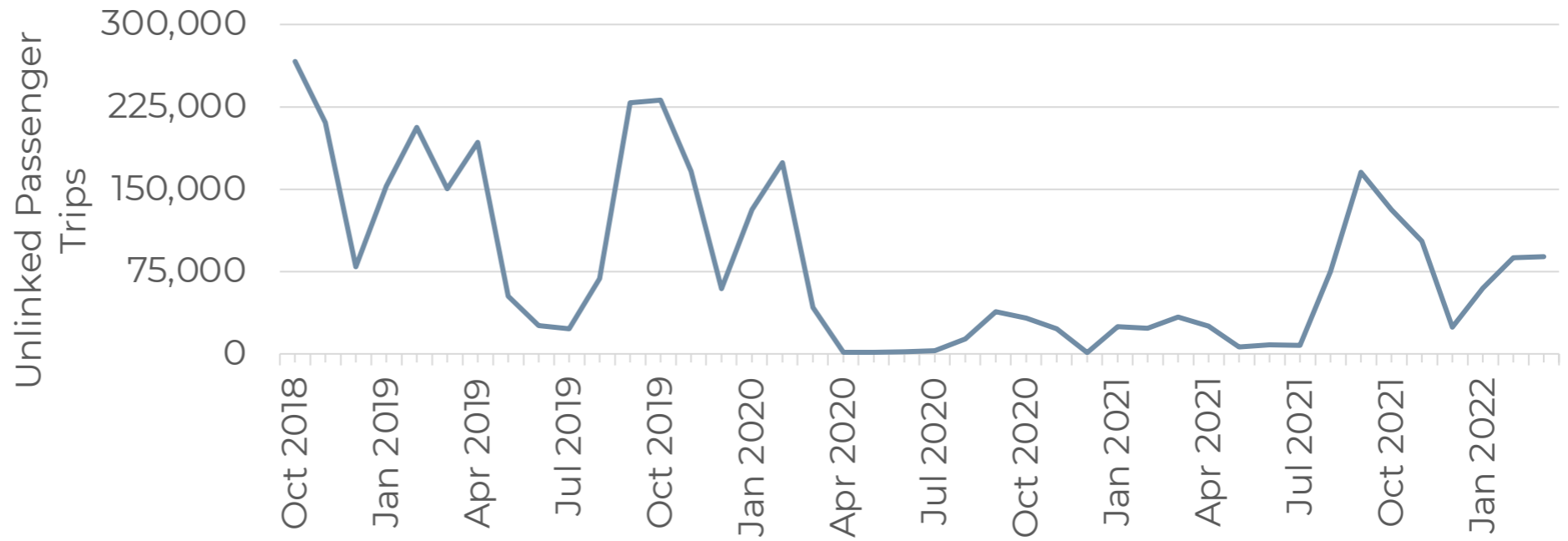
Source: National Transit Database (2015-2020) and DCTA data (2021–March 2022). Note that FY 2022 data (1) are incomplete and (2) begin in October 2021.



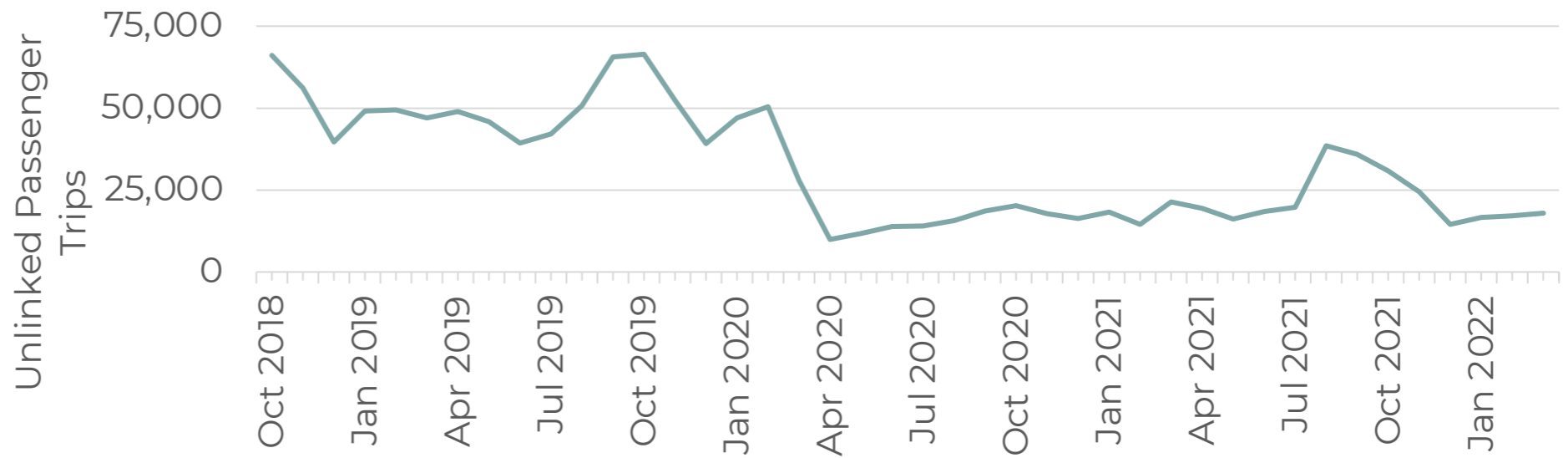
# Demand for Transit Services

## Fixed Route

UNT



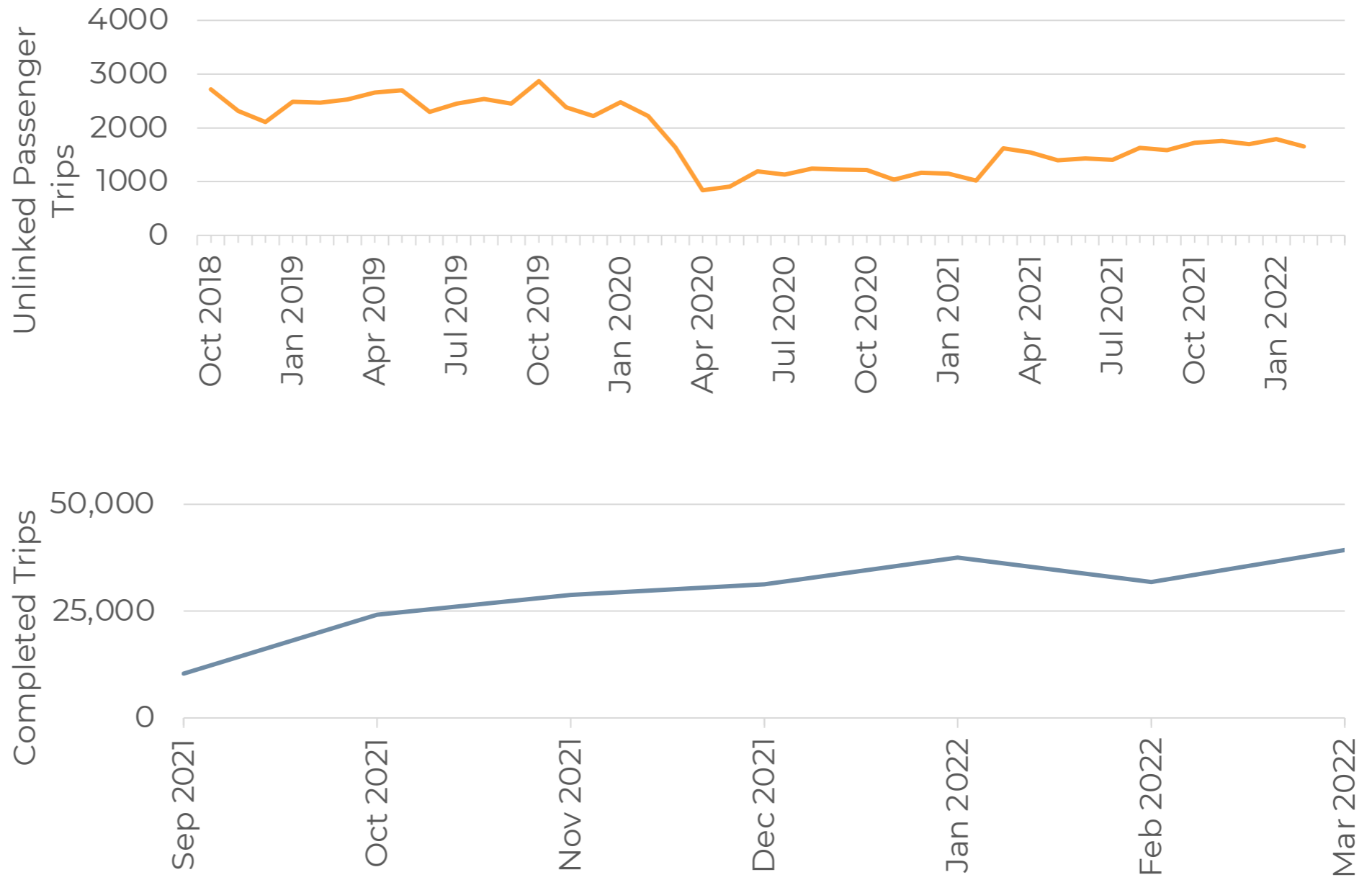
Denton Connect



Demand for Transit Services

On-demand/  
Demand response

Access

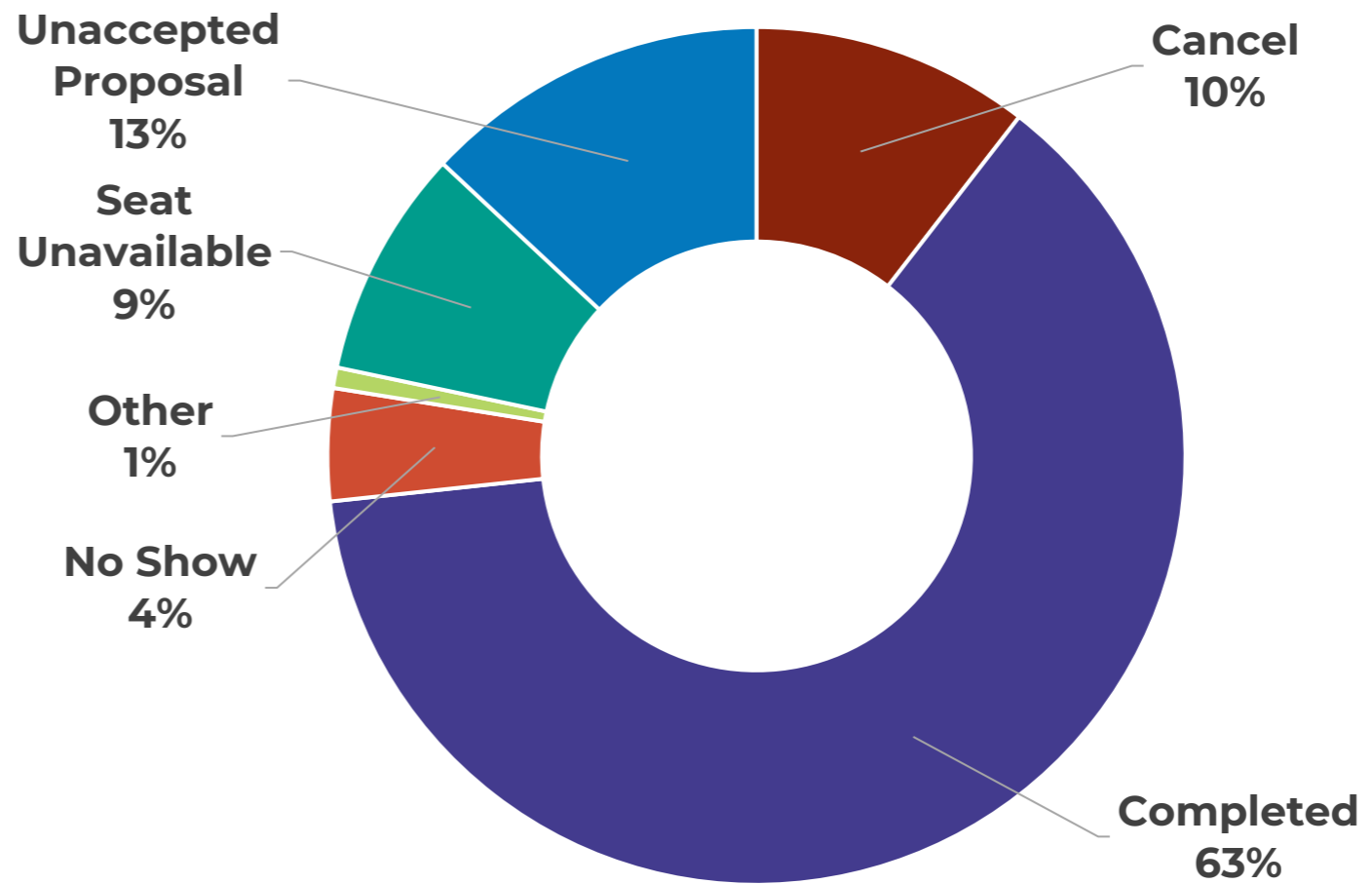


GoZone

Demand for Transit  
Services

On-demand/  
Demand response

GoZone

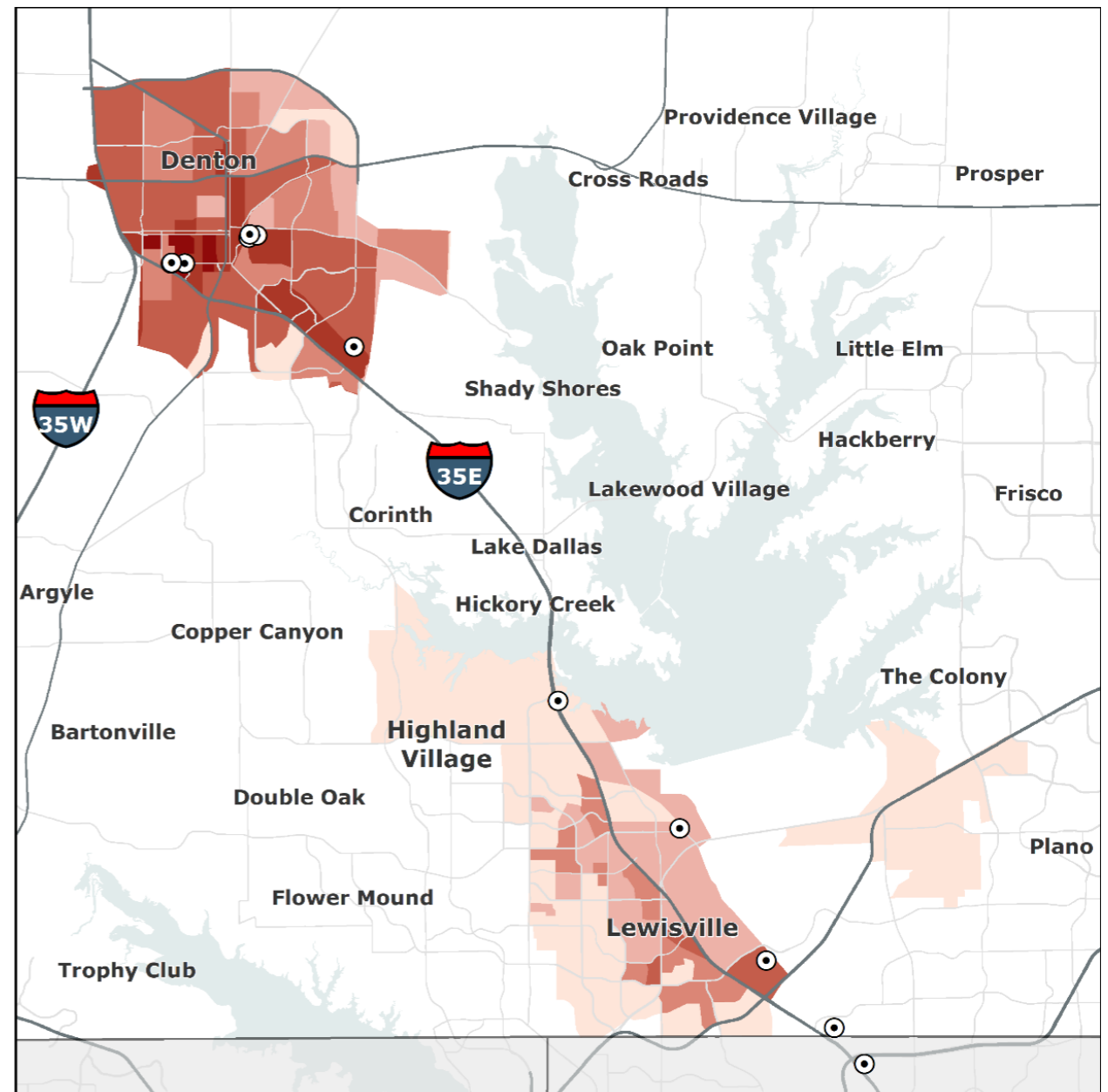




Demand for Transit Services

On-demand/  
Demand response

GoZone



GoZone Origin and Destinations per Acre

- 0 - 2
- 3 - 5
- 6 - 10
- 11 - 25
- 26 - 65
- 66 - 132

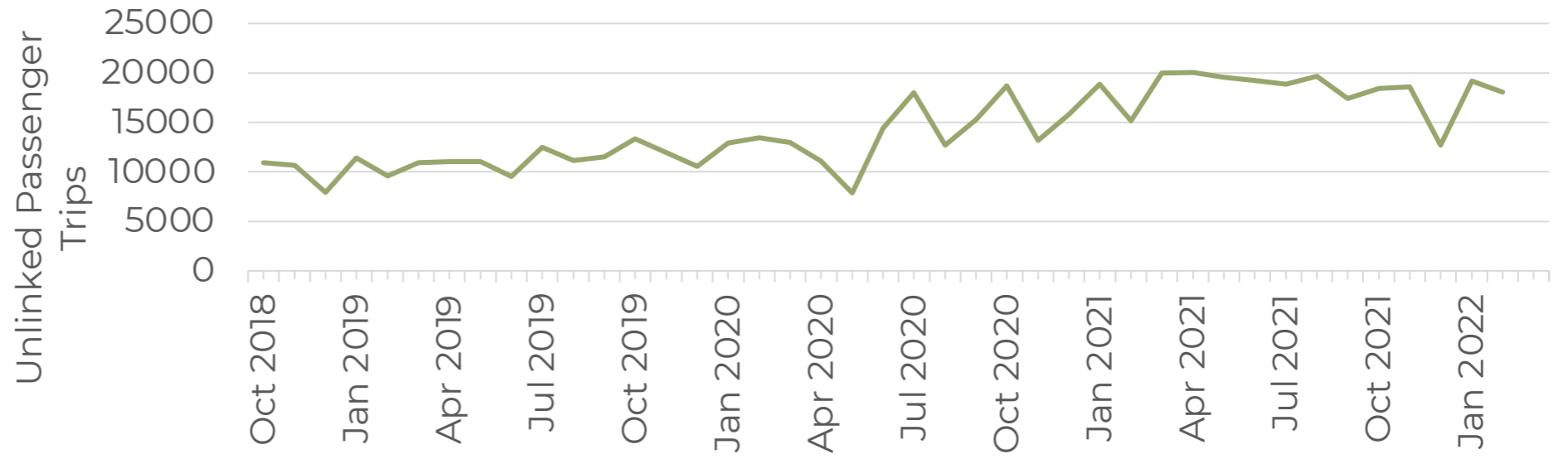
⊙ Commuter Line Stops

2 Miles ↑

Demand for Transit Services

Regional

Vanpool



# Gaps between Demand and Services

|                      | Airport - Ponder | Aubrey - Pilot Point | Colony - Frisco | Copper Canyon | Denton - Corinth | Denton NE | Denton NW | Denton SE | Denton SW | Flower Mound | Hebron | Hickory Creek | Highland Village | Justin | Lewisville N | Lewisville S | Roanoke | Sanger-Krum | South Lakes | Tarrant County | Dallas County | Collin County |
|----------------------|------------------|----------------------|-----------------|---------------|------------------|-----------|-----------|-----------|-----------|--------------|--------|---------------|------------------|--------|--------------|--------------|---------|-------------|-------------|----------------|---------------|---------------|
| Airport - Ponder     | ■                |                      |                 |               |                  |           |           | ■         | ■         |              |        |               |                  |        |              |              |         |             |             |                |               |               |
| Aubrey - Pilot Point | ■                | ■                    | ■               |               |                  |           |           |           |           |              |        |               |                  |        |              |              |         |             | ■           |                |               |               |
| Colony - Frisco      |                  |                      |                 |               | ○                | ○         | ○         | ○         | ○         |              | ○      | ■             | ○                |        | ○            | ○            |         |             |             |                |               | ○             |
| Copper Canyon        |                  |                      |                 | ■             |                  |           |           |           |           | ■            |        |               | ■                | ■      |              | ■            |         |             | ■           |                |               |               |
| Denton - Corinth     |                  |                      |                 |               | ■                | ○         | ○         | ■         | ■         |              | ○      | ■             | ○                |        | ○            | ○            |         |             | ■           | ○              |               | ■             |
| Denton NE            |                  |                      |                 |               |                  | ○         | ●         | ○         | ○         |              | ○      |               | ○                |        | ○            | ○            |         |             |             |                |               |               |
| Denton NW            |                  |                      |                 |               |                  |           | ○         | ○         | ○         |              | ○      |               | ○                |        | ○            | ○            |         |             | ■           | ○              |               |               |
| Denton SE            |                  |                      |                 |               |                  |           |           | ○         | ○         |              | ○      | ■             | ○                |        | ○            | ○            |         |             | ■           | ○              | ■             | ■             |
| Denton SW            |                  |                      |                 |               |                  |           |           | ○         | ○         |              | ○      | ○             | ○                |        | ○            | ○            |         |             | ■           | ○              | ■             | ■             |
| Flower Mound         |                  |                      |                 |               |                  |           |           |           |           | ■            |        |               |                  |        |              | ■            |         |             |             |                |               |               |
| Hebron               |                  |                      |                 |               |                  |           |           |           |           |              | ○      |               | ○                |        | ○            | ○            |         |             |             |                | ○             | ■             |
| Hickory Creek        |                  |                      |                 |               |                  |           |           |           |           |              |        | ■             |                  |        |              | ○            |         |             | ■           |                |               |               |
| Highland Village     |                  |                      |                 |               |                  |           |           |           |           |              |        |               | ■                |        | ○            | ○            |         |             |             |                | ■             |               |
| Justin               |                  |                      |                 |               |                  |           |           |           |           |              |        |               |                  | ■      |              |              | ○       |             | ■           |                | ○             |               |
| Lewisville N         |                  |                      |                 |               |                  |           |           |           |           |              |        |               |                  |        | ○            | ○            |         |             |             |                | ■             |               |
| Lewisville S         |                  |                      |                 |               |                  |           |           |           |           |              |        |               |                  |        |              | ○            |         |             | ○           |                | ■             |               |
| Roanoke              |                  |                      |                 |               |                  |           |           |           |           |              |        |               |                  |        |              |              | ■       |             |             |                | ○             |               |
| Sanger-Krum          |                  |                      |                 |               |                  |           |           |           |           |              |        |               |                  |        |              |              |         | ■           |             |                |               |               |
| South Lakes          |                  |                      |                 |               |                  |           |           |           |           |              |        |               |                  |        |              |              |         |             |             | ■              |               |               |

○ Demand response service, incl. inter-GoZone services ● Fixed-route bus services ■ Fixed-route commuter services  
 ■ More than 10,000 weekday trips ■ More than 5,000 weekday trips

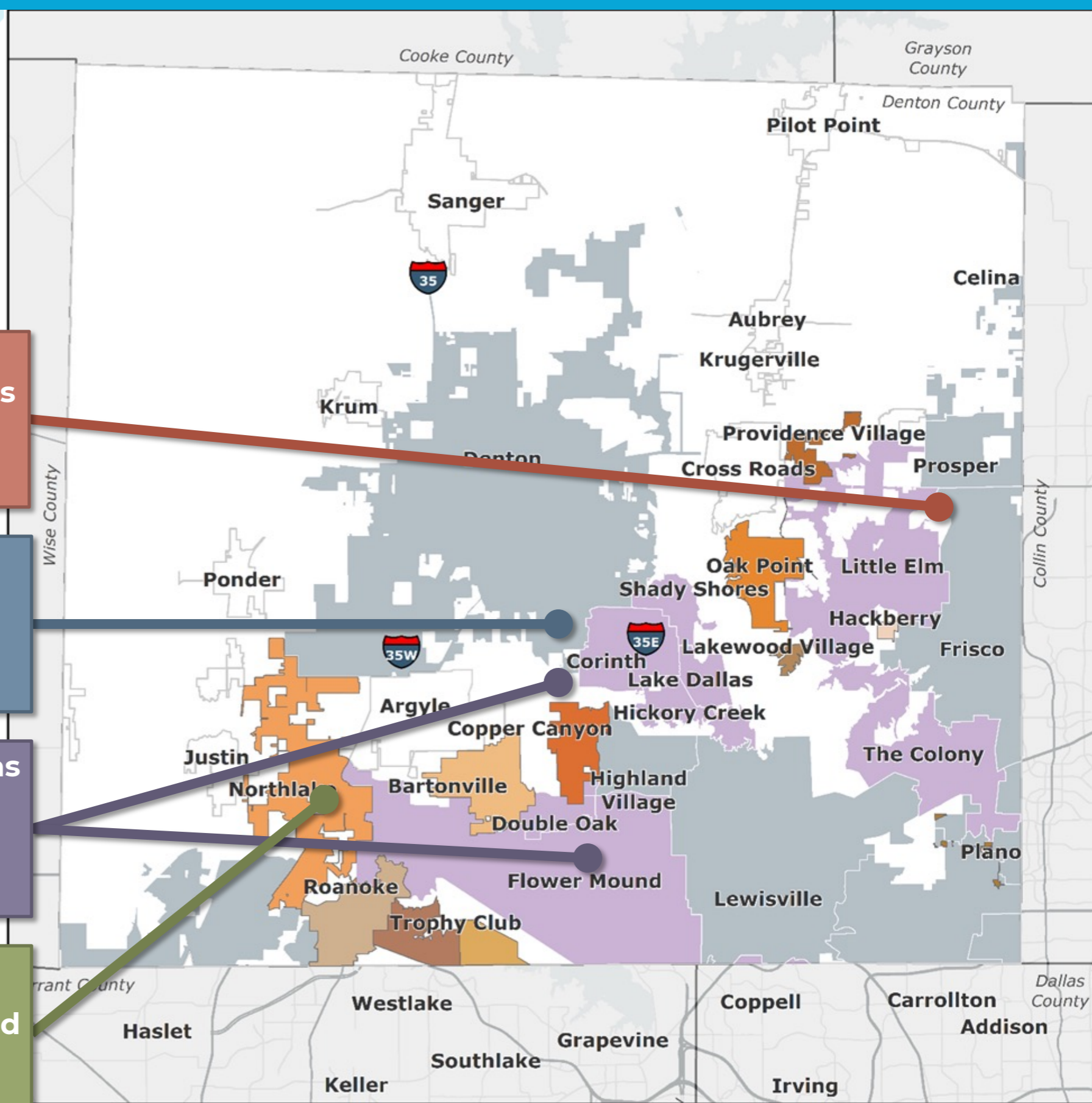
Gaps between Demand and Services

Fast-growing areas near The Colony and Frisco; and Rural areas to the north and west of the county.

Areas outside the I-35/Loop 288 region in the City of Denton;

Established but underserved areas along I-35E, including Corinth, Copper Canyon, and Flower Mound;

Fast-growing areas along the I-35W corridor between Denton and Fort Worth;



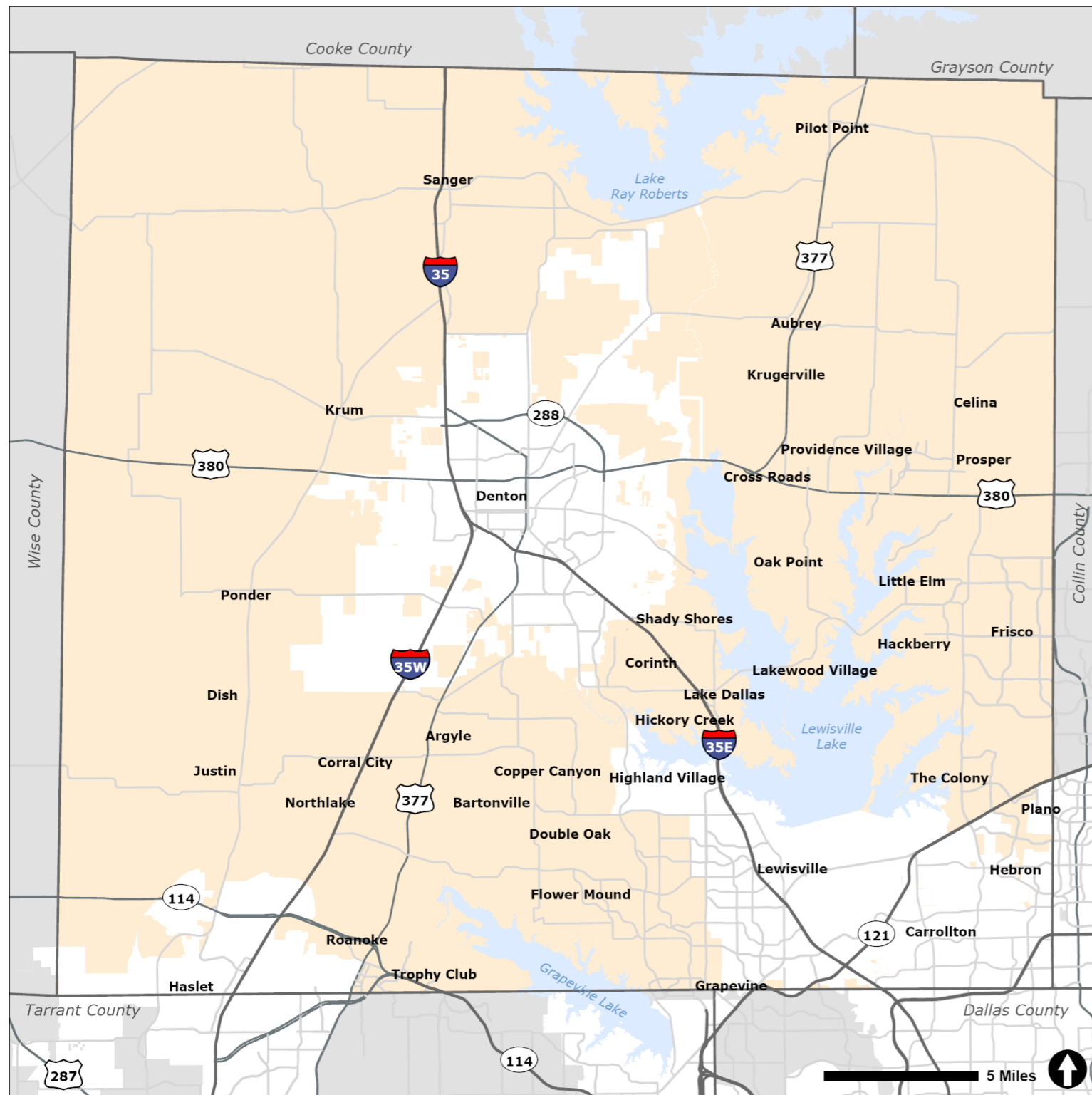
|                                       |                             |                                   |                  |                    |
|---------------------------------------|-----------------------------|-----------------------------------|------------------|--------------------|
| Urban Transit Districts Member Cities | Cities with Span Agreements | Span - Denton County Service Area | Hebron           | Providence Village |
| Cities w/o Transit Service            | Bartonville                 | Northlake                         | Lakewood Village | Roanoke            |
| Copper Canyon                         | Oak Point                   | Trophy Club                       |                  |                    |



# SCENARIO DEVELOPMENT



# Area of Focus

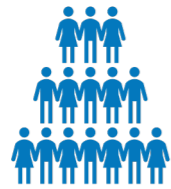


Areas of Denton County outside of existing transit service area districts

# Scenario Development

- **Local Travel Priorities:**
  - Connections within a community
  - On-Demand transit modes
- **Inter-County Travel Priorities:**
  - Connections to destinations within Denton County
  - Potential mix of fixed route and on-demand transit modes
- **Regional Travel Priorities:**
  - Connections to major regional employment centers
  - Regional transit services, van pool program expansion

# Local Travel



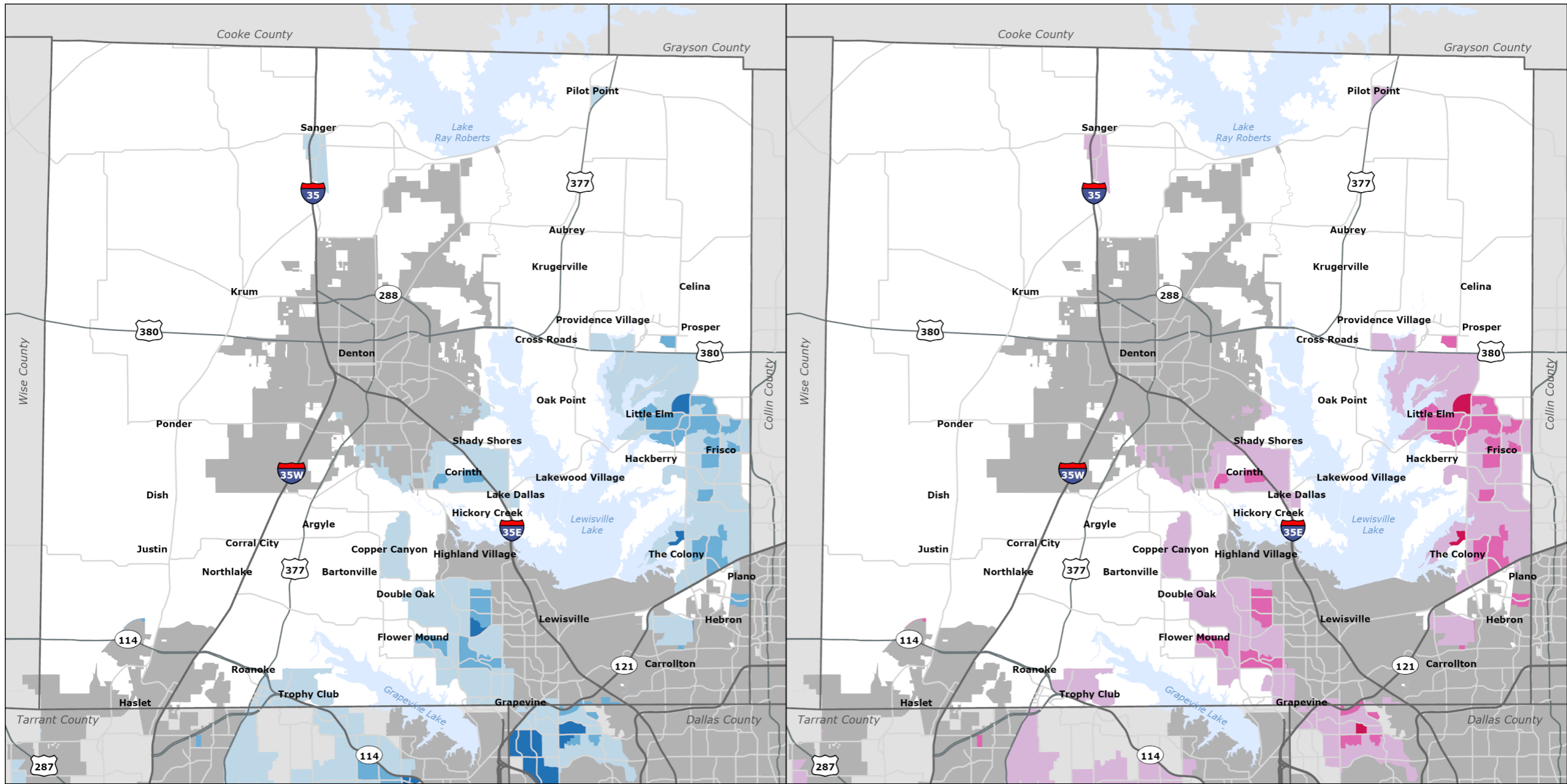
Population and employment densities



Equity population (minority population and low-income household densities)



# Local Travel



## Population and Employment Density

- 5 to 10 people+jobs per acre
- 10 to 20 people+jobs per acre
- Over 20 people+jobs per acre

5 Miles

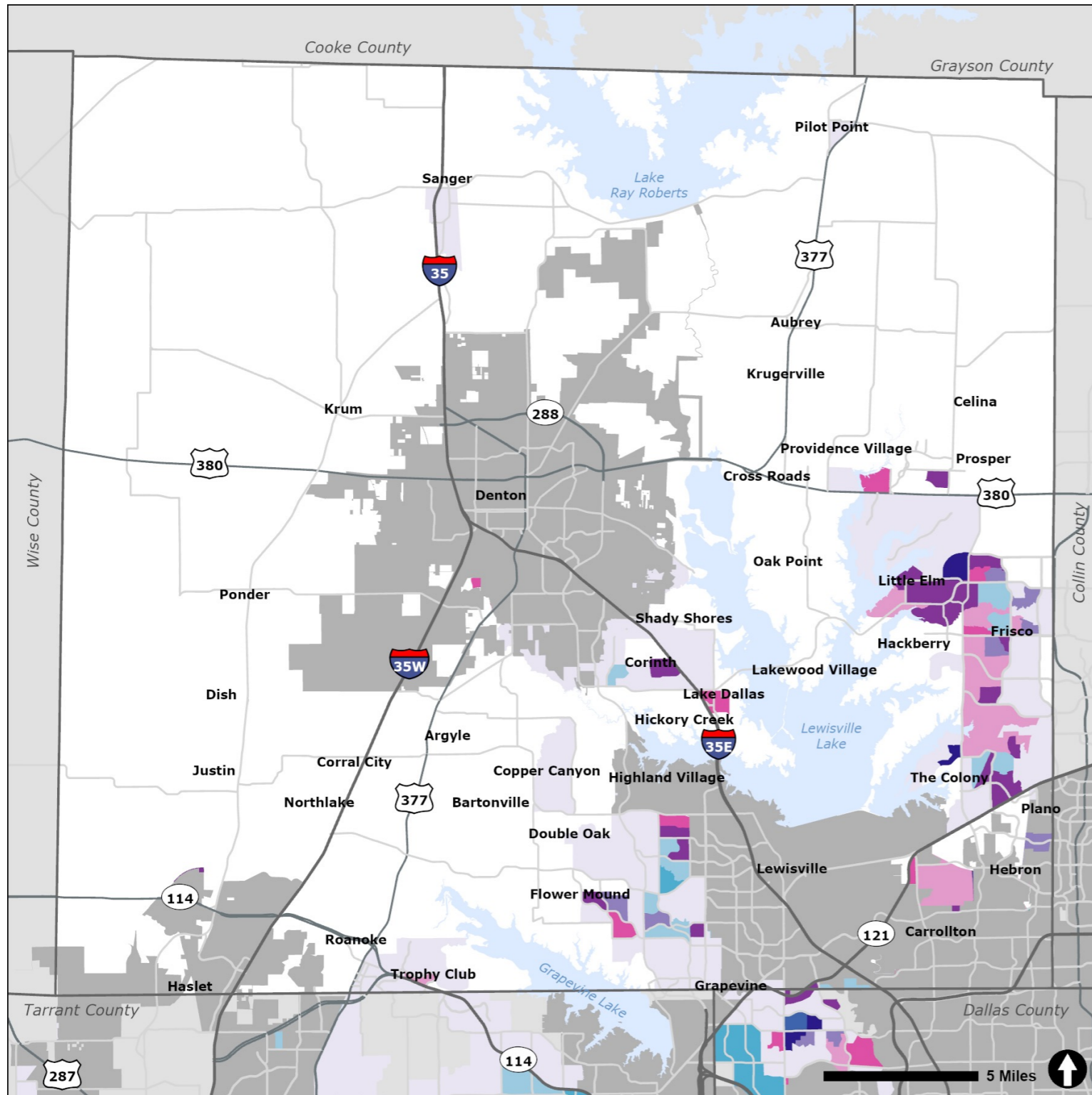
## Equity Population Density

Based on Minority and Low Income Population per Acre

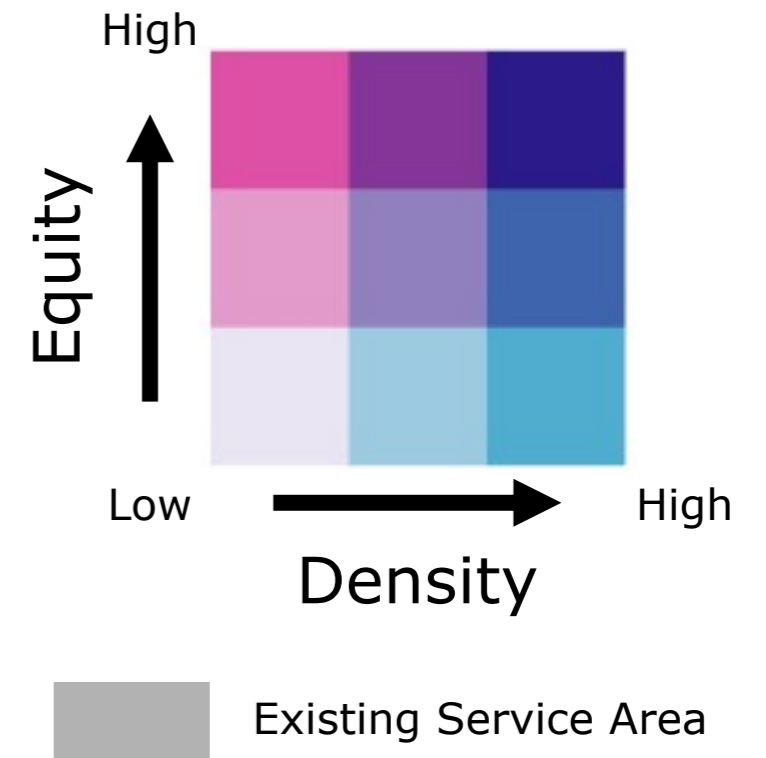
- 1 to 2 people per acre
- 2 to 3 people per acre
- Over 3 people per acre

5 Miles

# Local Travel



## Composite Needs Assessment



# Inter-County Travel

## LOCUS Flows

Summary of trips from/to/within NCTCOG Region



Trips by Residents  
**431,191**  
95.2%

Trips by Non-residents  
**21,945**  
4.8%

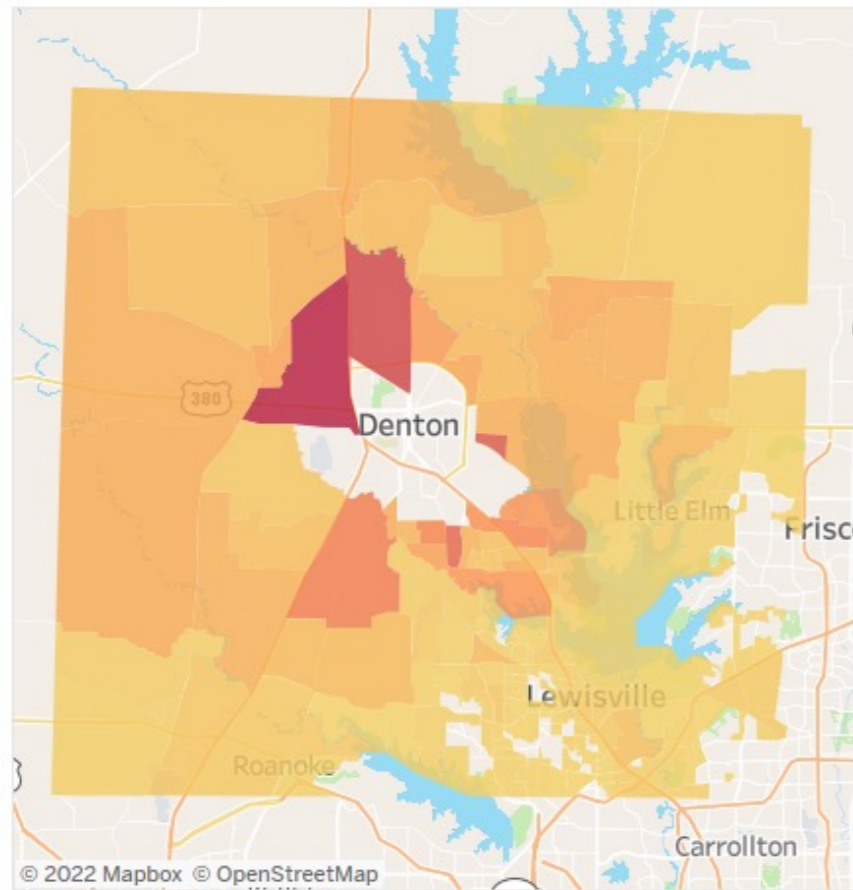
Daily Trips  
**453,136**

Person Miles Traveled  
**1,789,211**

\* Estimated from 3.7M sample records.

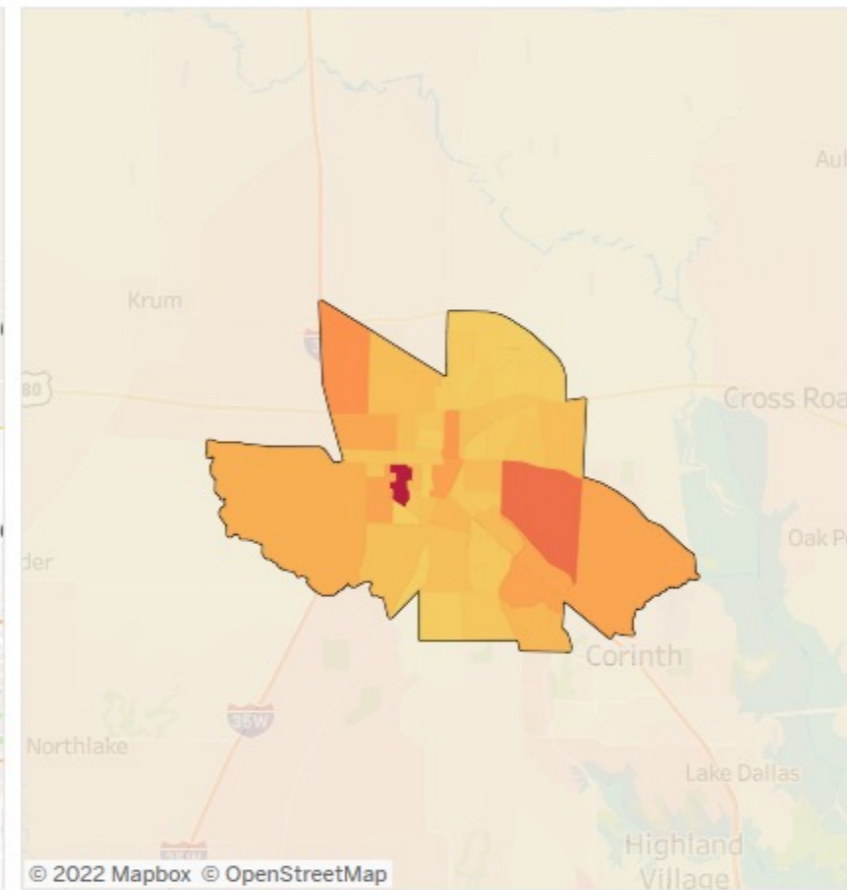
### Origin Map

Origin Geometry: Block Group

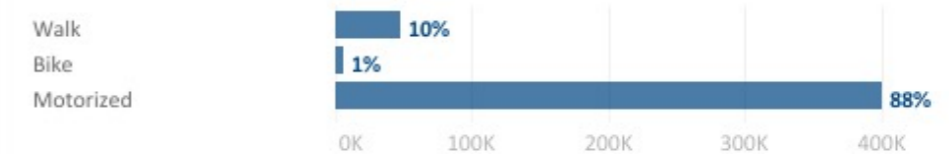


### Destination Map

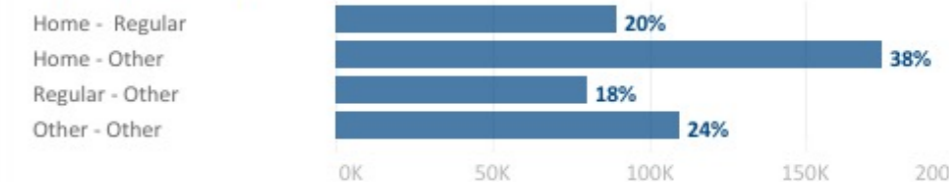
Destination Geometry: Block Group



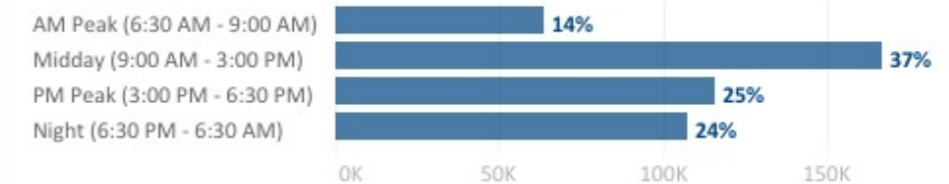
### Trips by Travel Mode



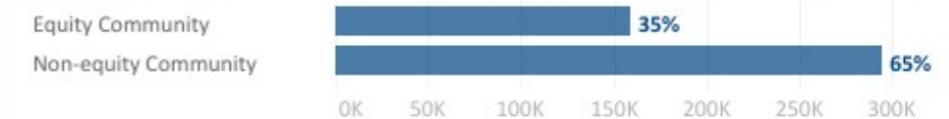
### Trips by Trip Purpose



### Trips by Time of Day



### Trips by Equity Community



*City of Denton*

Total Trips by Origin 51 6,244

Total Trips by Destination 1 69,010



# Regional Travel

## LOCUS Flows

Summary of trips from/to/within NCTCOG Region



Trips by Residents  
**34,435**  
94.6%

Trips by Non-residents  
**1,951**  
5.4%

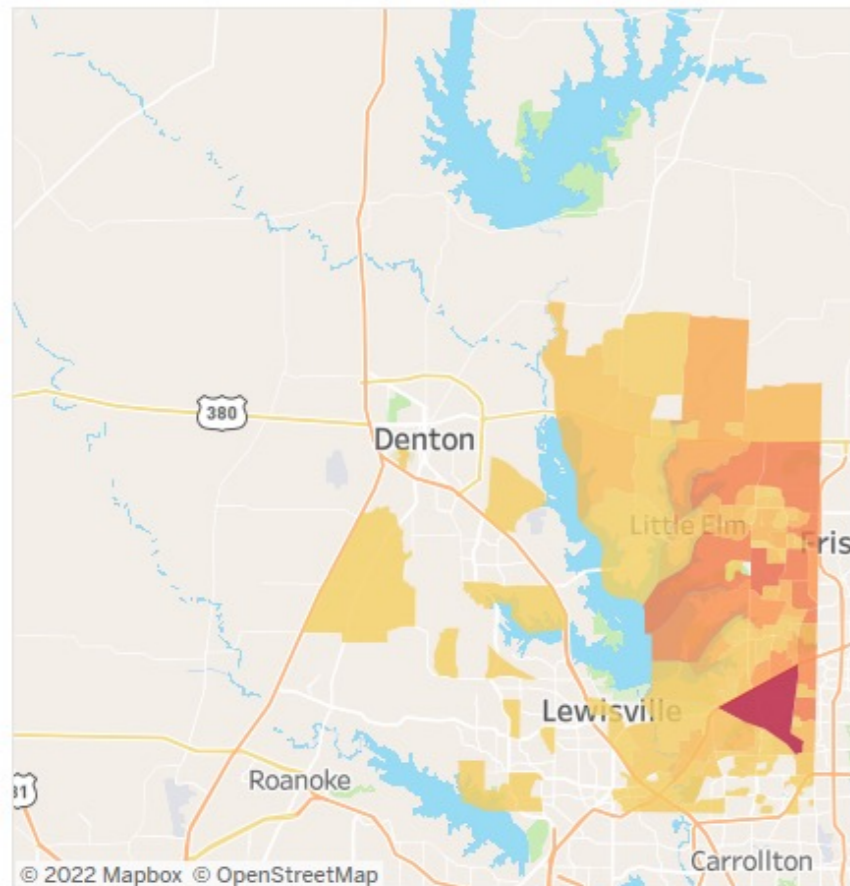
Daily Trips  
**36,385**

Person Miles Traveled  
**342,196**

\* Estimated from 562K sample records.

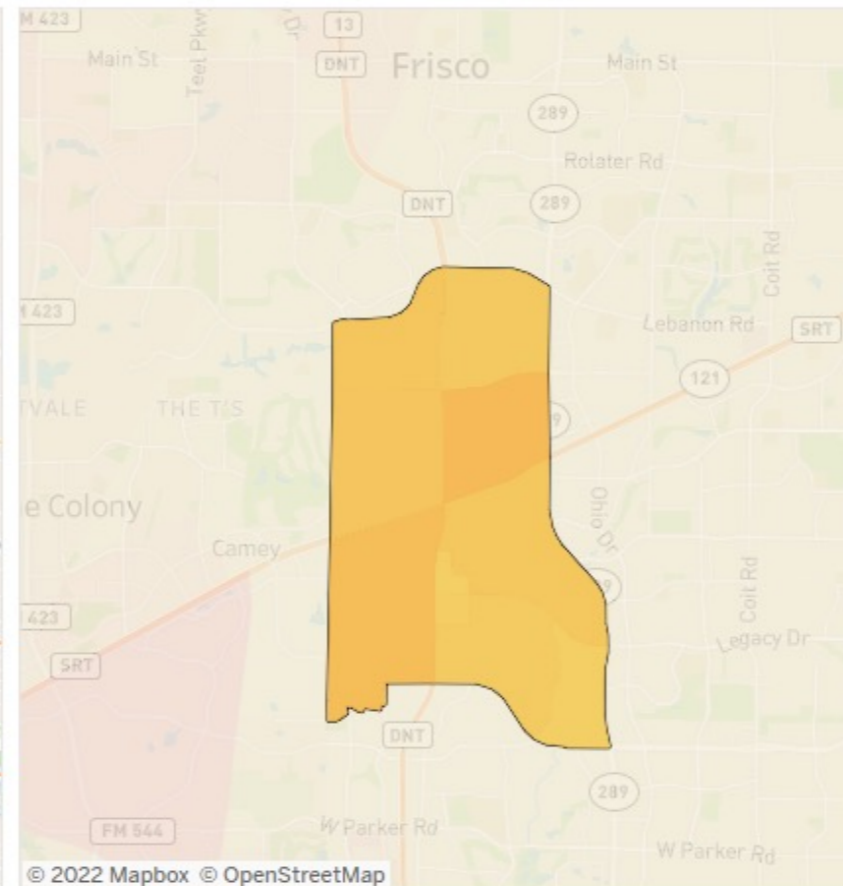
### Origin Map

Origin Geometry: Block Group

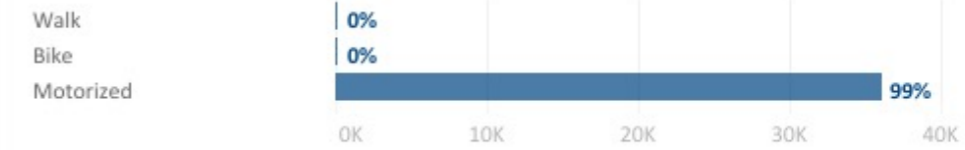


### Destination Map

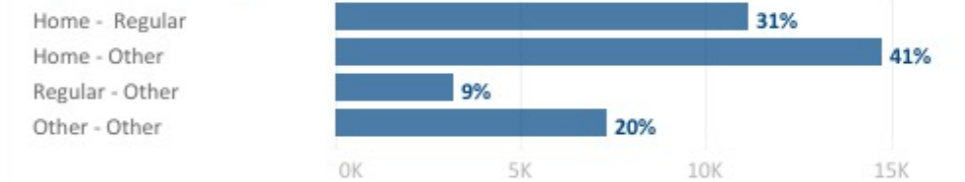
Destination Geometry: Block Group



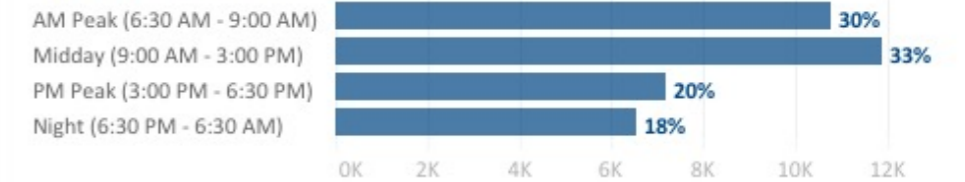
### Trips by Travel Mode



### Trips by Trip Purpose

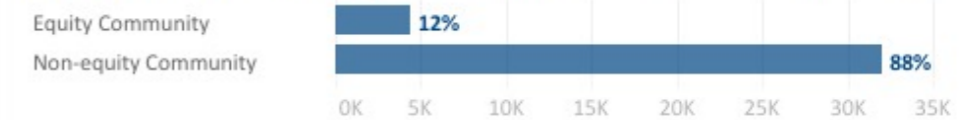


### Trips by Time of Day



### Trips by Equity Community

(Use drill down option to see breakdown of equity community)



*Legacy Town Center Area*



# Regional Travel

## LOCUS Flows

Summary of trips from/to/within NCTCOG Region



Trips by Residents  
**9,981**  
95.8%

Trips by Non-residents  
**439**  
4.2%

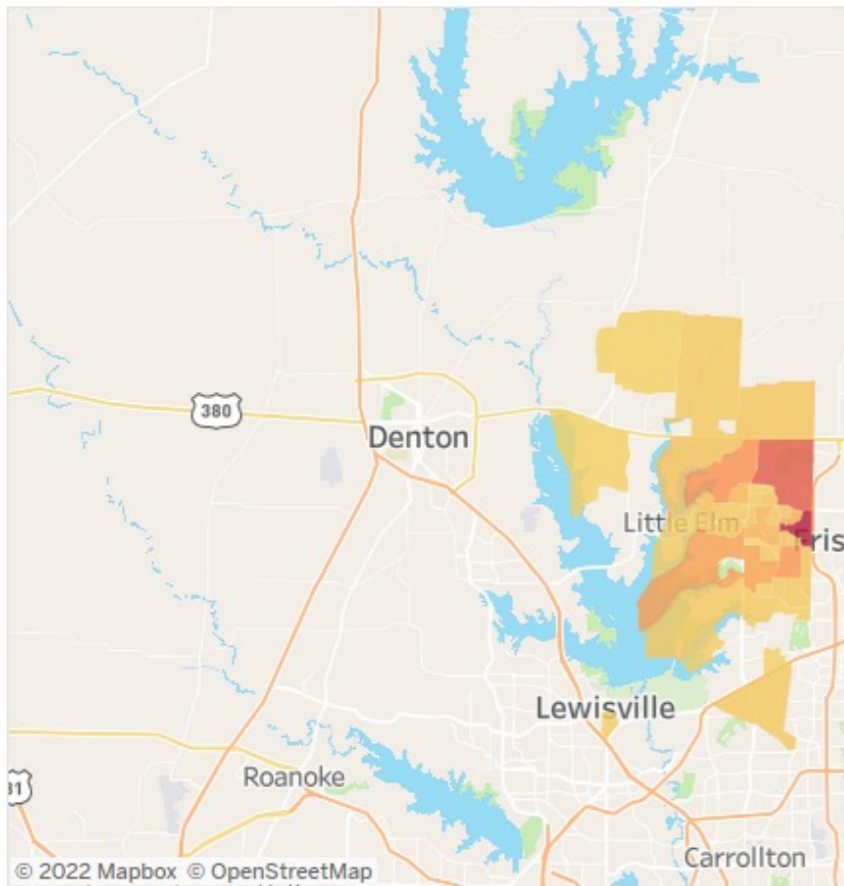
Daily Trips  
**10,420**

Person Miles Traveled  
**65,667**

\* Estimated from 210K sample records.

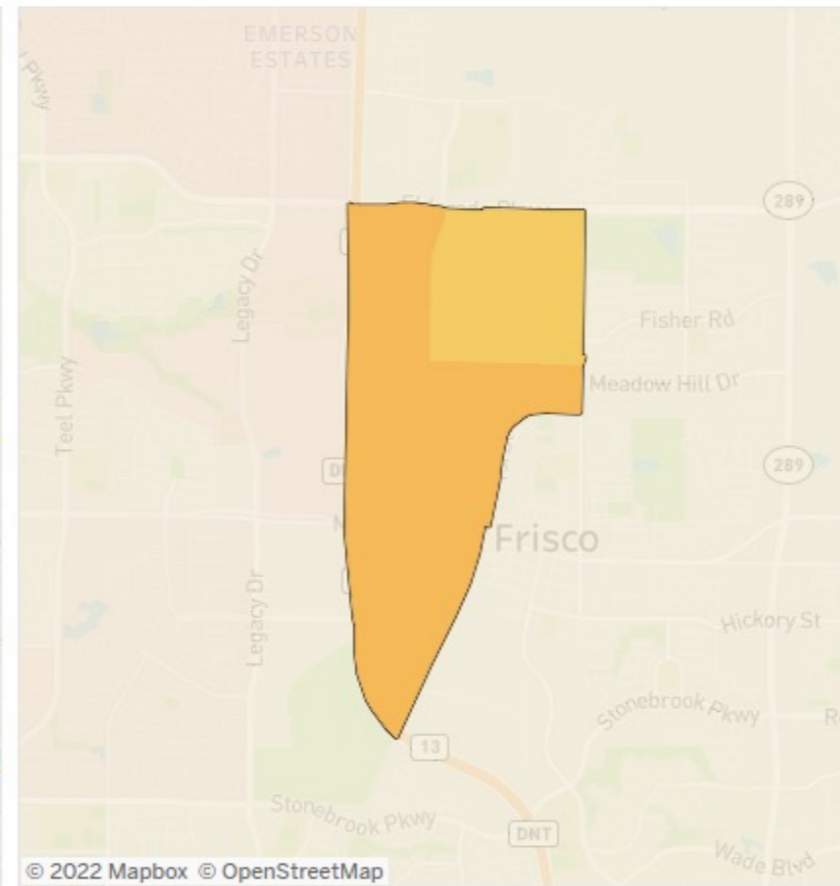
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Origin Geometry: Block Group

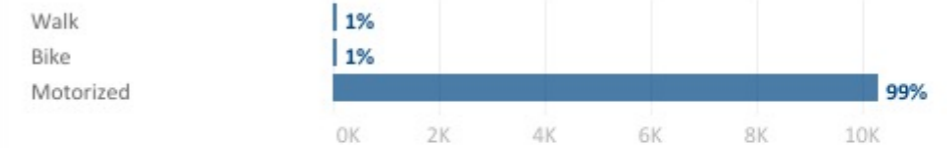


### Destination Map

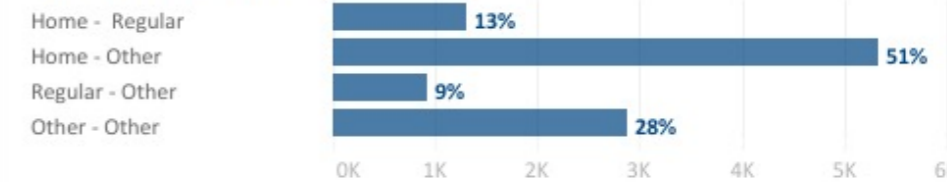
Destination Geometry: Block Group



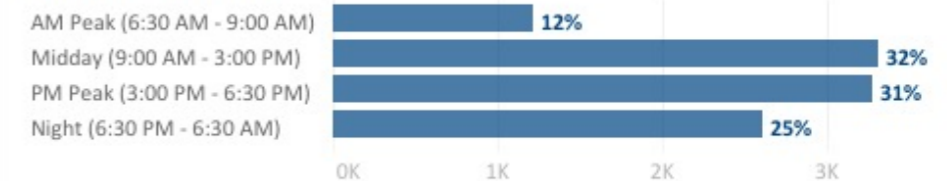
### Trips by Travel Mode



### Trips by Trip Purpose

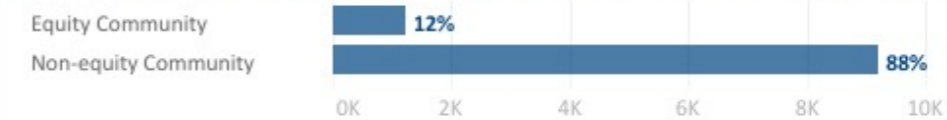


### Trips by Time of Day



### Trips by Equity Community

(Use drill down option to see breakdown of equity community)



*Frisco*

# Regional Travel

## LOCUS Flows

Summary of trips from/to/within NCTCOG Region



|                    |                        |                                      |                       |
|--------------------|------------------------|--------------------------------------|-----------------------|
| Trips by Residents | Trips by Non-residents | Daily Trips                          | Person Miles Traveled |
| <b>8,888</b>       | <b>1,530</b>           | <b>10,418</b>                        | <b>206,575</b>        |
| 85.3%              | 14.7%                  | * Estimated from 64K sample records. |                       |

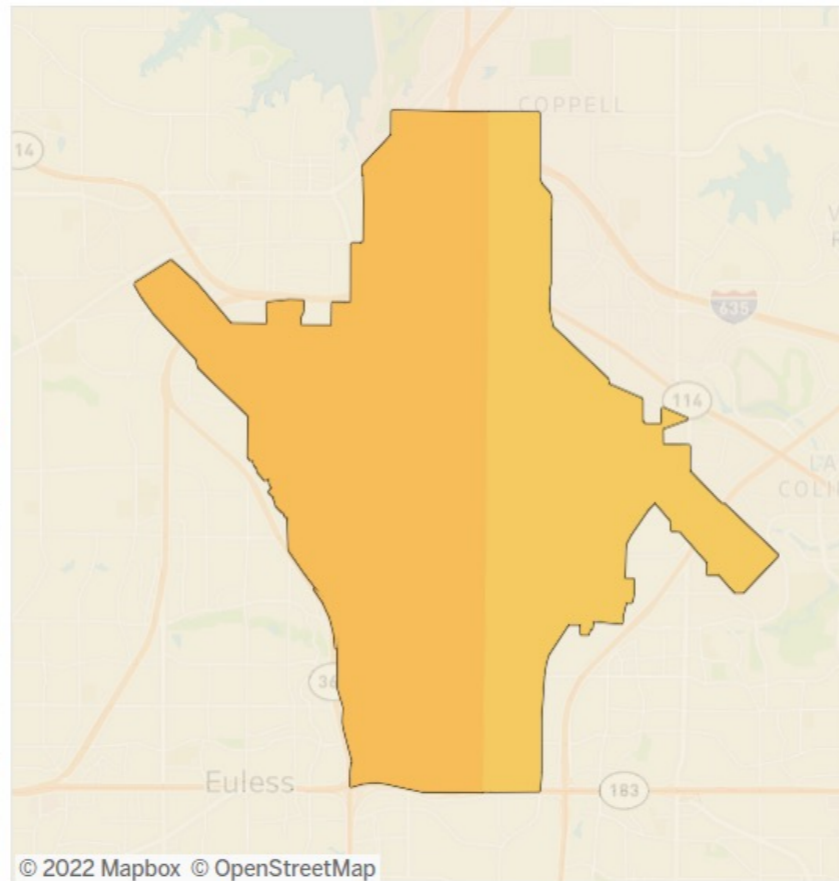
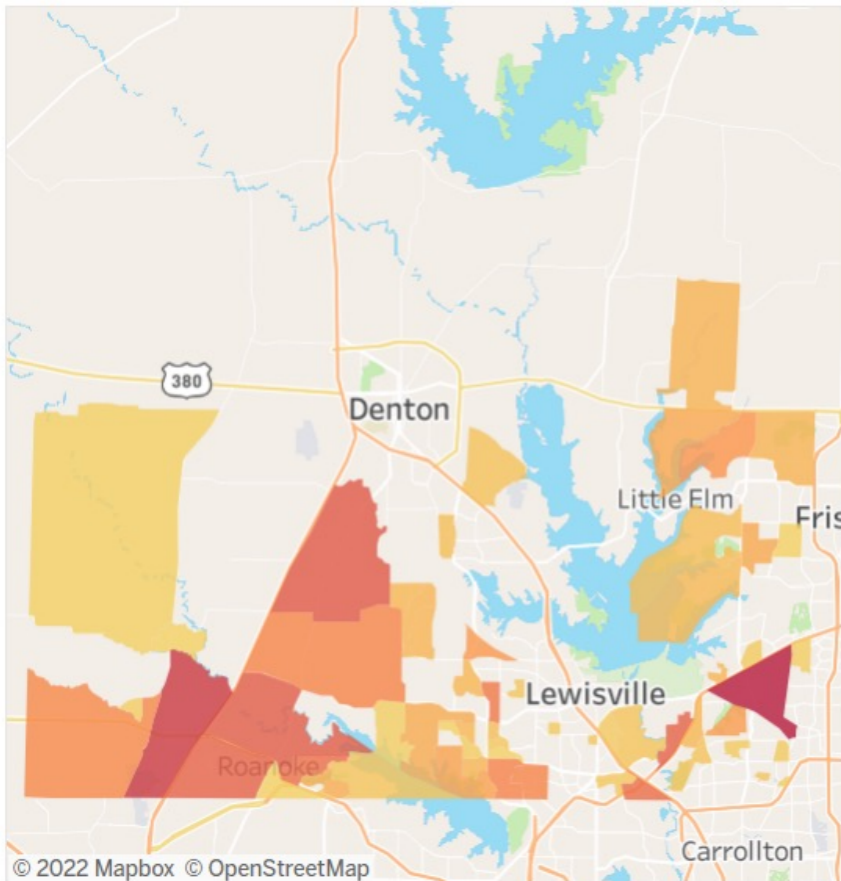
### Origin Map

Origin Geometry: Block Group

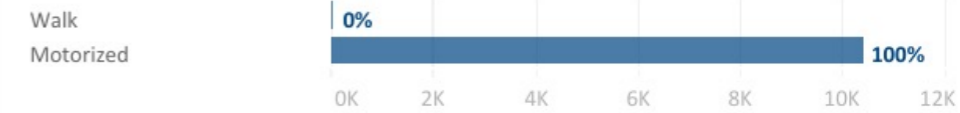


### Destination Map

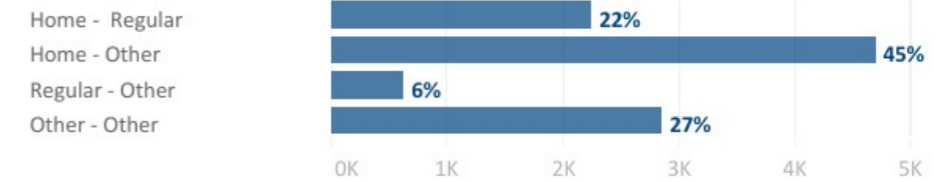
Destination Geometry: Block Group



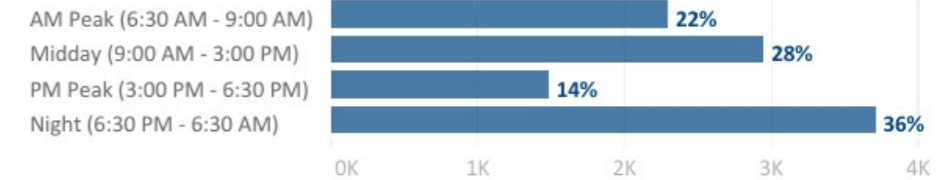
### Trips by Travel Mode



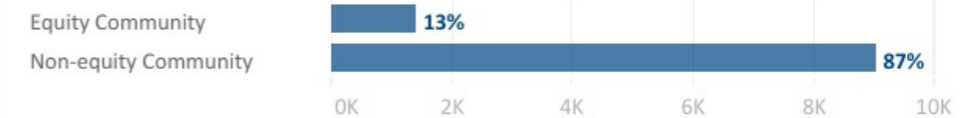
### Trips by Trip Purpose



### Trips by Time of Day



### Trips by Equity Community (Use drill down option to see breakdown of equity community)



*Dallas-Fort Worth Airport*



# Regional Travel

## LOCUS Flows

Summary of trips from/to/within NCTCOG Region



Trips by Residents  
**6,318**  
95.8%

Trips by Non-residents  
**274**  
4.2%

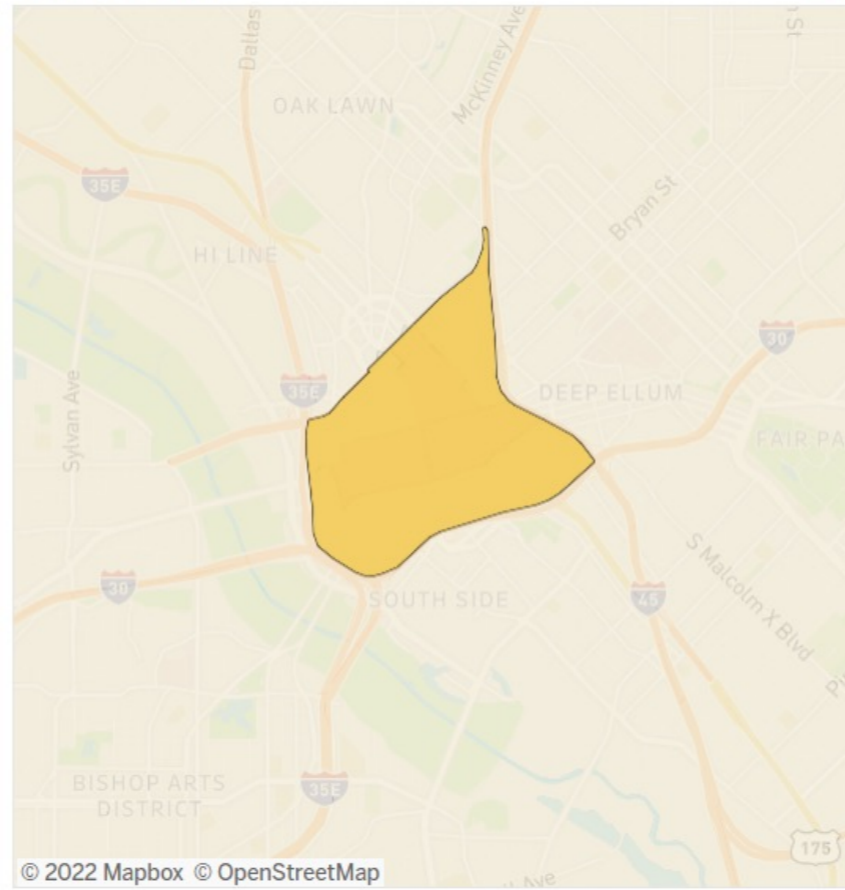
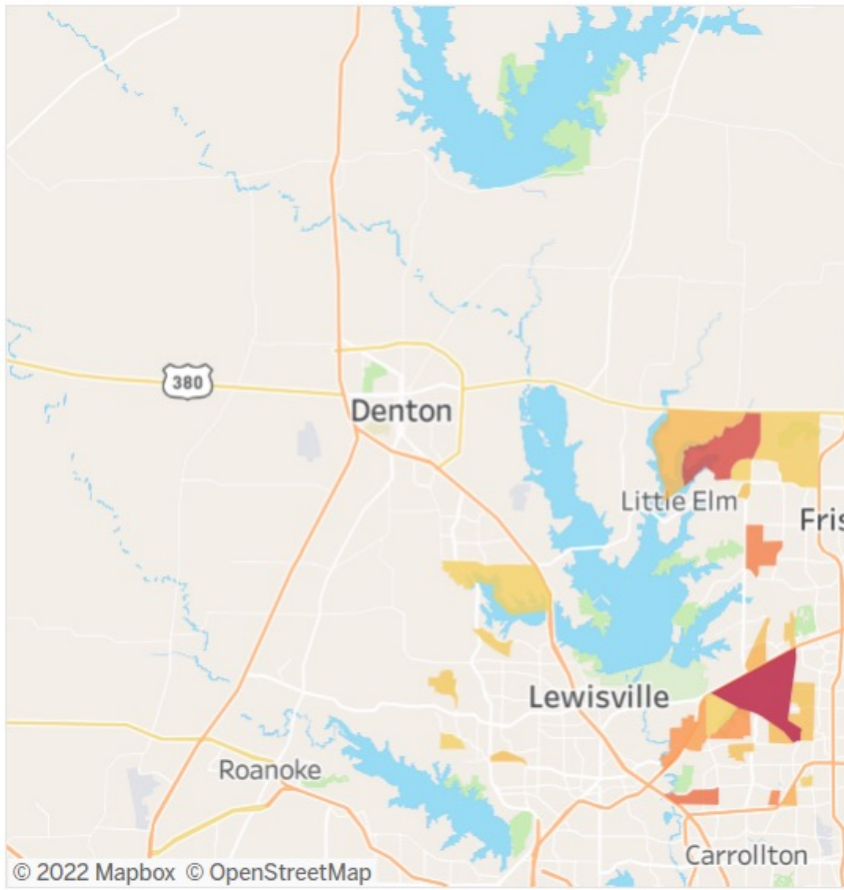
Daily Trips  
**6,593**  
Person Miles Traveled  
**218,548**  
\* Estimated from 29K sample records.

### Origin Map

Origin Geometry: Block Group

### Destination Map

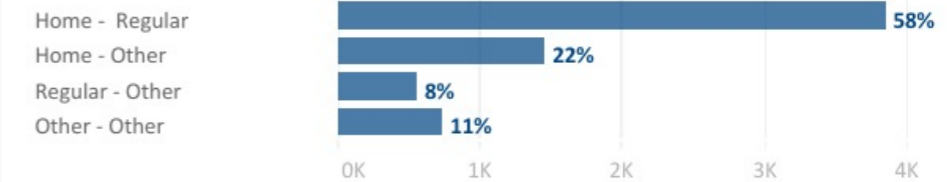
Destination Geometry: Block Group



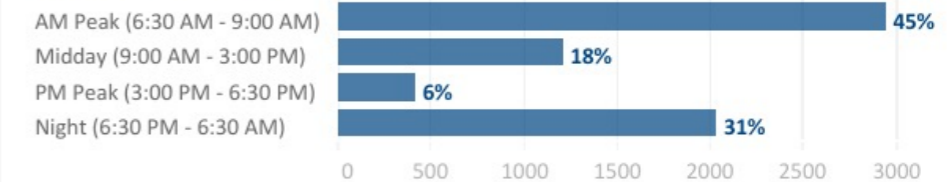
### Trips by Travel Mode



### Trips by Trip Purpose

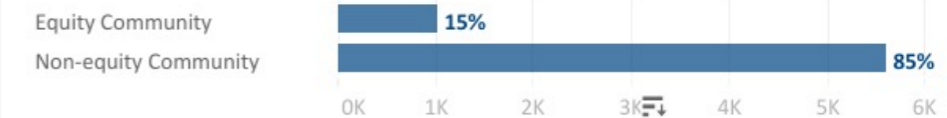


### Trips by Time of Day



### Trips by Equity Community

(Use drill down option to see breakdown of equity community)



*Dallas CBD*

# Regional Travel

## LOCUS Flows

Summary of trips from/to/within NCTCOG Region



Trips by Residents  
**2,103**  
96.0%

Trips by Non-residents  
**88**  
4.0%

Daily Trips  
**2,191**

Person Miles Traveled  
**84,927**

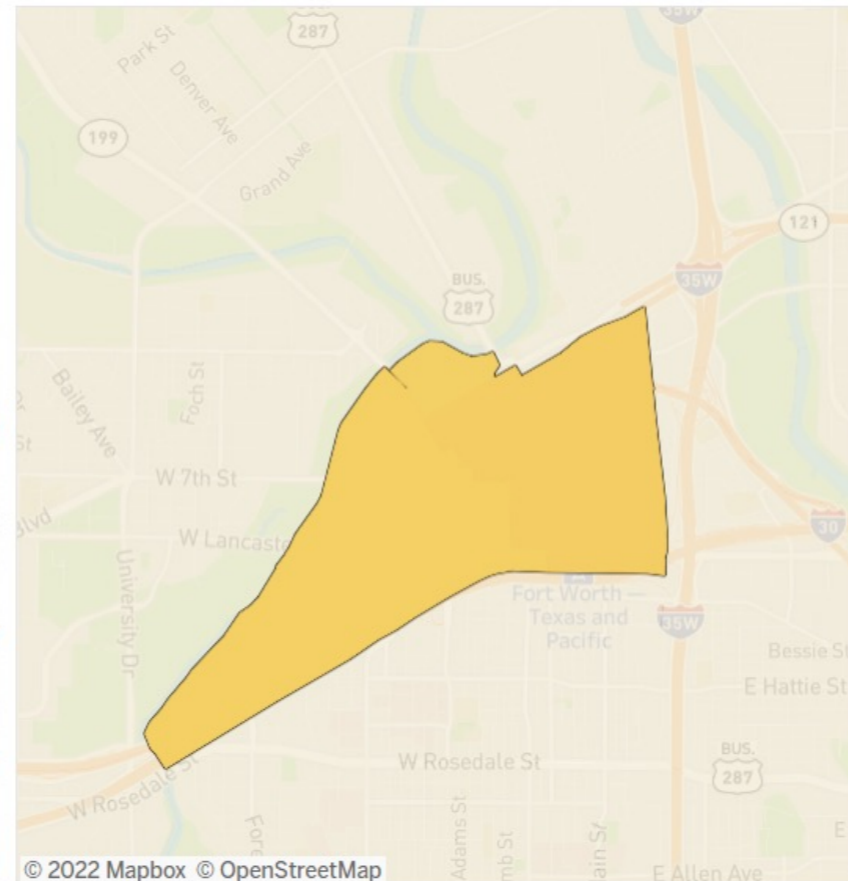
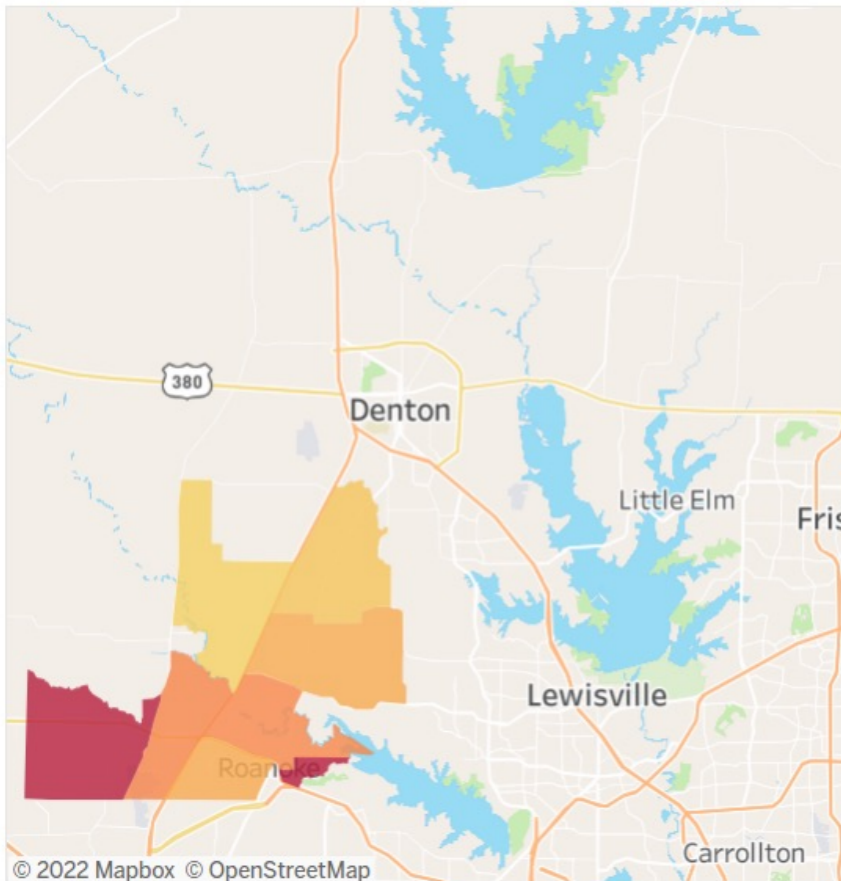
\* Estimated from 11K sample records.

### Origin Map

Origin Geometry: Block Group

### Destination Map

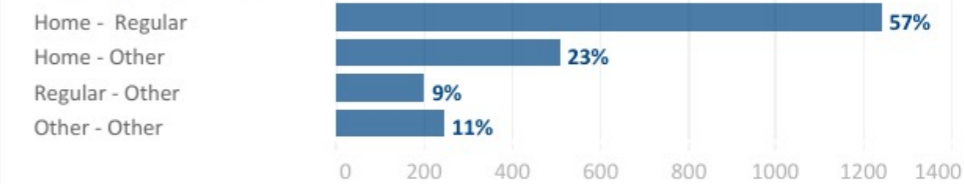
Destination Geometry: Block Group



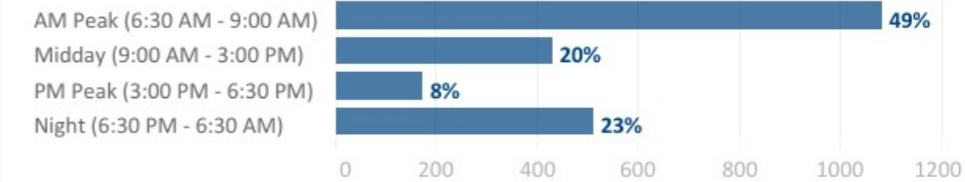
### Trips by Travel Mode



### Trips by Trip Purpose

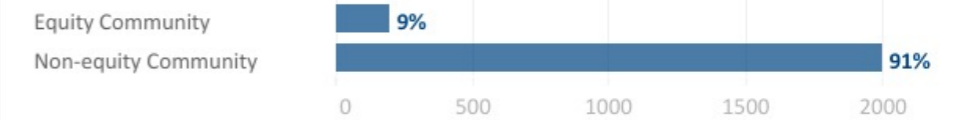


### Trips by Time of Day



### Trips by Equity Community

(Use drill down option to see breakdown of equity community)



*Fort Worth CBD*








# Transit Service Types

Denton County Transit  
Study  
Service Type

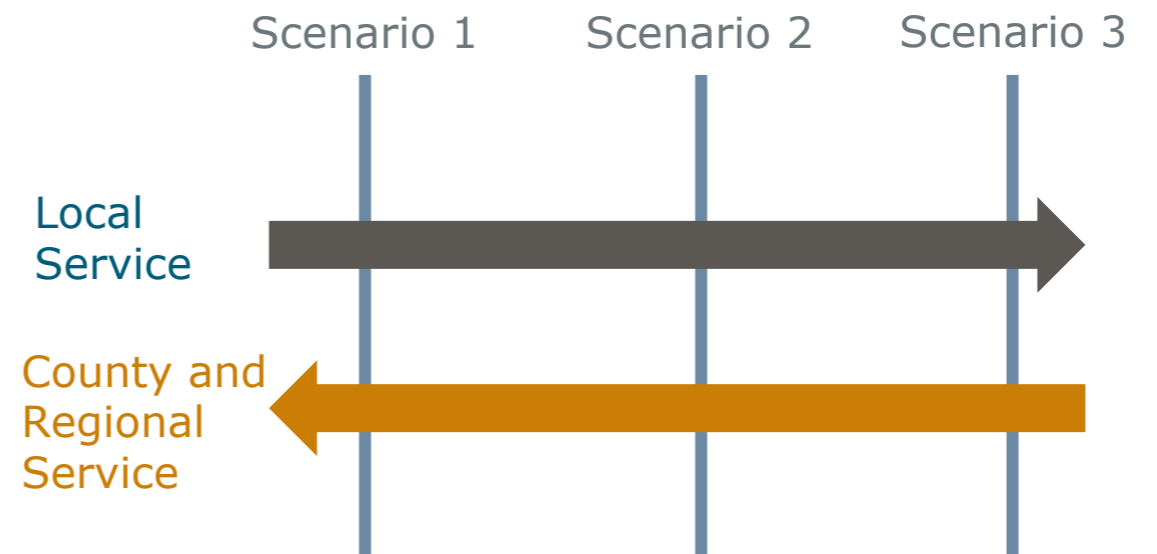
Purpose

Local Examples

|   |   |                                      |
|---|---|--------------------------------------|
| Mobility on Demand<br>    | Connects lower-density areas;<br>First-mile/Last-mile connections<br> | DCTA GoZone<br>Lyft Partnership      |
| Local Fixed-route<br>    | Connects medium-density areas for all trip types<br>                 | Denton Connect<br>UNT Service        |
| Regional Fixed-route<br> | Connects distant destinations and job centers<br>                    | DCTA N. Texas XPress<br>DCTA A-Train |

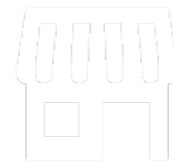
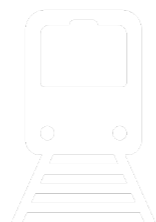
# Scenario Definition

- **Scenario 1**
  - Local: High Service Needs
  - Regional: High + Medium + Low Service Needs
- **Scenario 2**
  - Local: High + Medium Service Needs
  - Regional: High + Medium Service Needs
- **Scenario 3**
  - Local: High + Medium + Low Service Needs
  - Regional: High Service Needs



# Service Considerations by City

- Jurisdiction Size / Density
- Travel Pattern Characteristics
- Potential Revenues to Support Transit



# Service Considerations by Municipality

| City               | Jurisdiction Size/Density |                  |              | Travel Patterns           |                                 | Potential Revenues        |              | Local Service Options |     | Regional Service Options |          |
|--------------------|---------------------------|------------------|--------------|---------------------------|---------------------------------|---------------------------|--------------|-----------------------|-----|--------------------------|----------|
|                    | 2020 pop                  | Area Size (Acre) | Density/Acre | Travel Strength to Denton | Potential Regional Travel Needs | Taxable Sales 4-Year Avg. | 0.50% Amount | Fixed Route           | MOD | Fixed Route              | Van Pool |
| Pilot Point        | 4,381                     | 2,150            | 2.0          |                           |                                 | \$35,000,000              | \$180,000    |                       | X   |                          | X        |
| Sanger             | 8,839                     | 6,995            | 1.3          |                           |                                 | \$48,040,000              | \$240,000    |                       | X   |                          | X        |
| Krum               | 5,483                     | 1,581            | 3.5          | Medium                    |                                 | \$13,030,000              | \$70,000     | X                     | X   |                          | X        |
| Ponder             | 2,442                     | 2,048            | 1.2          | Medium                    |                                 | \$6,490,000               | \$30,000     | X                     | X   |                          | X        |
| Justin             | 4,409                     | 1,536            | 2.9          |                           | Fort Worth                      | \$36,190,000              | \$180,000    |                       | X   | X                        | X        |
| Northlake          | 5,201                     | 10,874           | 0.5          |                           | Fort Worth                      | \$49,550,000              | \$250,000    |                       | X   | X                        | X        |
| Argyle             | 4,278                     | 7,315            | 0.6          | Medium                    | DFW, Fort Worth                 | \$12,240,000              | \$60,000     | X                     | X   | X                        | X        |
| Copper Canyon      | 1,731                     | 2,880            | 0.6          |                           | DFW                             | \$1,040,000               | \$10,000     |                       | X   | X                        | X        |
| Bartonville        | 1,726                     | 4,000            | 0.4          |                           | DFW                             | \$45,220,000              | \$230,000    |                       | X   | X                        | X        |
| Roanoke            | 10,154                    | 3,411            | 3.0          |                           | DFW, Fort Worth                 | \$358,630,000             | \$1,790,000  |                       | X   | X                        | X        |
| Trophy Club        | 12,533                    | 2,624            | 4.8          |                           | DFW, Fort Worth                 | \$44,550,000              | \$220,000    |                       | X   | X                        | X        |
| Double Oak         | 3,054                     | 1,581            | 1.9          |                           | DFW                             | \$6,720,000               | \$30,000     |                       | X   | X                        | X        |
| Flower Mound       | 75,956                    | 27,776           | 2.7          |                           | DFW                             | \$811,010,000             | \$4,060,000  | X                     | X   | X                        | X        |
| Hickory Creek      | 4,716                     | 2,944            | 1.6          | Medium                    |                                 | \$67,450,000              | \$340,000    | X                     | X   |                          | X        |
| Lake Dallas        | 8,004                     | 1,728            | 4.6          | Medium                    |                                 | \$50,370,000              | \$250,000    | X                     | X   |                          | X        |
| Corinth            | 22,365                    | 5,056            | 4.4          | Medium                    |                                 | \$209,740,000             | \$1,050,000  | X                     | X   |                          | X        |
| Shady Shores       | 2,888                     | 1,856            | 1.6          | Medium                    |                                 | \$1,500,000               | \$10,000     | X                     | X   |                          | X        |
| Oak Point          | 4,357                     | 3,776            | 1.2          |                           |                                 | \$6,500,000               | \$30,000     |                       | X   |                          | X        |
| Cross Roads        | 1,780                     | 4,416            | 0.4          | Medium                    | Frisco, Plano                   | \$115,570,000             | \$580,000    | X                     | X   | X                        | X        |
| Providence Village | 7,479                     | 1,152            | 6.5          |                           | Frisco, Plano                   | N/A                       | N/A          |                       | X   | X                        | X        |
| Krugerville        | 1,766                     | 838              | 2.1          |                           |                                 | \$25,930,000              | \$130,000    |                       | X   |                          | X        |
| Aubrey             | 5,006                     | 1,683            | 3.0          |                           |                                 | \$16,030,000              | \$80,000     |                       | X   |                          | X        |
| Celina             | 16,739                    | 9,069            | 1.8          |                           |                                 | \$49,670,000              | \$250,000    |                       | X   |                          | X        |
| Prosper            | 30,174                    | 14,605           | 2.1          |                           | Frisco, Plano                   | \$423,830,000             | \$2,120,000  |                       | X   | X                        | X        |
| Little Elm         | 46,453                    | 11,936           | 3.9          |                           | Frisco, Plano, Dallas           | \$290,140,000             | \$1,450,000  |                       | X   | X                        | X        |
| Hackberry          | 2,973                     | 442              | 6.7          |                           |                                 | \$11,200,000              | \$60,000     |                       | X   |                          | X        |
| Lakewood Village   | 555                       | 448              | 1.2          |                           |                                 | N/A                       | N/A          |                       | X   |                          | X        |
| The Colony         | 46,110                    | 10,304           | 4.5          |                           | Frisco, Plano, Dallas           | \$1,007,600,000           | \$5,040,000  | X                     | X   | X                        | X        |





NEXT STEPS

# Next Steps

- Develop Scenarios & Cost Estimates
- Develop Funding and Finance report
- Develop Implementation Plan
- Final rounds of Public Engagement
- Reporting out

# QUESTIONS + ANSWERS

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