



**AGENDA
ECONOMIC DEVELOPMENT COMMITTEE
CITY OF LEANDER, TEXAS**

Pat Bryson Municipal Hall
201 North Brushy Street - Leander, Texas
Tuesday- February 22, 2022 at 6:00 PM



**Stephanie Bowman
Brian Cisna
Peter Dertsakyan
Andy Eis
Jennifer Walsh
Robert Shaver
Rob Smithson**

**Steve Hanes
Carlos St. James
Andrew Naudin
Gilbert Rodriguez
City Council Liaison - Kathryn
Pantalion-Parker
Staff Liaison – Cameron Goodman**

1. Open meeting and confirm a quorum is present.

CONSENT AGENDA: ACTION

2. Approval of the minutes for meeting held on January 26, 2022.

REGULAR AGENDA

3. Discuss and consider setting future committee meeting dates.
4. Update on city economic development activities.
5. Discuss the city's Transit Demand Analysis and consider recommendations to the City Council related to economic development.
6. Review existing city economic development tools and incentives and consider providing direction to staff.
7. Adjournment

CERTIFICATION

This meeting will be conducted pursuant to the Texas Government Code Section 55 1.001 et seq. The City of Leander is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Please call the City Secretary at (512) 528-2743 for information. Hearing impaired or speech disabled persons equipped with telecommunication devices for the deaf may call (512) 528-2800. I certify that the above agenda for this meeting of the Economic Development Corporation of the City of Leander, Texas, was posted on the bulletin board at City Hall in Leander, Texas, on the 18th day of February 2022 by 5:00 p.m. pursuant to Chapter 551 of the Texas Government Code.



EXECUTIVE SUMMARY
02/22/2022

AGENDA SUBJECT:

Approval of the minutes for meeting held on January 26, 2022.

Attachments

Minutes



**MINUTES
ECONOMIC DEVELOPMENT COMMITTEE
CITY OF LEANDER, TEXAS**

City Council Chambers
201 North Brushy Street - Leander, Texas
Wednesday - January 26, 2022 at 6:00 PM



**Stephanie Bowman
Brian Cisna
Petros Dertsakyan
Andy Eis
Wade Funk
Steve Hanes
Andrew Naudin**

**Gilbert Rodriguez
Carlos St. James
Bob Shaver
Rob Smithson
Jennifer Walsh
Staff Liaison – Cameron Goodman
City Council Liaison – Kathryn Pantalion-Parker**

1. Open meeting and confirm a quorum is present.

Steve Hanes called the meeting to order at 6:02 PM.

REGULAR AGENDA

2. Receive presentation by Jim Leslie.

Bob Shaver provided an introduction for Jim Leslie. Jim Leslie provided a presentation on commercial development to the committee.

3. Report on Economic Development Activities by staff liaison.

Cameron Goodman and Ashley Lunde provided an update on business recruitment and business retention efforts.

4. Review City of Leander's Transit Analysis

Cameron Goodman provided an overview of the transit study and answered questions from committee members. The Committee decided to bring this item back for discussion at the February meeting after the final written report was available.

5. Future Agenda Items

Several topics were suggested as possible future agenda items. These included a discussion of the city's Transit Demand Analysis, additional presentations from commercial real estate experts, a discussion on what type of projects are looking to relocate in the region, and creative tools for economic development.

6. Adjournment

The meeting adjourned at 7:50 pm.

CERTIFICATION

This meeting will be conducted pursuant to the Texas Government Code Section 55 1.001 et seq. The City of Leander is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Please call the City Secretary at (512) 528-2743 for information. Hearing impaired or speech disabled persons equipped with telecommunication devices for the deaf may call (512) 528-2800. I certify that the above agenda for this meeting of the Economic Development Corporation of the City of Leander, Texas, was posted on the bulletin board at City Hall in Leander, Texas, on the 23rd day of April 2021 by 5:00 p.m. pursuant to Chapter 551 of the Texas Government Code.

A handwritten signature in black ink, appearing to read "Cameron Goodman". The signature is fluid and cursive, with the first name "Cameron" written in a larger, more prominent script than the last name "Goodman".

Cameron Goodman, Economic Development Managing Partner



EXECUTIVE SUMMARY
02/22/2022

AGENDA SUBJECT:

Discuss and consider setting future committee meeting dates.

BACKGROUND:

This item is related to setting future meeting dates for the Economic Development Committee. Once set, meeting dates will not be changed unless there is an issue with quorum or if a set meeting date conflicts with a holiday.



EXECUTIVE SUMMARY
02/22/2022

AGENDA SUBJECT:

Update on city economic development activities.

BACKGROUND:

The staff liaison will provide an update on economic development efforts undertaken by the City's Economic Development Department.



EXECUTIVE SUMMARY
02/22/2022

AGENDA SUBJECT:

Discuss the city's Transit Demand Analysis and consider recommendations to the City Council related to economic development.

BACKGROUND:

The committee will discuss the city's Transit Demand Analysis and consider making recommendations related to economic development to the City Council.

Attachments

Transit Study



TRANSIT DEMAND ANALYSIS

February 2022



Presented by:



Contents

1.0 Introduction	1
1.1 City of Leander	1
1.2 Capital Metro Transit Authority	9
2.0 Public Transit Service Analysis	13
2.1 Leander's Financial Contributions	13
2.2 City of Leander Existing Transit Service	14
2.3 Incremental Operating Cost of CMTA Services	18
2.4 Leander Station Ridership	19
2.5 Performance Metrics	25
3.0 Economic Impacts of Current Transit Service	33
3.1 Literature Review	33
3.2 Local Station Area Property and Sales Tax Revenue Projects	34
3.3 Stakeholder Meetings	37
4.0 Transit Demand Analysis	41
4.1 Local Service	41
4.2 Commuter Service	48
4.2.1 Trip Flows	49
4.2.2 Modal Split	52
4.2.3 Demand Summary	53
5.0 Transit Service Plan Alternatives	55
5.1 Service Delivery Model	55
5.2 Alternative Transit Scenarios	55
5.3 Administrative Needs	60
5.4 Federal Funding Opportunities	62
6.0 Conclusion	68
Appendix A – Literature Review References	A-1

List of Figures

Figure 1.1 City of Leander.....	1
Figure 1.2 City of Leander Race and Ethnicity.....	2
Figure 1.3: Share of Foreign-Born Population (2015-2019).....	2
Figure 1.4: City of Leander Age by Nativity (2019).....	3
Figure 1.5: Median Household Income (2013-2019).....	3
Figure 1.6: City of Leander Poverty by Age and Gender (2019).....	4
Figure 1.7: City of Leander Rate of Poverty by Race and Ethnicity (2013-2019).....	4
Figure 1.8: City of Leander Employment by Occupations.....	5
Figure 1.9 City of Leander Employment by Industries.....	6
Figure 1.10: City of Leander Property Value (2013-2019).....	7
Figure 1.11: City of Leander Homeownership Rates.....	7
Figure 1.12: City of Leander Average Commute Time to Work (in minutes) 2019.....	8
Figure 1.13: City of Leander Commute to Work.....	8
Figure 1.14: City of Leander Household Vehicles.....	9
Figure 1.15: CMTA Service Area.....	10
Figure 1.16: Project Connect.....	12
Figure 2.1 Projected Sales Tax Collection.....	13
Figure 2.2: Leander Station Park and Ride.....	14
Figure 2.3: Pickup by Metro Leander Service Area.....	15
Figure 2.4: Metro Express Route 985.....	16
Figure 2.5: MetroRail Red Line Route.....	17
Figure 2.6: Leander Station Boarding History (2009 – 2021).....	19
Figure 2.7: MetroExpress (985) and MetroRail Total Boardings.....	20
Figure 2.8: MetroExpress 985 Weekday Totals by Departures.....	21
Figure 2.9: MetroExpress 985 Daily Boardings.....	21
Figure 2.10: Leander Station MetroRail Red Line Daily Boardings.....	22
Figure 2.11: Leander Station MetroRail Redline Weekday Boardings.....	22
Figure 2.12: Leander Station MetroRail Red Line Weekend Boardings.....	23
Figure 2.13: Leander Station License Plate Survey – Total Vehicles.....	24
Figure 2.14: Leander Station License Plate Survey – Wednesday and Thursday Survey.....	24
Figure 2.15: Leander Station License Plate Survey – Saturday Survey.....	25
Figure 2.16: CMTA Fiscal Year (FY) 2020 Cost Per Revenue Hour.....	26
Figure 2.17: CMTA FY 2020 Cost Per Revenue Mile.....	26
Figure 2.18: CMTA FY 2020 Cost Per Unlinked Passenger Trip.....	27
Figure 2.19: CMTA FY 2020 Trips Per Revenue Hour.....	27
Figure 2.20: CMTA FY 2020 Trips Per Revenue Mile.....	28
Figure 2.21: Pre-Pandemic 2019 Cost Per Unlinked Passenger Trip (combined rail, commuter bus, & demand response).....	29

Figure 2.22: Fall 2021 Cost Per Unlinked Passenger Trip (combined rail, commuter bus, & demand response).....	29
Figure 2.23: Forecasted Cost Per Unlinked Passenger Trip – Pre-Pandemic and Current Levels.....	30
Figure 2.24: Total Local Dollars Expended/Generated for Transit Programs vs. 2020 Population.....	31
Figure 2.25: Local Dollars Expended/Generated on Transit Per Person in 2020.....	32
Figure 3.1: Northline Site Plan (July 2021).....	35
Figure 3.2: South of Leander Station Site Plan (July 2021).....	36
Figure 3.3: Projected Property Tax Collection for TIRZ No. 1.....	37
Figure 3.4: Northline Development Phase 1.....	38
Figure 4.1: Transportation Equity Demand Index (TEDI) – Transit Need.....	42
Figure 4.2: Major Trip Generators.....	43
Figure 4.3: Leander Minimum Household Density Met.....	45
Figure 4.4: Existing CMTA Pickup Market Area.....	46
Figure 4.5: Expanded Market Area.....	47
Figure 4.6: City-Wide Market Area.....	48
Figure 4.7: Upstream Origin Area.....	50
Figure 4.8: Market Area Origin.....	50
Figure 4.9: Regional One-Way Daily Trips.....	51
Figure 4.10: AM Peak Trips from Leander 2019 vs. 2021.....	51
Figure 4.11: Estimated One-Way Transit Trips 2021 and 2032.....	54
Figure 5.1: Model A: Partial Turn-Key.....	55
Figure 5.2: Model B: Full Turn-Key.....	55
Figure 5.3: Base Scenario Commuter Service Performance Metrics.....	56
Figure 5.4: Base Scenario Local Service Performance Metrics.....	57
Figure 5.5: Plus Scenario Commuter Service Key Performance Metrics.....	58
Figure 5.6: Plus Scenario Local Service Performance Metrics.....	58
Figure 5.7: Max Scenario Commuter Service Key Performance Metrics.....	59
Figure 5.8: Max Scenario Local Service Performance Metrics.....	60

List of Tables

Table 2. 1: Estimated Incremental Annual Operating Cost.....	18
Table 2. 2: Estimated Incremental Annual Operating Cost.....	20
Table 2.3: City of Leander Total Daily Boardings.....	28
Table 4.1 Transportation Equity Demand Index (TEDI) Indicators.....	42
Table 4.2: Minimum Densities for Fixed-Route Bus Service.....	44
Table 4.3: Household and Commercial Density.....	44
Table 4.4: Observed CMTA Pick-Up Modal Split.....	46
Table 4.5: One-Way AM Peak Trips.....	52
Table 4.6: Mode Choice Model Coefficients.....	53
Table 4.7: Observed Commuter Bus Park and Ride Modal Splits.....	53
Table 4.8: Trip Flow Annual Compounded Growth Rate (2025 – 2045).....	54
Table 5.1: Base Scenario Overview.....	56
Table 5.2: Base Scenario Projected Annual Cost.....	56
Table 5.3: Plus Scenario Overview.....	57
Table 5.4: Plus Scenario Projected Annual Cost.....	57
Table 5.5: Max Scenario Overview.....	59
Table 5.6: Max Scenario Projected Annual Cost.....	59
Table 5.7: Transit Scenario Summary.....	60

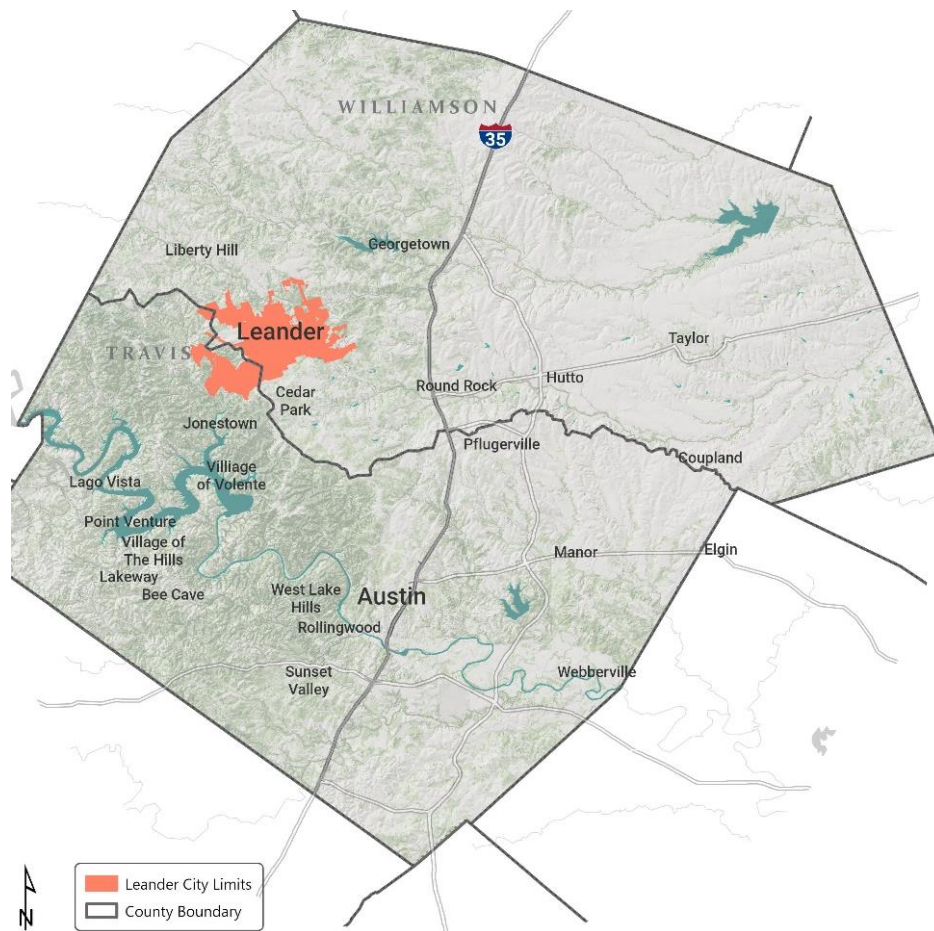
1.0 Introduction

The City of Leander (City), per the City Council, has commissioned this Transit Demand Analysis to provide information needed to evaluate the city's relationship with the Capital Metropolitan Transit Authority (CMTA) and the transit services within the City. Currently, CMTA provides rail service (Red Line), commuter bus (MetroExpress), and demand response (Metro Pickup) service within the city limits. This report evaluates the City's existing financial commitment to CMTA, as well as economic impact of transit to the community, existing and future transit demand, and alternative transit options that can service the City.

1.1 City of Leander

Founded in 1882, Leander is located in the greater Austin region on the northeast edge of the Texas Hill Country, roughly 22 miles northwest of Austin (**Figure 1.1**). Since 2000, the city has grown from 7,600 residents to more than 75,000 according to the 2020 US Census – a growth rate of 899% in 20 years. According to the US Census Bureau¹, Leander was the fastest-growing large city in the country from 2018 to 2019. Affordability and quality of schools have been the historical drivers for the community's growth.

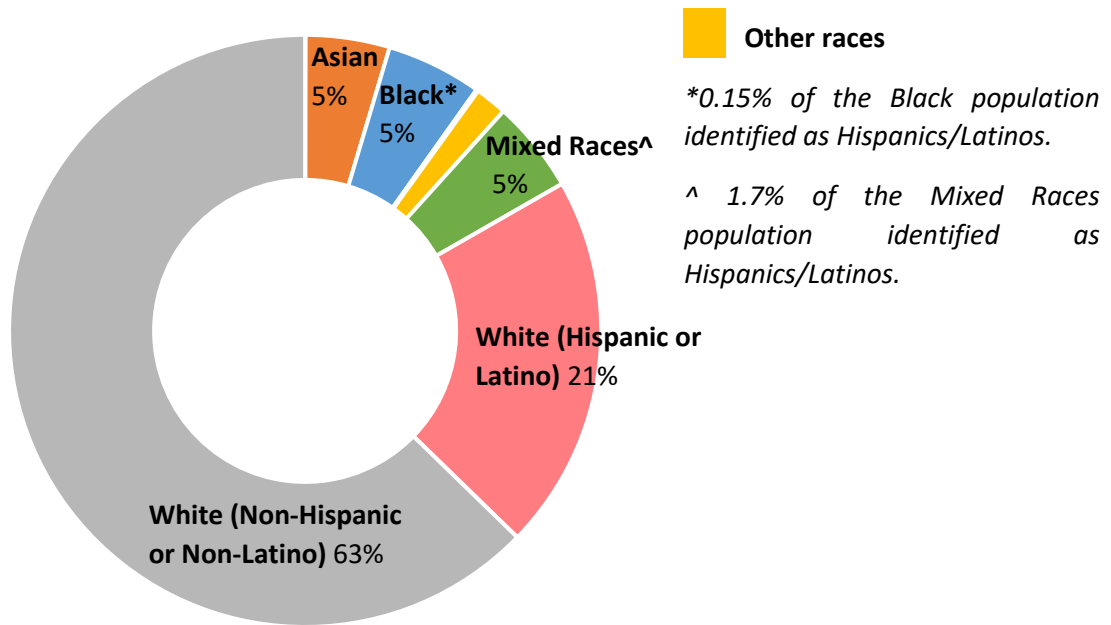
Figure 1.1: City of Leander



¹ *Southern and Western Regions Experienced Rapid Growth This Decade.* US Census Bureau. May 2021. <https://www.census.gov/newsroom/press-releases/2020/south-west-fastest-growing.html>

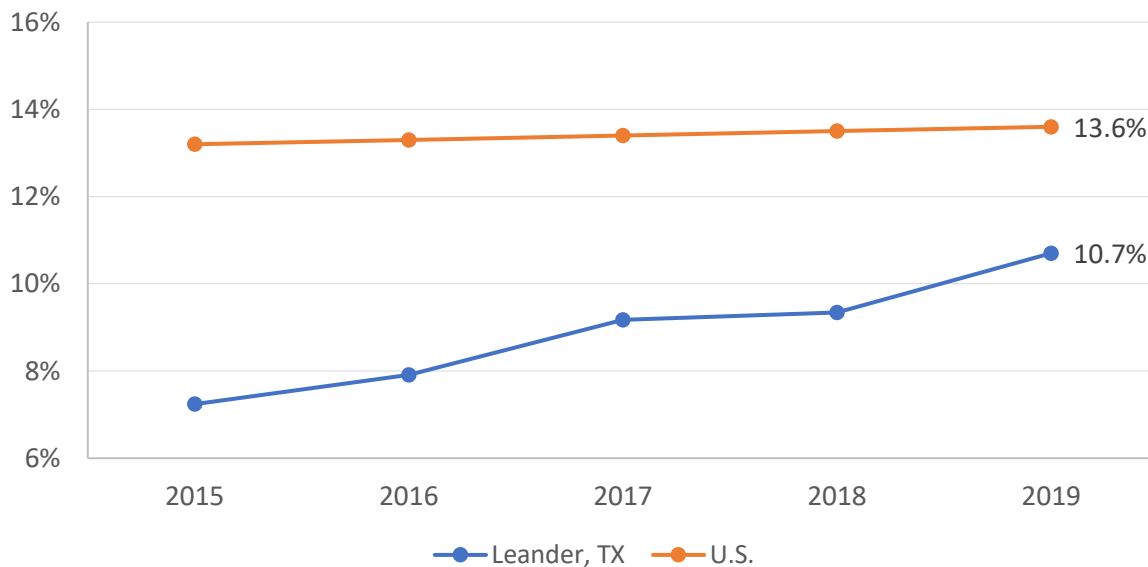
In 2019, Leander had a median age of 34 and a median household income of \$101,872. The five largest ethnic groups in the city are White (Non-Hispanic), White (Hispanic), Black or African American, and Asian (Non-Hispanic). 11% of Leander residents were born outside of the United States, which is lower than the national average of 14%. In 2018, the percentage of foreign-born citizens was 9%. **Figures 1.2, 1.3, and 1.4** show the City's race, ethnicity, heritage, and median age.

Figure 1.2: City of Leander Race and Ethnicity



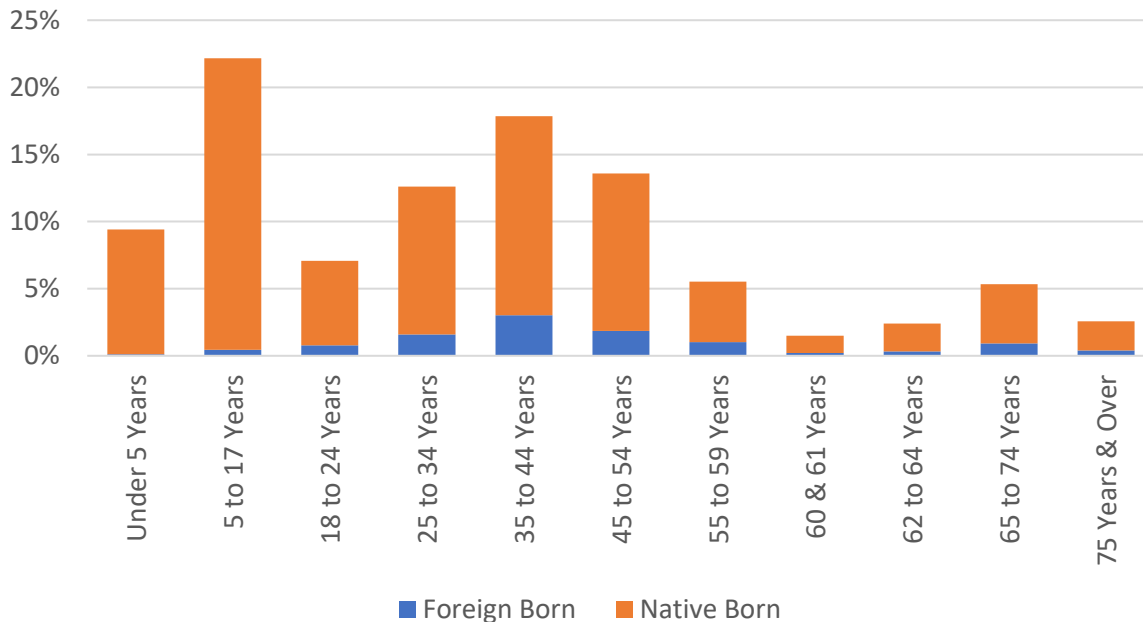
Source: US Census Bureau ACS 5-year Estimates

Figure 1.3: Share of Foreign-Born Population (2015-2019)



Source: US Census Bureau ACS 5-year Estimate

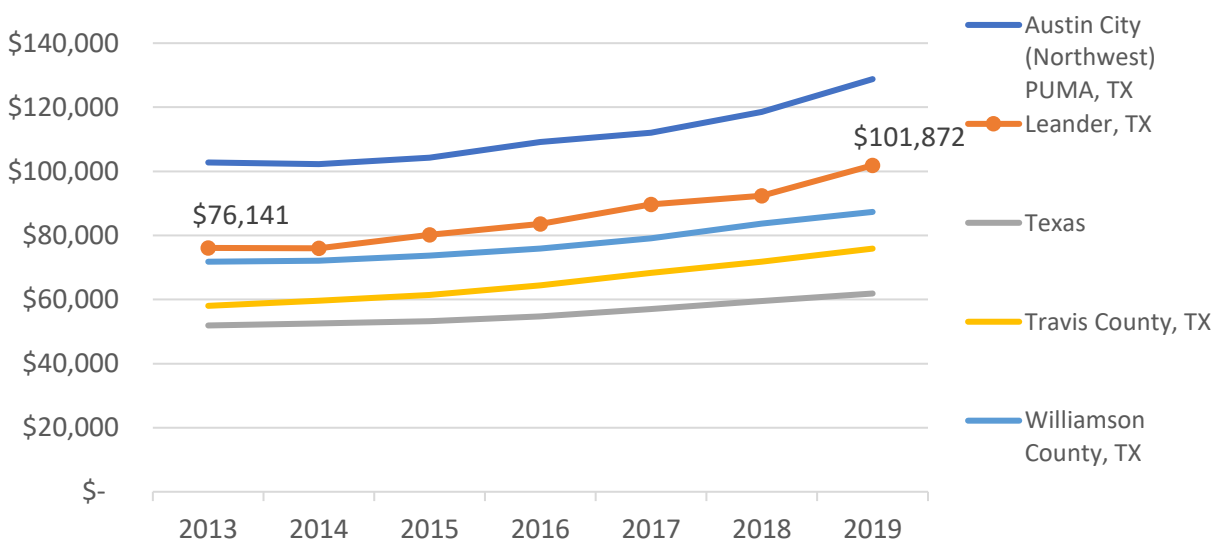
Figure 1.4: City of Leander Age by Nativity (2019)



Source: US Census Bureau ACS 5-year Estimate

Median household income in Leander is \$101,872, which is 55% more than the median annual income of \$65,712 across the entire United States. From 2013 to 2019 median household income increased 25% from \$76,141 in 2013 to \$101,872 in 2019. **Figure 1.5** shows how the median household income in Leander compares to that of its neighboring and parent geographies.

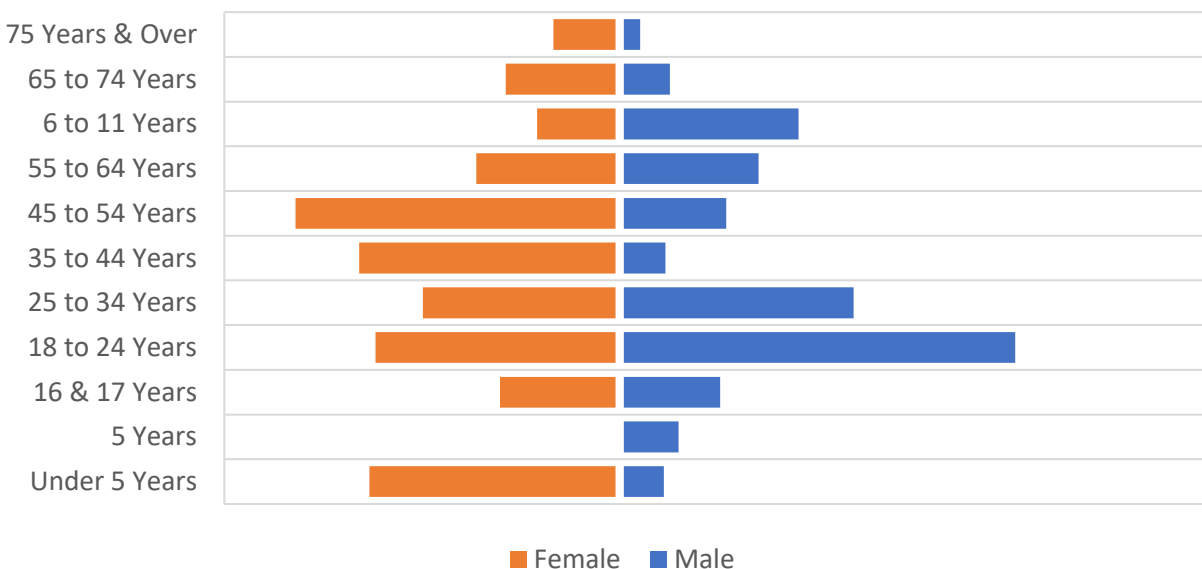
Figure 1.5: Median Household Income (2013-2019)



Source: US Census Bureau ACS 5-year Estimate

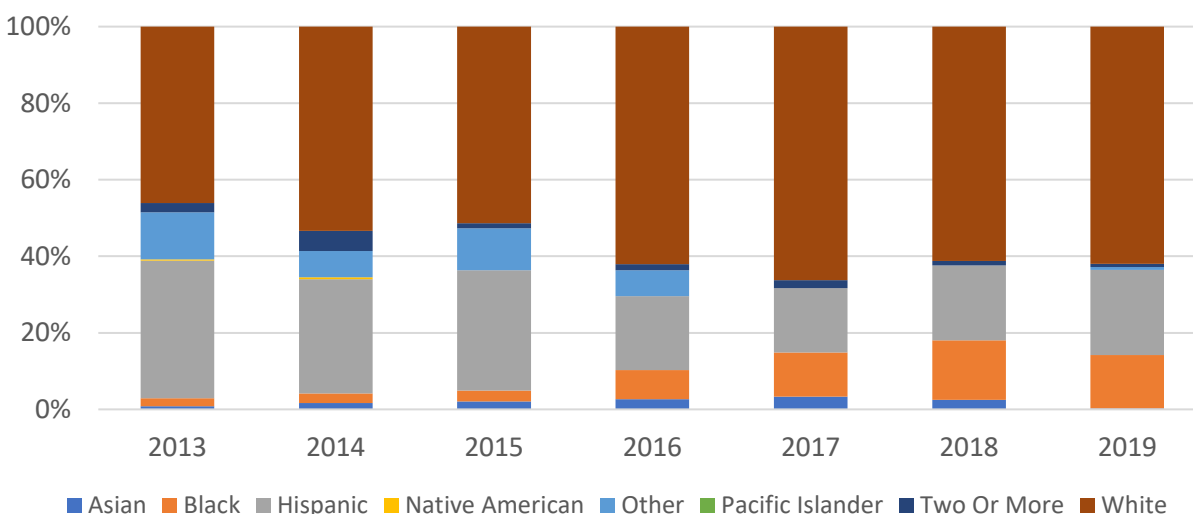
In terms of poverty, 4.2% of the population for whom poverty status is determined live below the poverty line, a number that is lower than the national average of 12.3%. The largest demographic living in poverty are Males 18-24, followed by Females 45-54 and then Females 35-44. The US Census Bureau uses a set of income thresholds that vary by family size and composition to determine who classifies as impoverished. If a family's total income is less than the family's threshold than that family and every individual in it is considered to be living in poverty. **Figure 1.6** shows the City's poverty by age and gender, while **Figure 1.7** shows poverty by race and ethnicity.

Figure 1.6: City of Leander Poverty by Age and Gender (2019)



Source: US Census Bureau ACS 5-year Estimate

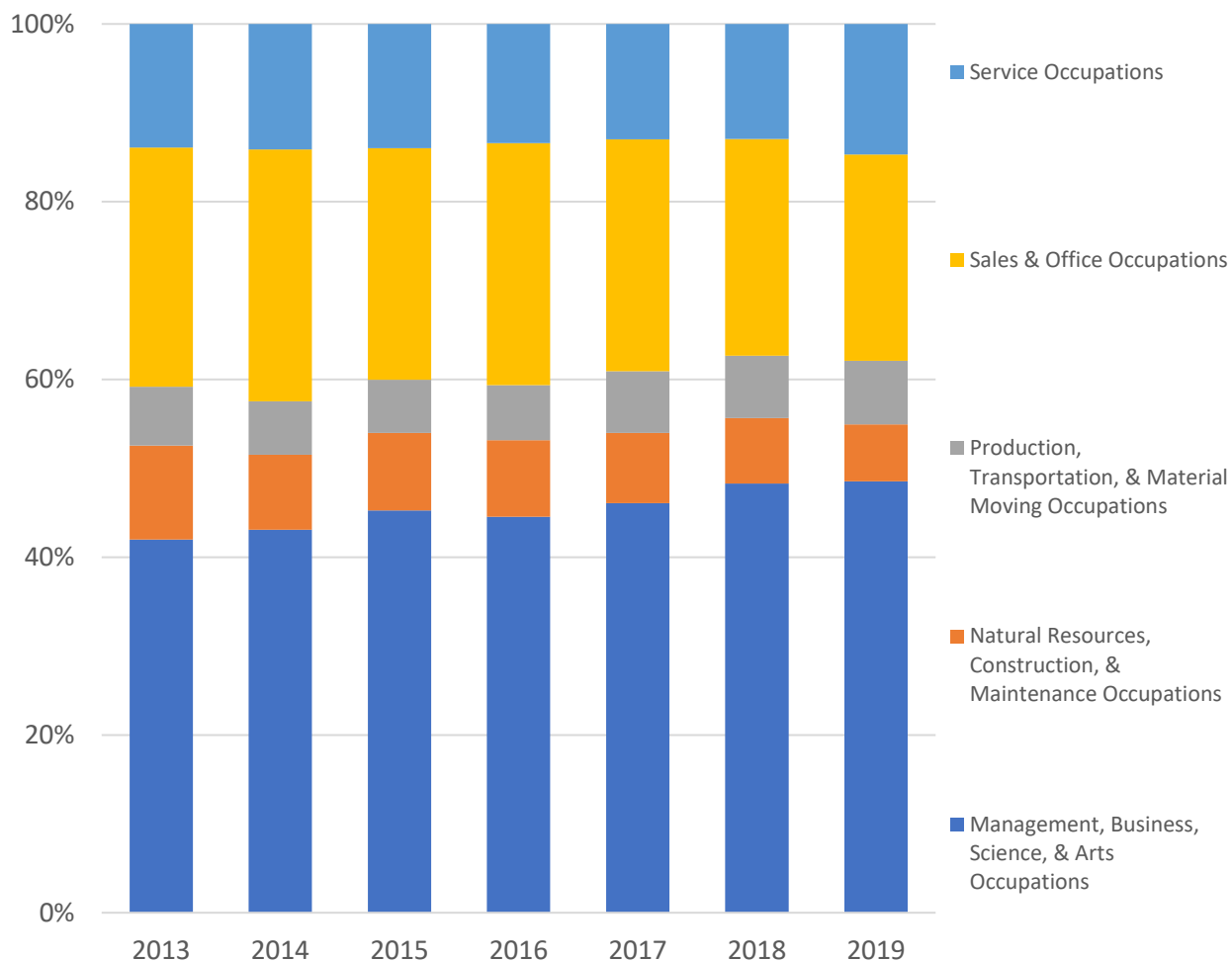
Figure 1.7: City of Leander Rate of Poverty by Race and Ethnicity (2013-2019)



Source: US Census Bureau ACS 5-year Estimate

From 2018 to 2019, employment in Leander grew at a rate of 14.9% from over 23,000 employees to over 26,000 employees. The most common job groups, by number of people living in Leander, are Management Occupations (4,260 people), Sales and Related Occupations (3,181 people), and Office and Administrative Support Occupations (3,066 people). **Figure 1.8** illustrates the share breakdown of the primary jobs held by residents of the city.

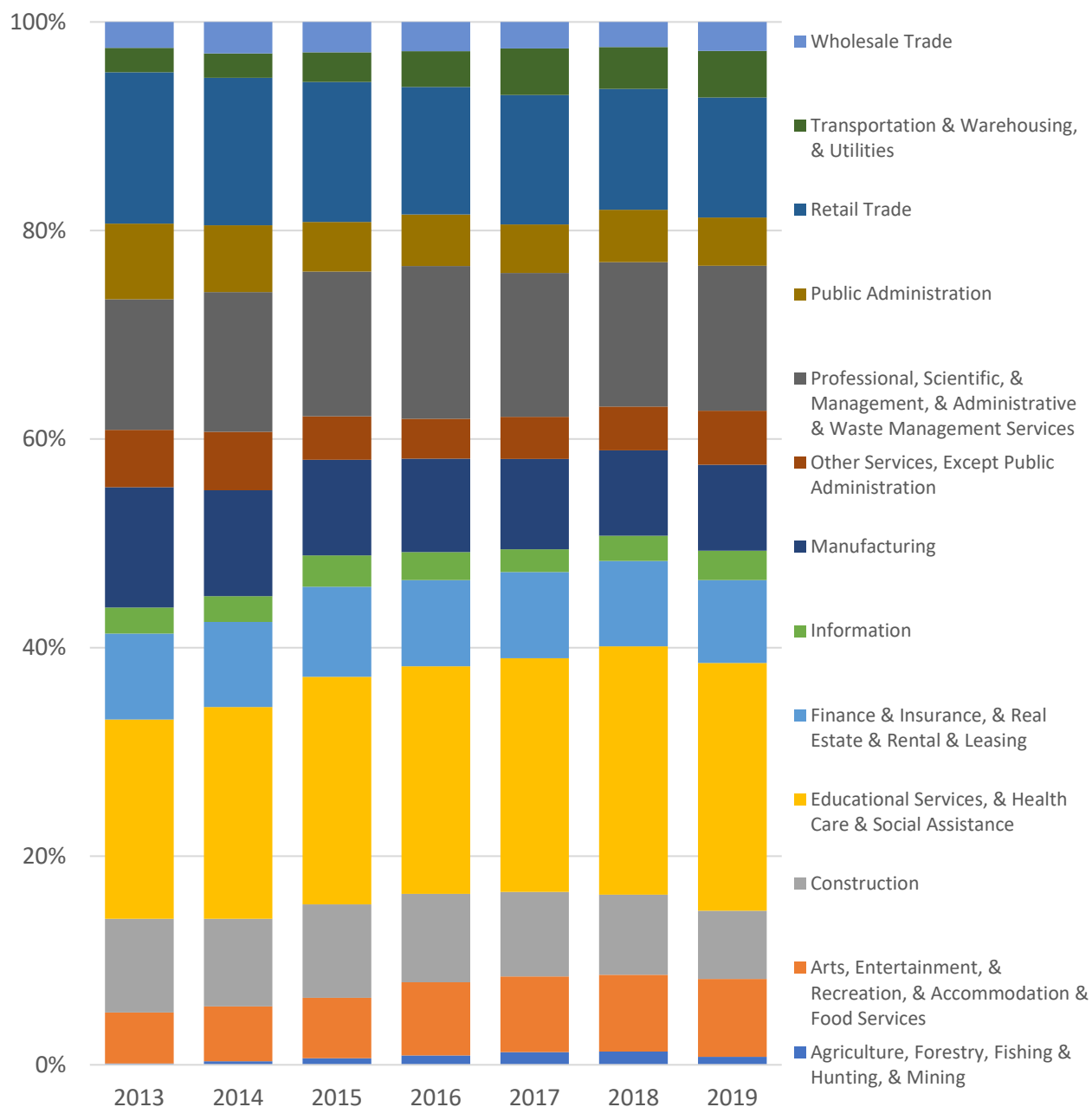
Figure 1.8: City of Leander Employment by Occupations



Source: US Census Bureau ACS 5-year Estimate

The most common employment sectors for those who live in Leander are Educational Services (3,290 people), Health Care and Social Assistance (3,106 people), and Retail Trade (3,102 people). **Figure 1.9** shows the share breakdown of the primary industries for residents of Leander, though some of these residents may live in Leander and work elsewhere. US Census data is tagged to a residential address, not a work address.

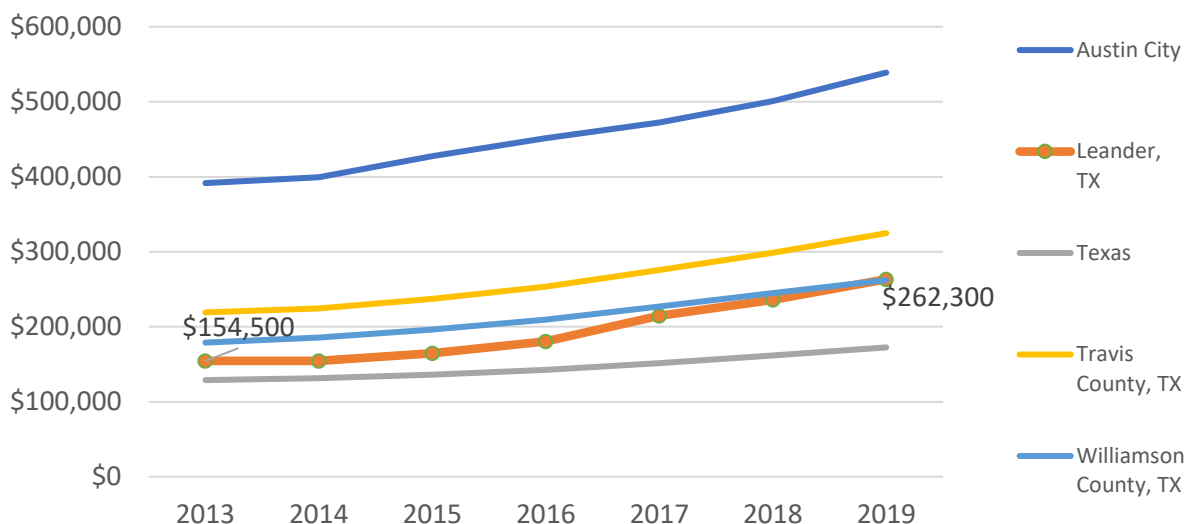
Figure 1.9 City of Leander Employment by Industries



Source: US Census Bureau ACS 5-year Estimate

In 2019, the median property value in Leander grew to \$263,400 from the previous year's value of \$235,900, an 11.7% increase. **Figure 1.10** displays the property values in Leander compared to neighboring geographies. In Leander, the largest share of households has a property value in the \$200,000 to \$250,000 range.

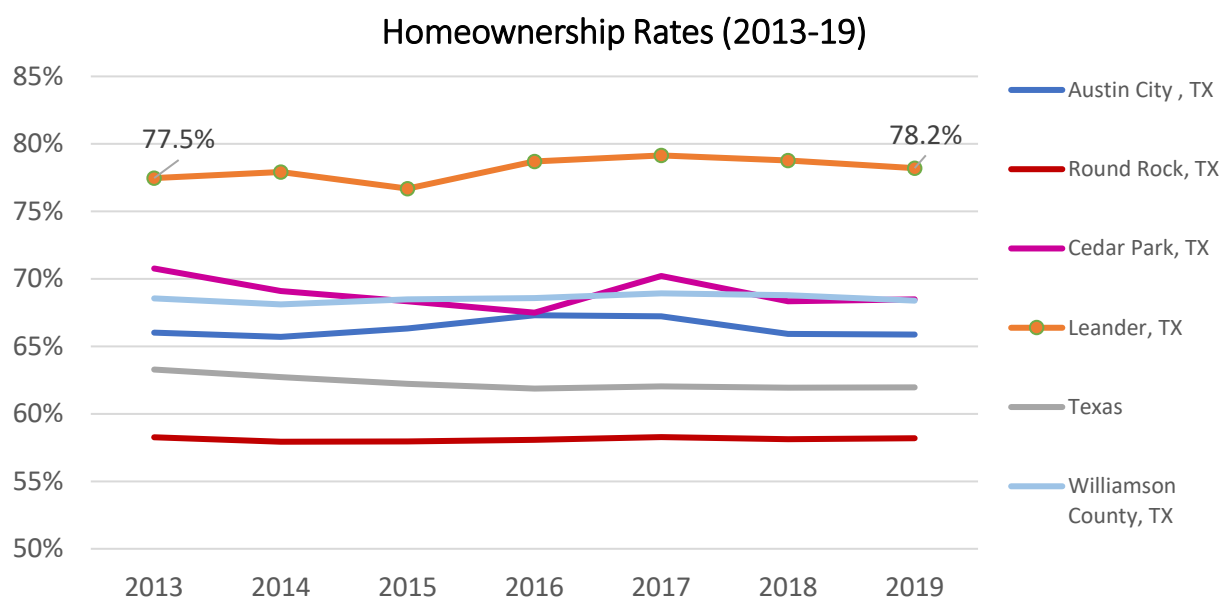
Figure 1.10: City of Leander Property Value (2013-2019)



Source: US Census Bureau ACS 5-year Estimate

In 2019, 78.2% of the housing units in Leander were occupied by their owner. This percentage declined from the previous year's rate of 78.8%. This percentage of owner-occupation is higher than the national average of 64.1%. **Figure 1.11** shows the ownership percentage in Leander compared to neighboring geographies.

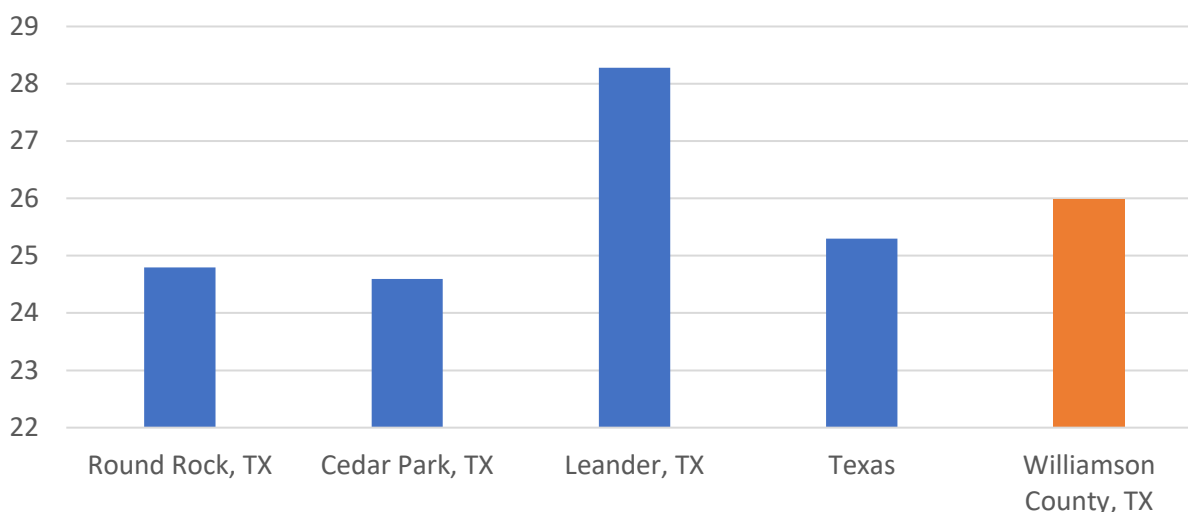
Figure 1.11: City of Leander Homeownership Rates



Source: US Census Bureau ACS 5-year Estimate

On average, employees in Leander have a longer commuter time (28.3 minutes) than the normal US worker (25.5 minutes). Additionally, 1.4% of the workforce in Leander have “super commutes” in excess of 90 minutes. **Figure 1.12** shows how the City’s average commute time compares to that of its neighbors.

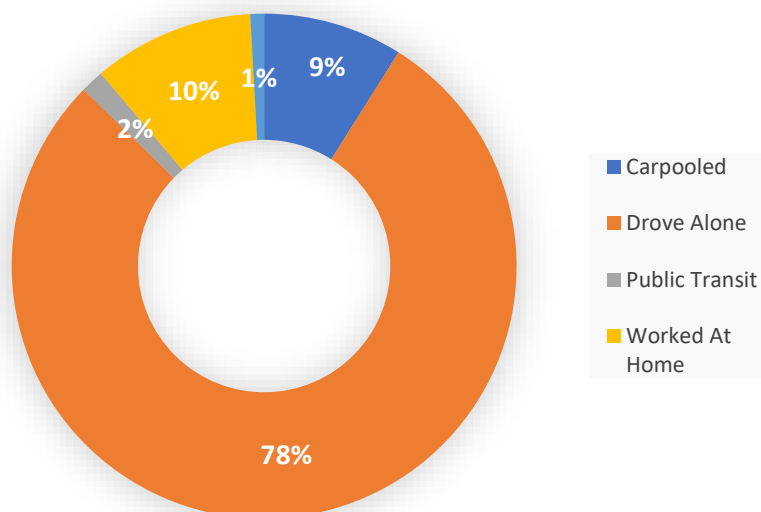
Figure 1.12: City of Leander Average Commute Time to Work (in minutes) 2019



Source: US Census Bureau ACS 5-year Estimate

In 2019, 78.4% of workers in Leander drove alone to work, followed by those who worked from home (10.3%), and those who carpooled to work (8.9%). **Figure 1.13** shows the number of households using each mode of transportation.

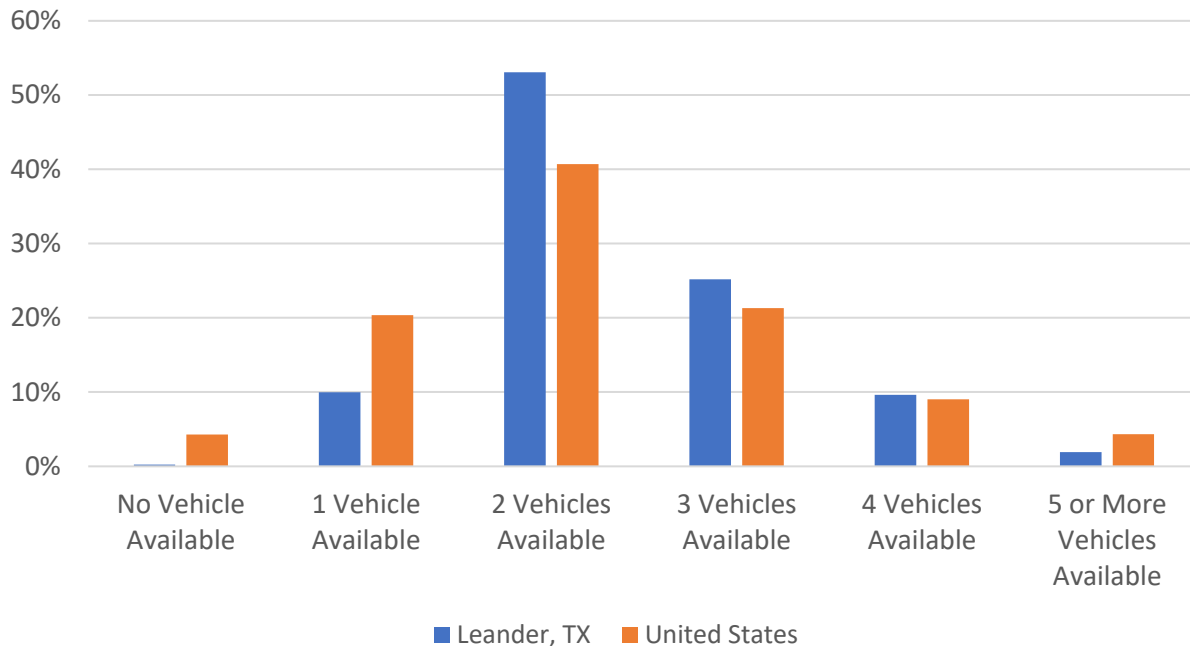
Figure 1.13: City of Leander Commute to Work



Source: US Census Bureau ACS 5-year Estimate

Figure 1.14 displays the household vehicle availability in Leander compared to the national average. The largest share of households in the City has two cars.

Figure 1.14: City of Leander Household Vehicles



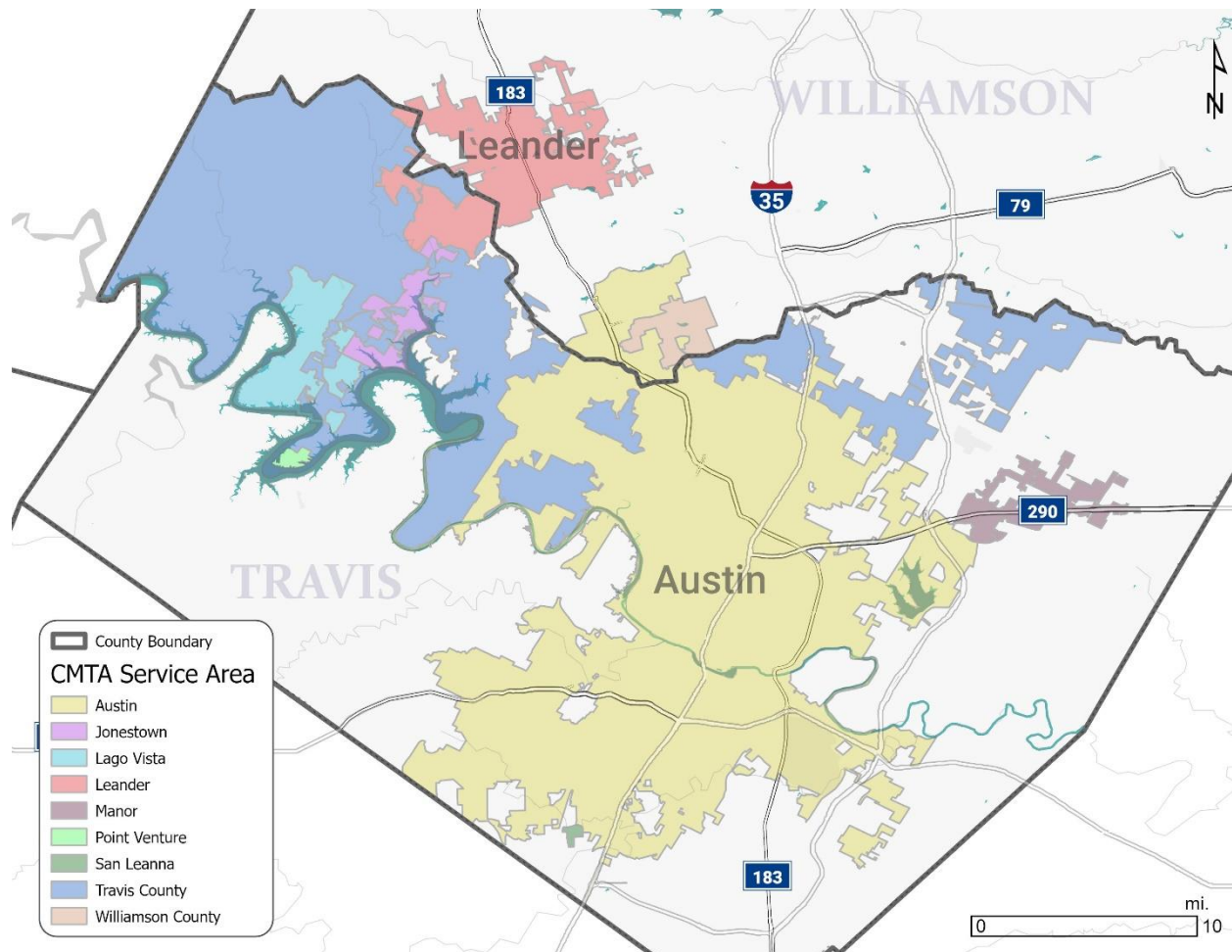
Source: US Census Bureau ACS 5-year Estimate

1.2 Capital Metro Transit Authority

Capital Metro Transit Authority (CMTA) is Austin's regional public transportation authority. CMTA connects people, jobs, and communities by providing public transportation choices to Central Texas. CMTA was established by a voter referendum on January 19, 1985, in accordance with Chapter 451 of the Texas Transportation Code. The agency is funded in part by a one percent sales tax levied by members of its service area. The CMTA service area (**Figure 1.15**) consists of the following municipalities:

- Austin
- Jonestown
- Lago Vista
- Leander
- Manor
- Point Venture
- San Leanna

Figure 1.15: CMTA Service Area



CMTA provides the following public transit services to its member cities:

- MetroBus – Routes 1-499 and 600-699 provide frequent-stop service with routes all over town and service to the University of Texas.
- MetroRapid – Routes 801 and 803 provide high-frequency service with a limited number of stops with 15-minute headways that operate seven days a week.
- MetroRail – Route 550, or the Red Line, is Commuter Rail service to and from downtown designed to bring outlying residents into Central Austin.
- MetroExpress – Commuter Bus service to and from downtown Austin to outlying communities.
- Pickup by Metro – App based demand response transit service operating in designated zones in North Oak Hill, South Manchaca, Dessau, Pflugerville, Lago Vista, Leander, Manor, East Austin, Walnut Creek, Northeast Austin, and Exposition.

In November 2020, Austin voters approved a property tax increase to fund the \$7.1 billion Project Connect transit plan. Project Connect will expand and improve the public transportation network in Central Texas, including new light rail, a subway under downtown Austin, and an accessible bus system to better connect neighborhoods. Project Connect, **Figure 1.16**, will include the follow rail improvements:

- *Orange Line* – approximately 21 miles of new light rail (LRT) with 22 stations connecting North and South Austin running from Tech Ridge to Slaughter along the North Lamar/Guadalupe corridor, connecting the UT campus and downtown before crossing Lady Bird Lake and traveling along South Congress to Slaughter Lane.
- *Blue Line* – 8.2 miles of LRT with 20 stations running from downtown Austin to the Austin-Bergstrom International Airport providing service along East Riverside Drive across Lady Bird Lake to the Convention Center and west on 4th Street to Republic Square. The Blue Line will then operate along the Orange Line's path to US 183 and North Lamar.
- *Red Line* – currently in operation from Leander to Downtown Austin, the Red Line will connect to the larger system.

Bus improvements in Project Connect include improvements to MetroRapid which provides frequent service with a limited number of stops and faster travel times. Priority lanes, transit signal priority, queue jumps, enhanced and improved stations, and higher frequency are all features of MetroRapid.

MetroExpress serves suburban Austin and neighboring communities with eight new routes between Park and Ride locations and major employment hubs such as the Capitol Complex, downtown, and the 38th Street Medical District. In addition to the areas currently served by MetroExpress, Project Connect includes new MetroExpress service to other parts of the region, including Hutto, Bastrop, Lockhart, Buda and Oak Hill.

Additional projects in Project Connect include Equitable Transit-Oriented Development, additional Metro Pickup zones, nine new Park and Rides and one Transit Center, and improved customer technology.

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2.0 Public Transit Service Analysis

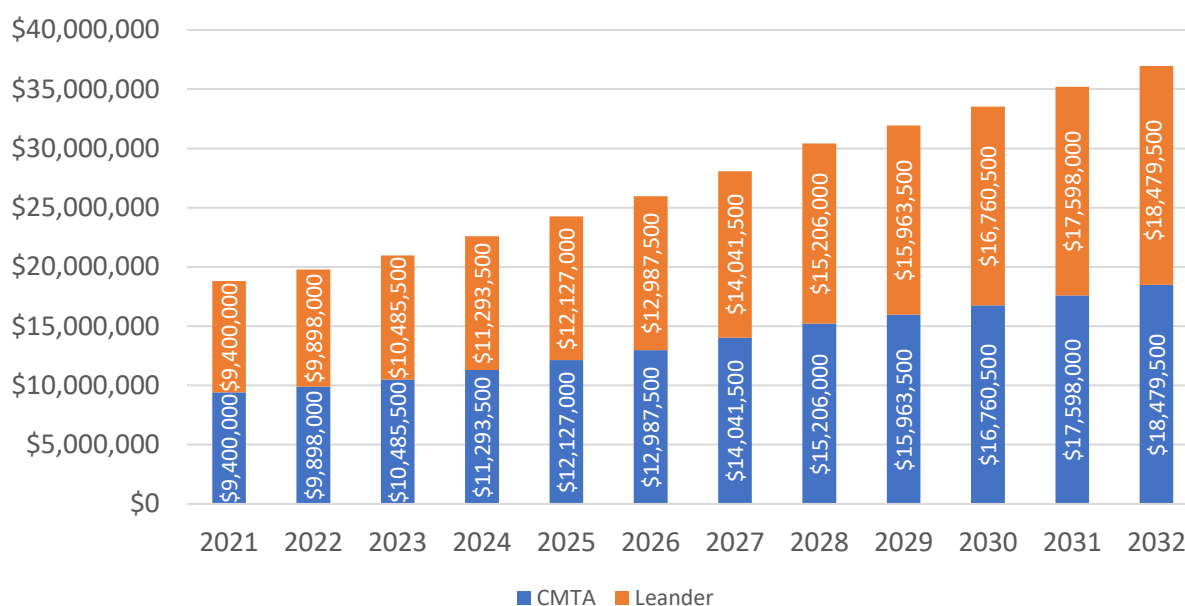
Leander has been a member of CMTA since 1985, as part of the membership, Leander dedicates a 1% sales tax to CMTA. CMTA uses the Leander sales tax, as well as other funding sources, to provide services throughout the entire CMTA service area (including Leander). This section examines the financial trade-offs and effectiveness as it relates to participation in CMTA's transit program (rail, commuter bus, on-demand). In addition to defining the cost of CMTA's service in relation to the annual sales tax contribution and federal funding contribution, this section provides an overview of the boarding survey and license plate survey.

2.1 Leander's Financial Contributions

2.1.1 Sales and Use Tax

CMTA member cities contribute a 1% sales tax levied by the member city. As stated above, Leander has experienced significant residential and economic growth in the past 10 years. Since 2011, sales tax permit holders in Leander have increased 663%.² As a result of this growth, the local sales tax collection, of the 8.25%, 2% goes to the City and 6.25% to the state, has grown from about \$4.1 million in 2011 to a projected \$18.8 million in 2021 (**Figure 2.1**). This represents a compounded annual growth rate (CAGR) of 16.6%. During this same time period, the State of Texas sales and use tax collection experienced a 5.3% CAGR.³ Assuming a more conservative estimate of 5.3%, the projected local sales and use tax collection for the State will be about \$33.2 million by 2032, of which CMTA would receive about \$18.5 million for a projected total of \$164 million from 2021 to 2032.

Figure 2.1 Projected Sales Tax Collection



² *Active Sales Tax Permit Holders* | *Open Data Portal*. (2021). State of Texas Open Data Portal.
<https://data.texas.gov/Government-and-Taxes/Active-Sales-Tax-Permit-Holders/jrea-zgmq/data/>

³ State of Texas. Comptroller. (2021). *A Field Guide to the Taxes of Texas* (PDF) (No. 96-1774).

2.1.2 Federal Transit Administration

CMTA is the Austin Urbanized Area Designated Recipient of Federal Transit Administration 5307 formula funds. CMTA executes and administers grants with the FTA to reimburse for a variety of transit expenses. These federal formula funds are allocated throughout the nation based on population, population density, bus revenue vehicle miles, bus passenger miles, fixed guideway passenger miles, operating cost, and percentage of low-income individuals. In Fiscal Year 2021, CMTA was allocated \$34.4 million in FTA 5307 funds. While Leander does not contribute transit service metrics to the formula, Leander's population does contribute to the formula. FTA uses the most recent decennial census for population figures. In 2010, Leander's population was 26,521 and generated about \$115,000 in federal funding. In 2020, Leander's population is 59,202 and will likely generate about \$300,000 in federal funding for the area.

2.2 City of Leander Existing Transit Service

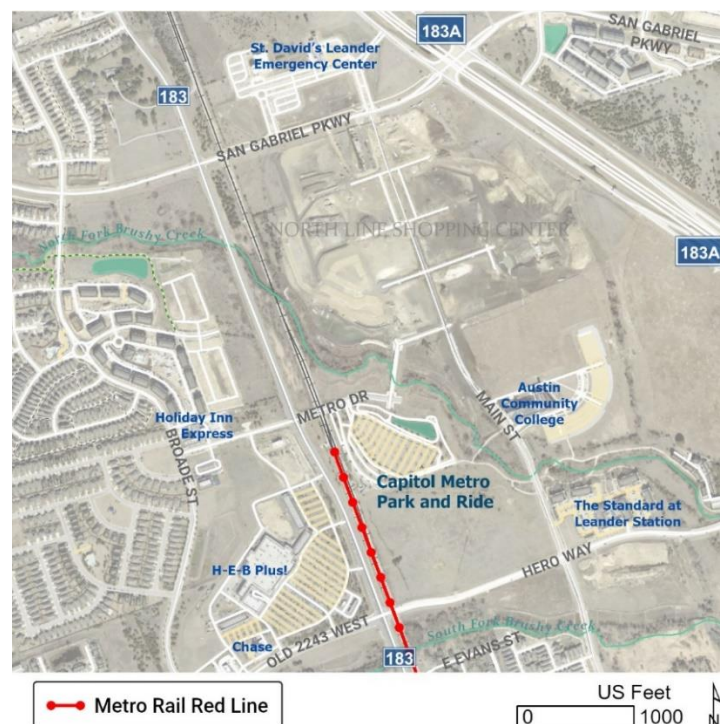
In 1986 the citizens of Leander voted to join CMTA, 60% voted in favor (42 in favor of 70 total voters) of joining and dedicate a 1% sales tax to CMTA. Leander's membership in CMTA was affirmed in 2000 when 66.5% of voters were in favor of the membership. In 2004, citizens of Leander participated in a vote to accept rail service.

Within Leander, CMTA currently provides demand response service (Pickup by Metro), commuter bus (MetroExpress), and rail service (MetroRail Red Line) which operates from the Leander Station Park and Ride, and to the city.

2.2.1 Leander Station Park and Ride

The Leander Station Park and Ride is located at the intersection of North US 183 and West Metro Drive, **Figure 2.2**. The Park and Ride offers 619 parking spaces, one rail station, and seven bus bays. Leander Station is the terminal station for the Red Line and MetroExpress.

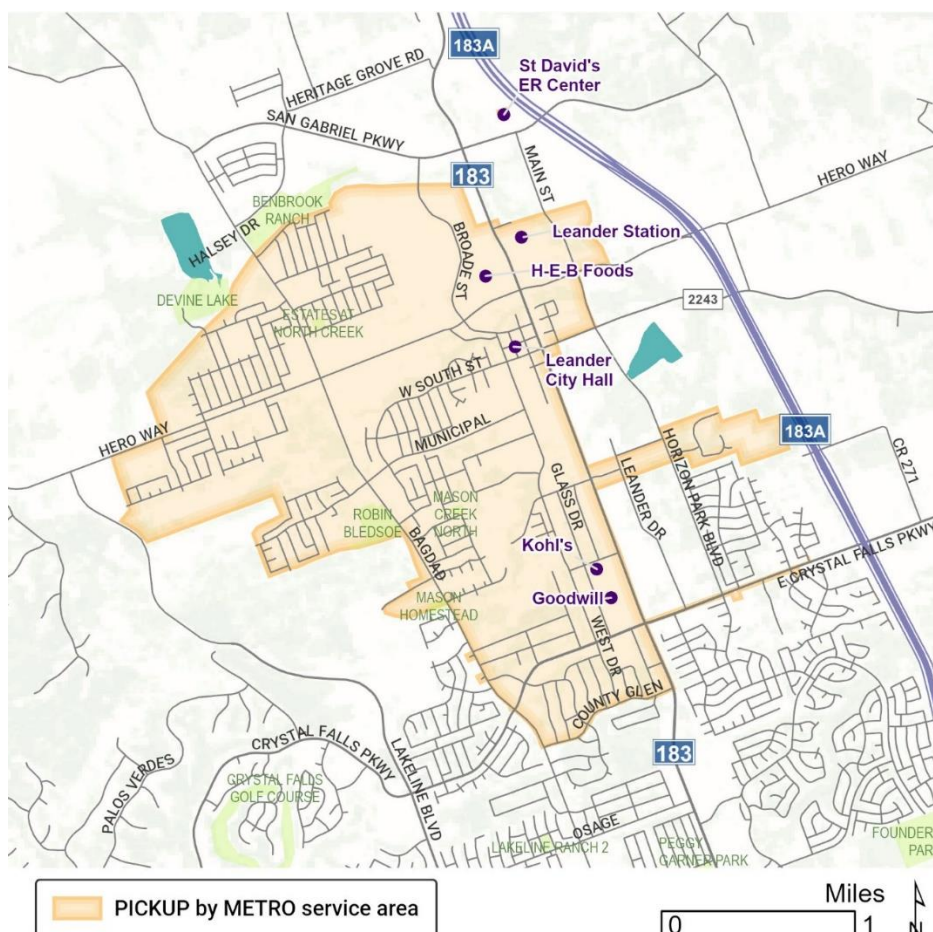
Figure 2.2: Leander Station Park and Ride



2.2.2 Pickup by Metro

Pickup by Metro is CMTA's new local rideshare option. Pickup Leander launched in 2020 and operates Monday through Friday from 6:00 AM to 7:00 PM and Saturdays from 10:00 AM to 6:00 PM. With the Pickup app, a passenger can arrange on-demand transit service anywhere within the service area. **Figure 2.3** shows Leander's service area.

Figure 2.3: Pickup by Metro Leander Service Area



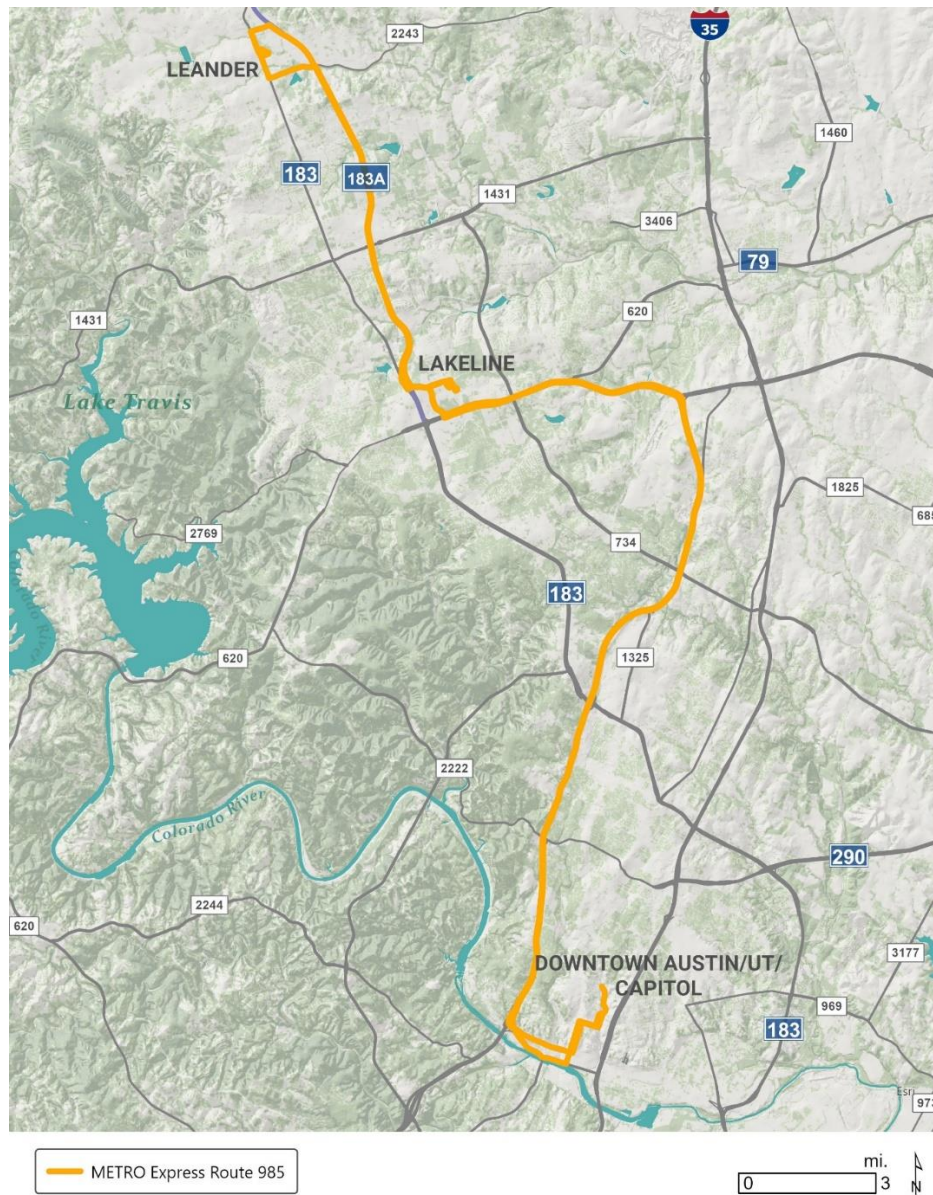
2.2.3 MetroExpress

MetroExpress routes provide commuter bus service for North Austin and outlying areas, allowing people to leave their cars at Park and Rides and travel into downtown Austin and the University of Texas. MetroExpress utilizes the region's toll lanes, allowing riders to bypass traffic toll-free. MetroExpress vehicles have free Wi-Fi and room for bikes.



Leander is served by MetroExpress route 985, illustrated in **Figure 2.4**, with five daily southbound and seven northbound trips to and from Leander Station Park and Ride. Southbound trips operate every 30 minutes from 5:50 AM to 8:00 AM. The northbound trips operate every 30 minutes from 2:30 PM to 6:00 PM. The service provides commuters a one-seat ride to downtown Austin and the University of Texas.

Figure 2.4: Metro Express Route 985



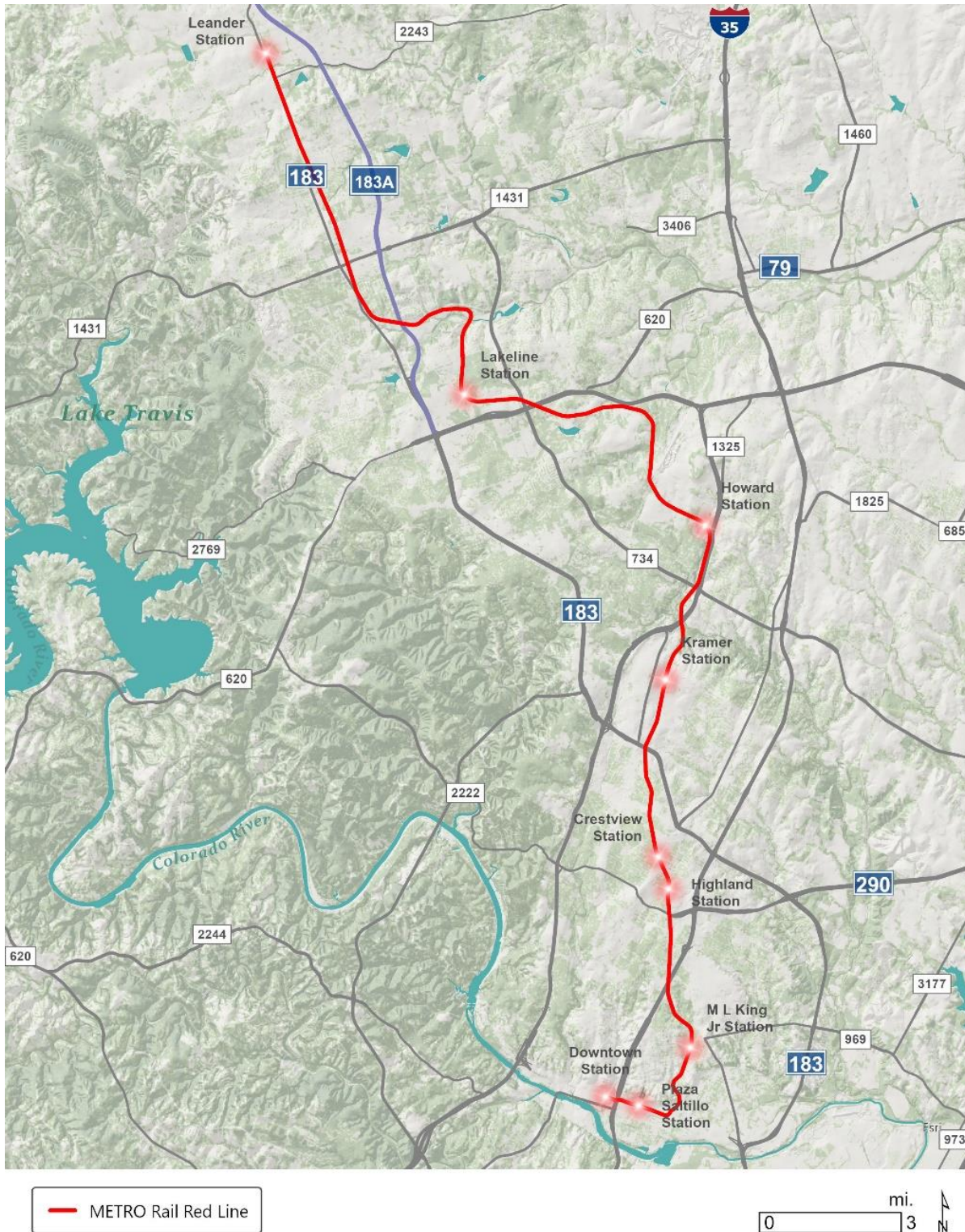
2.2.4 MetroRail Red Line

The Red Line began service in 2010 and is currently the only rail line in CMTA's transit network. The 32-mile route is designed to connect commuters from Leander to downtown Austin, shown in **Figure 2.5**. The rail line has nine stations with the Leander Station Park and Ride the northernmost terminal station. The service offers service from 5:41 AM to 8:23 PM Monday to Thursday, Friday from 5:41 AM to 1:32 AM, and Saturdays from 10:12 AM to 1:37 AM.



The Red Line service offers 12 daily southbound weekday trips, five Friday southbound evening trips, 22 Saturday southbound trips, and special event service for Major League Soccer (MLS) games.

Figure 2.5: MetroRail Red Line Route



2.3 Incremental Operating Cost of CMTA Services

CMTA is a transit system and as a result estimating the incremental operating cost for just Leander service will have some margin of error. However, Leander is at the edge of service area, so the margin of error is less than if Leander was more centralized. The incremental cost considers the fully burdened cost of operating the Pickup service in Leander, and both the MetroExpress and MetroRail service to and from the Lakeline Station. In Fiscal Year (FY) 21, the projected incremental annual operating cost to serve Leander is about \$7.98 million (summarized in **Table 2.1**).

Table 2.1: Estimated Incremental Annual Operating Cost

Service	Revenue Vehicle Hours	Operating Cost Per Hour ⁴	Estimated Cost
Pickup	7,600	\$61	\$463,600
MetroExpress 985	1,000	\$213	\$212,000
MetroRail Red Line	2,570	\$2,830	\$7,200,000
Total	11,170	-	\$7,975,600

2.3.1 Pickup by Metro

The Pickup service is 100% contained within the City of Leander. There are two vehicles operating within the Leander service area, equating to about 7,600 vehicle revenue hours (VRH). The current cost of operating the service is \$61 per hour.⁵ The annual operating costs for the Leander Pickup service is about \$463,000 (VRH (x) operating cost per hour).



2.3.1 MetroExpress

According to the CMTA Route 985 schedule, the time between Lakeline Station and Leander Station is about 20 minutes one-way. In Fall 2021, CMTA operated five AM and seven PM runs per weekday and does not offer a weekend service for this route.⁶ This equates to about 1,000 VRH per year. According to CMTA, in FY21, the fully burdened operating cost for commuter bus was \$213 per hour. The annual incremental operating costs for the Leander MetroExpress service are about \$212,000 (VRH (x) operating cost per hour).



2.3.3 MetroRail Red Line

According to the CMTA Red Line schedule, the time between Lakeline Station and Leander Station is about 17 minutes one-way. In Fall 2021, CMTA operated 11 northbound and 12 southbound runs per weekday, and 58 southbound and northbound runs per weekend. Additionally, CMTA provides special event runs for major league soccer matches, University of Texas football games,



⁴ Capital Metro data request. November 2021.

⁵ CMTA cost of Pickup service for Pflugerville, TX 2021.

⁶ Schedules and Maps - Capital Metro - Austin Public Transit. (2021). CMTA. <https://www.capmetro.org/schedmap/?svc=0&f1=985>

and other major events. In all, CMTA provides about 2,570 VRH per year to serve the Leander Station. According to CMTA, in FY21, the fully burdened operating cost for commuter bus was \$2,830 per hour. The annual incremental operating costs for the Leander MetroRail Red Line service is about \$7.2 million (VRH (x) operating cost per hour).

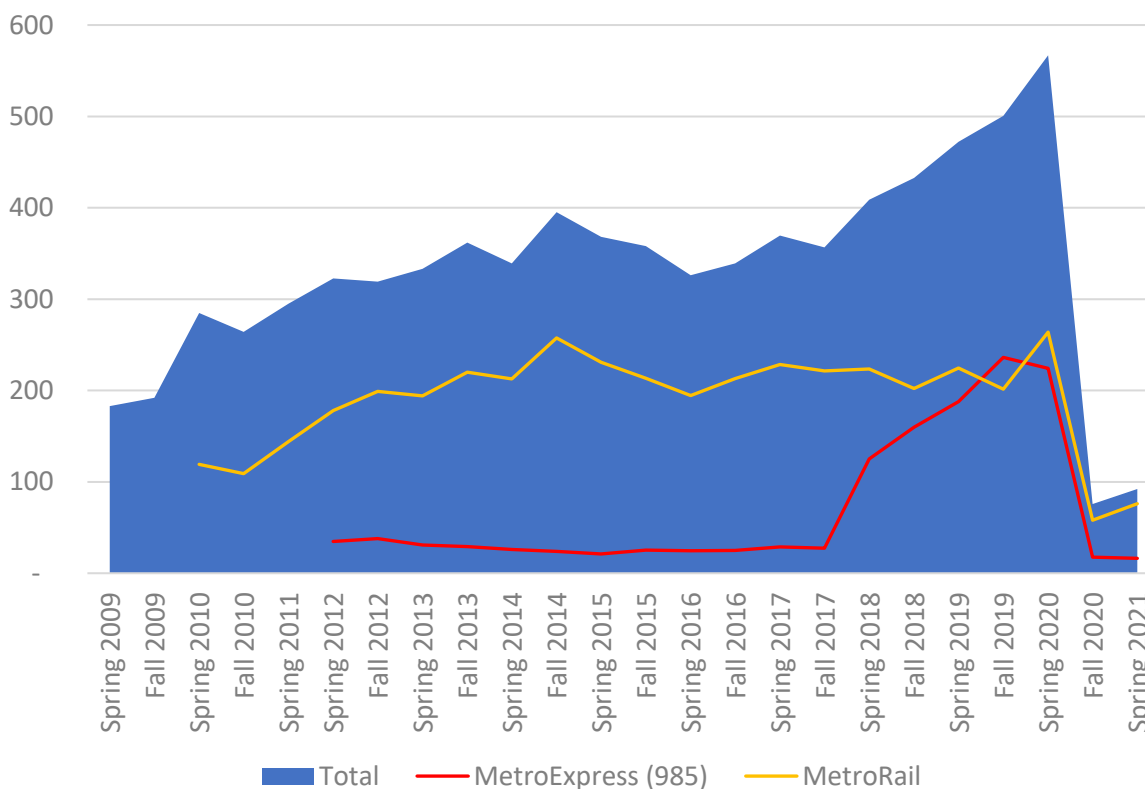
2.4 Leander Station Ridership

Transit service began at Leander Station in the spring of 2009. This section highlights the historical ridership at Leander Station and how the COVID-19 pandemic affected ridership in 2020 and 2021, along with the boarding and license plate survey that was conducted for the MetroRail Red Line and MetroExpress Route 985 in October 2021 to get a snapshot on ridership and where passengers reside.

2.4.1 Pre-Pandemic Ridership

Transit service began at Leander Station in the spring of 2009 with the operation of three commuter bus routes – 983, 986, and 987. MetroRail Red Line began service in the Spring of 2010 while MetroExpress route 985 began service in the Spring of 2012. MetroExpress routes 983, 986, and 987 services were discontinued in Spring 2018, Spring 2012, and Fall 2020 respectively. During this time, ridership has gradually grown and boardings have remained steady. The introduction of the Mopac Express Lanes in late 2017/early 2018 boosted ridership on the MetroExpress routes. Since the opening of the Leander Station, daily boardings have averaged 332 boardings per day for all modes, while MetroRail Red Line averaged 190 boardings per day and MetroExpress 985 has averaged 68 boardings per day. However, the COVID-19 pandemic, which began in Spring of 2020, has had a dramatic impact on transit ridership. **Figure 2.6** illustrates boarding trends at the Leander Station from 2009 to 2021.

Figure 2.6: Leander Station Boarding History (2009 – 2021)



2.4.2 Boarding Survey

A boarding survey was conducted at the Leander Station for the MetroRail Red Line and MetroExpress route 985 for 20 days from October 2, 2021, to November 3, 2021. The survey included 14 weekdays (Tuesday, Wednesday, Thursday), five Saturdays, and one Sunday. To capture special event boardings, **Table 2.2** shows the nine special events that were captured.

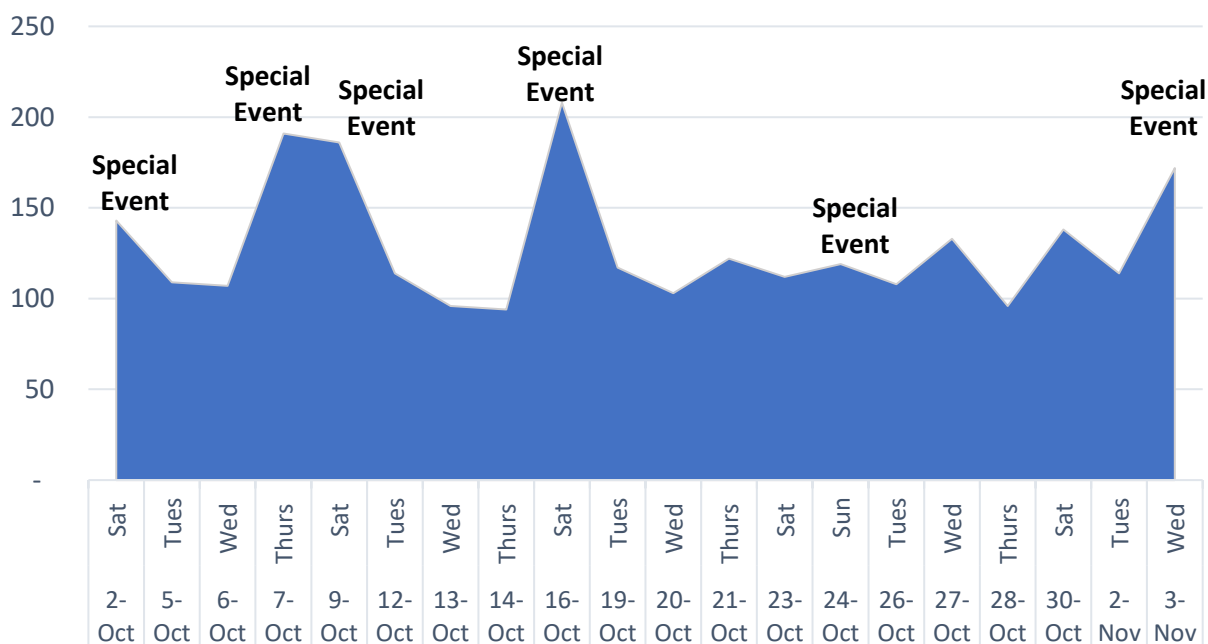
Table 2.2: Estimated Incremental Annual Operating Cost

Special Event	Date	Day of Week
Austin City Limits	October 2	Saturday
	October 9	Saturday
Women's March at the Capitol	October 2	Saturday
Major League Soccer Games (MLS)	October 2	Saturday
	October 16	Saturday
	October 24	Sunday
	November 3	Wednesday
World Cup Qualifier	October 7	Thursday
University of Texas Football Game (11am kick-off)	October 16	Saturday

It should be noted that CMTA discontinued fare collections only for the month of October 2021.

Figure 2.7 shows the total boardings for both MetroRail and MetroExpress (985) for the survey period. MetroExpress (985) accounted for 16% of the boardings while MetroRail accounted for 84%. A total of 2,582 boardings were counted with an average daily boarding of 129 passengers. Boardings were consistent throughout the survey period however, special event days saw a spike in boardings.

Figure 2.7: MetroExpress (985) and MetroRail Total Boardings



2.4.2.1 MetroExpress 985 Boarding Survey

CMTA's MetroExpress 985 operates five weekday morning departures from Leander Station. During the survey period, 407 boardings were recorded with an average daily boardings of 29 passengers. **Figure 2.8** shows the total boardings by departure time and **Figure 2.9** shows the total boardings for the survey period. As shown in **Figure 2.8**, the 6:30 am departure received the most boardings.

Figure 2.8: MetroExpress 985 Weekday Totals by Departures

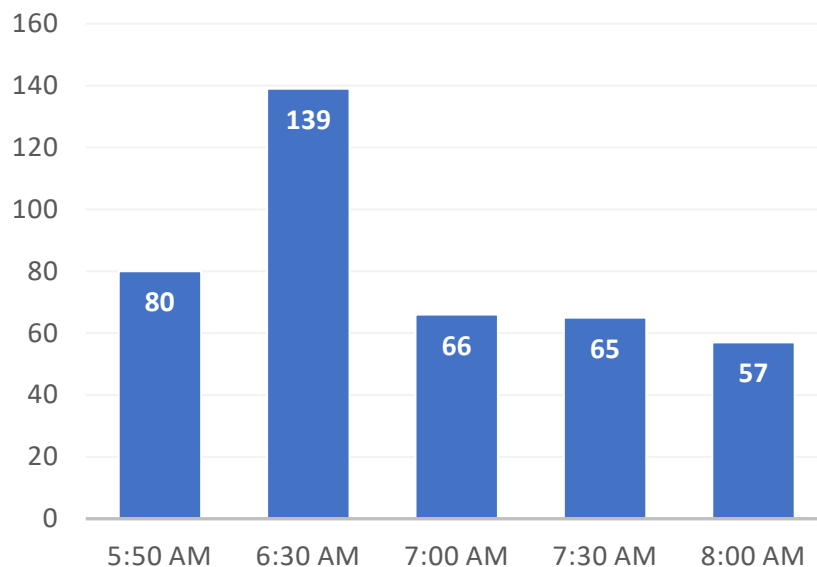
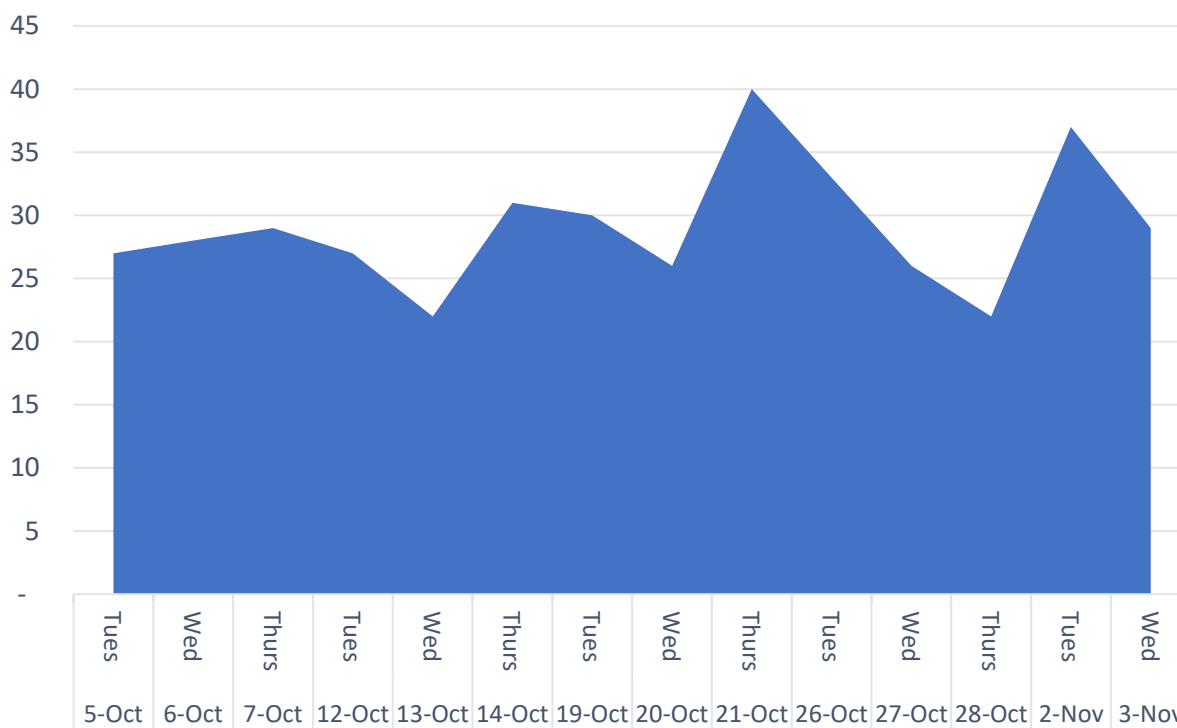


Figure 2.9: MetroExpress 985 Daily Boardings

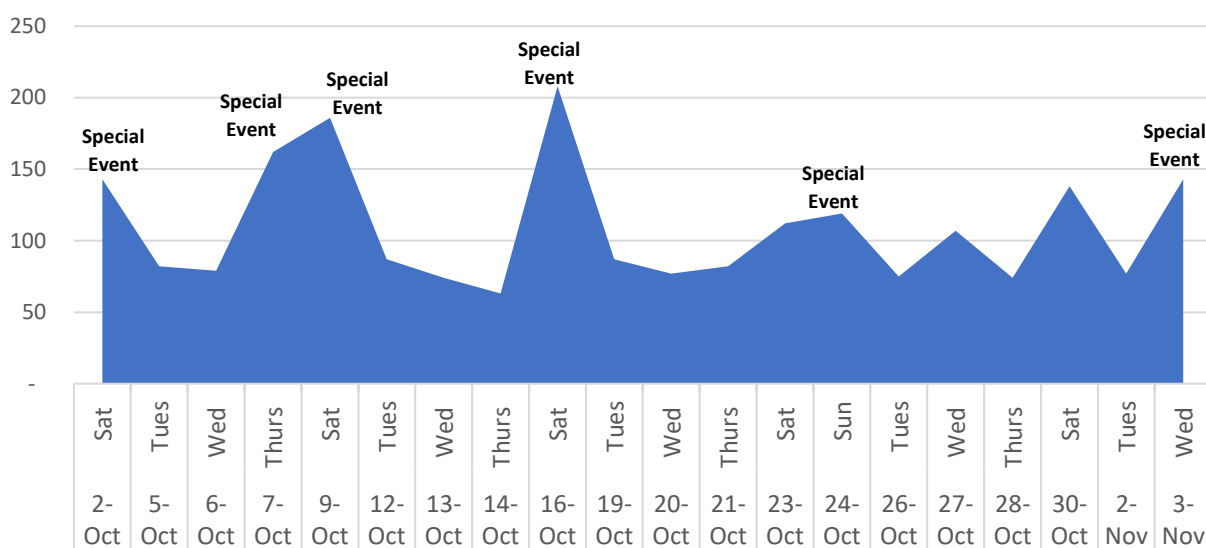


2.4.2.2 MetroRail Red Line Boarding Survey

During the survey period, there were 2,175 total boardings observed for the Red Line with an average daily boardings of 109 passengers. **Figure 2.10** shows the daily boardings for the Red Line. It should be noted that there is a significant peak in ridership on the special event days.

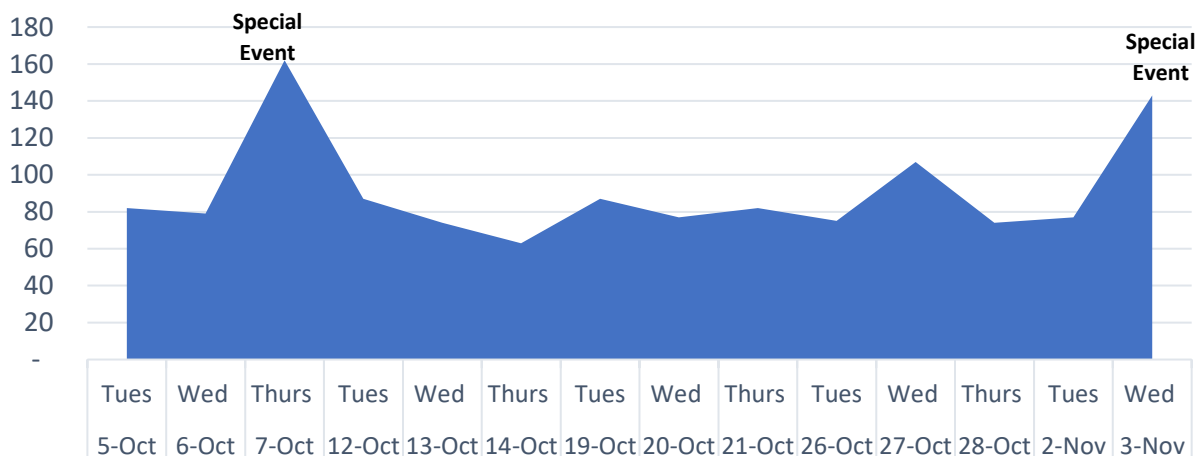
Special event days saw an average daily boarding of 160 passengers as compared to 83 average daily boardings for non-special event days. Special event boardings saw a 94% increase over non-special event days, a 90% increase over non-special event weekdays, and a 46% increase over non-special event weekends.

Figure 2.10: Leander Station MetroRail Red Line Daily Boardings



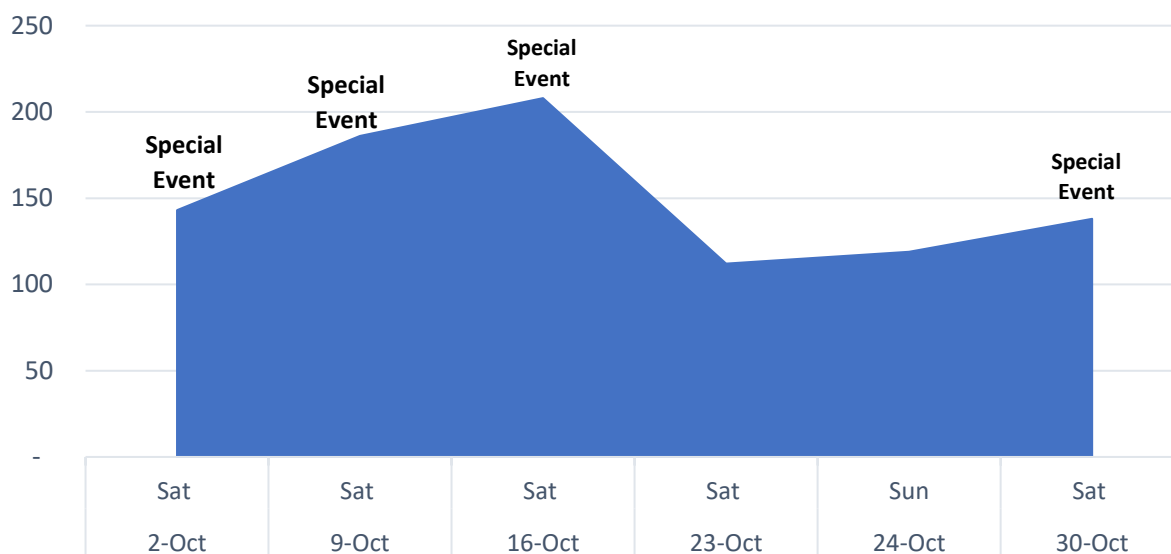
There were 1,269 weekday boardings observed for the Red Line (**Figure 2.11**) with an average weekday boardings of 91 passengers during the survey period. This constituted 58% of the total rail boardings observed. The highest boarding count occurred on the two special event days – October 7 and November 3.

Figure 2.11: Leander Station MetroRail Redline Weekday Boardings



As for weekends, there were 906 boardings observed with an average weekend boardings of 151 passengers (**Figure 2.12**). Weekend boardings were 42% of the total rail boardings observed. As with the weekdays, the highest boarding counts were observed on the special event days.

Figure 2.12: Leander Station MetroRail Red Line Weekend Boardings



2.4.3 License Plate Survey

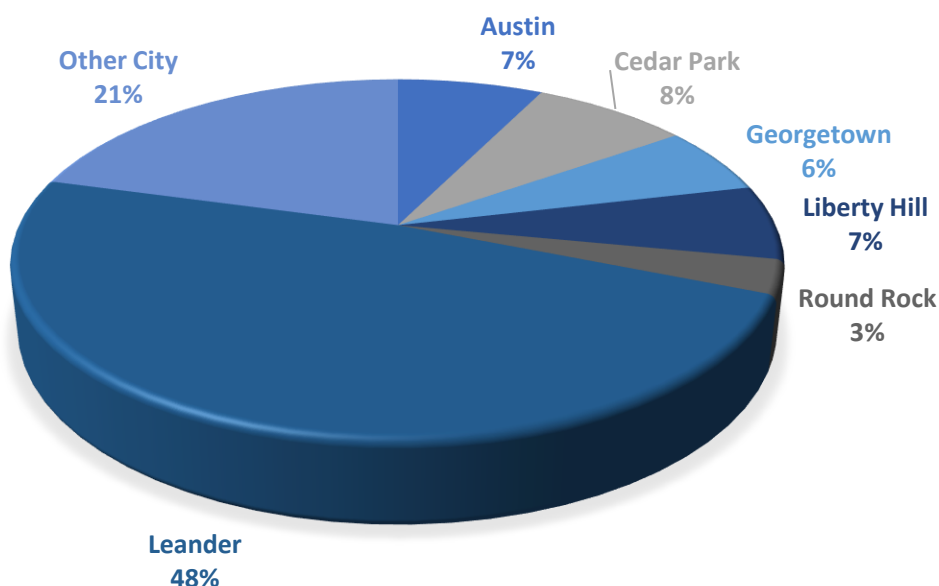
To get an idea of where people lived who utilized the Leander Station, a license plate survey was conducted. License plates numbers of cars parked at Leander Station were collected for three days in October:

- Wednesday, October 13
- Thursday, October 14
- Saturday, October 16

Saturday, October 16 had two special events, a University of Texas home football game which kicked-off at 11 AM and a Major League Soccer (MLS) game which kicked-off at 7 PM. License plates were collected at two times, 12 PM and 8 PM, to get an idea of which event generated the most park and ride usage.

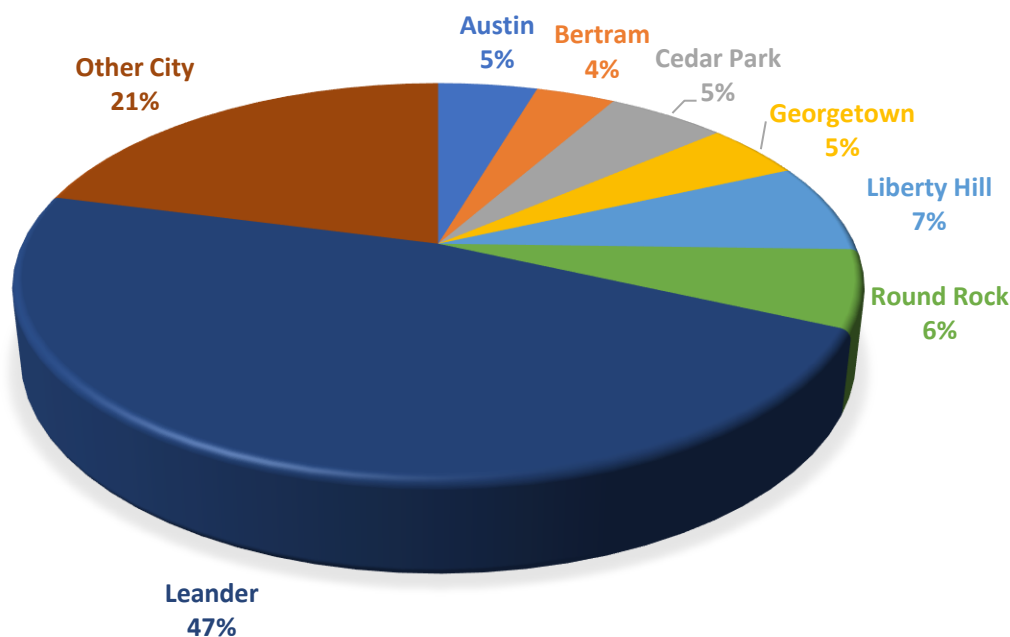
A total of 201 vehicles were observed over the three days, **Figure 2.13**. 48% of the vehicles were registered as Leander residents, while 52% were registered from outside of Leander. Cedar Park, Leander, Georgetown, Austin, and Round Rock were the top cities where passengers resided from who were utilizing the park and ride. Other cities where passengers resided where from Benbrook, Bertram, and Burnet among others.

Figure 2.13: Leander Station License Plate Survey – Total Vehicles



A total of 110 vehicles were recorded on Wednesday and Thursday. As shown in **Figure 2.14**, 47% were registered as Leander residents while 53% resided outside of Leander. Liberty Hill, Round Rock, Georgetown, Cedar Park, Austin, and Bertram were the top cities where passengers resided from who utilized the park and ride. Other cities included Benbrook, Burnet, and Cameron among others.

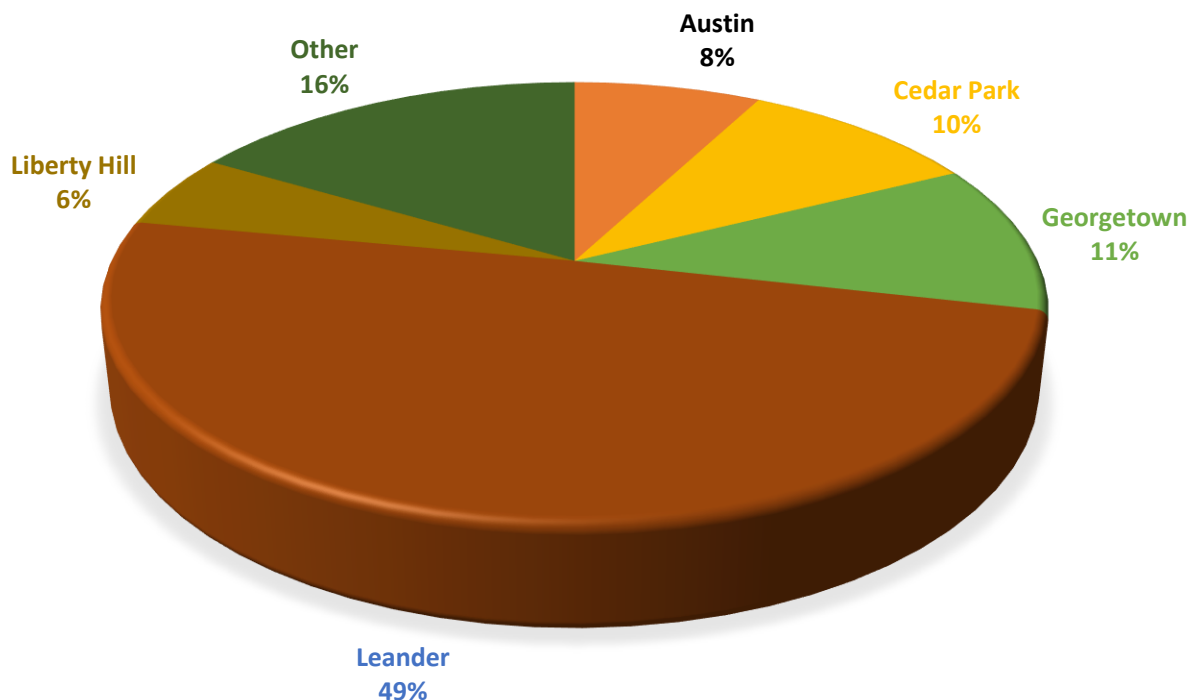
Figure 2.14: Leander Station License Plate Survey – Wednesday and Thursday Survey



A total of 91 vehicles, 15 at 11 AM and an additional 76 at 8 PM, were surveyed on Saturday. As shown in **Figure 2.15**, 49% of these vehicles were registered as Leander residents, while 51% were registered to

passengers who resided outside of Leander. Of those residing outside Leander, Georgetown, Cedar Park, Austin, and Liberty Hill are where those passengers had their vehicles registered. Decatur, Del Valle, and Pflugerville among others make of the other cities.

Figure 2.15: Leander Station License Plate Survey – Saturday Survey



The key takeaway from the license plate survey is that approximately half of those who utilize the park and ride reside in Leander and half come from outside its city limits.

2.5 Performance Metrics

Performance metrics can provide valuable insight on how an agency is performing against its peers. Key performance metrics include service efficiency (cost per revenue hour and cost per revenue mile), service effectiveness (cost per unlinked passenger trip (UPT), trips per revenue hour and trips per revenue mile) and cost per capita. Of these, cost per trip and capita are primary metrics when examining the financial trade-offs and effectiveness. The FY20 National Transit Database was primary dataset used as the basis for this section.

2.5.1 CMTA Performance Metrics

CMTA provides Pickup (demand response), commuter bus and rail to Leander. The CMTA systemwide service efficiency is on-par with the Texas and national averages. The cost per hour for rail is a bit higher than the average but CMTA is not the highest cost per hour among the rail peer group. The service effectiveness metrics also indicate that CMTA is operating an efficient service that is in line with the Texas and national systems operating similar services. **Figures 2.16 – 2.20** show the performance metrics for CMTA as compared to Texas and National averages.

Figure 2.16: CMTA Fiscal Year (FY) 2020 Cost Per Revenue Hour

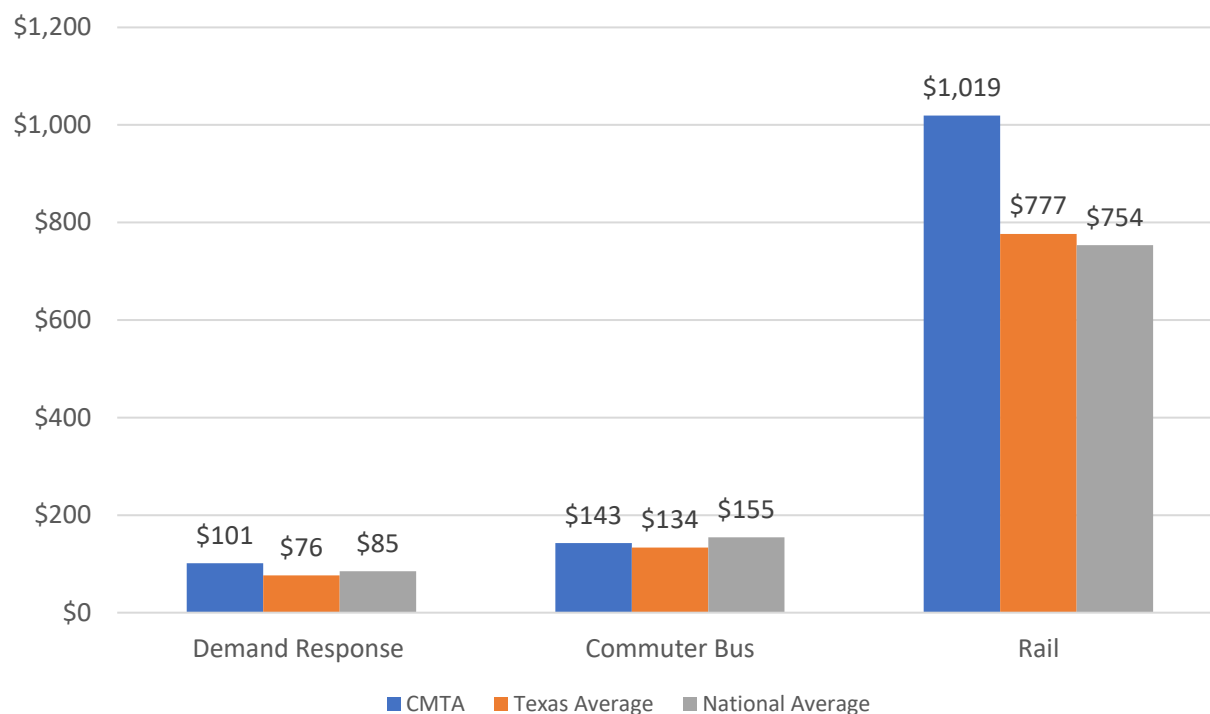


Table 2.17: CMTA FY 2020 Cost Per Revenue Mile

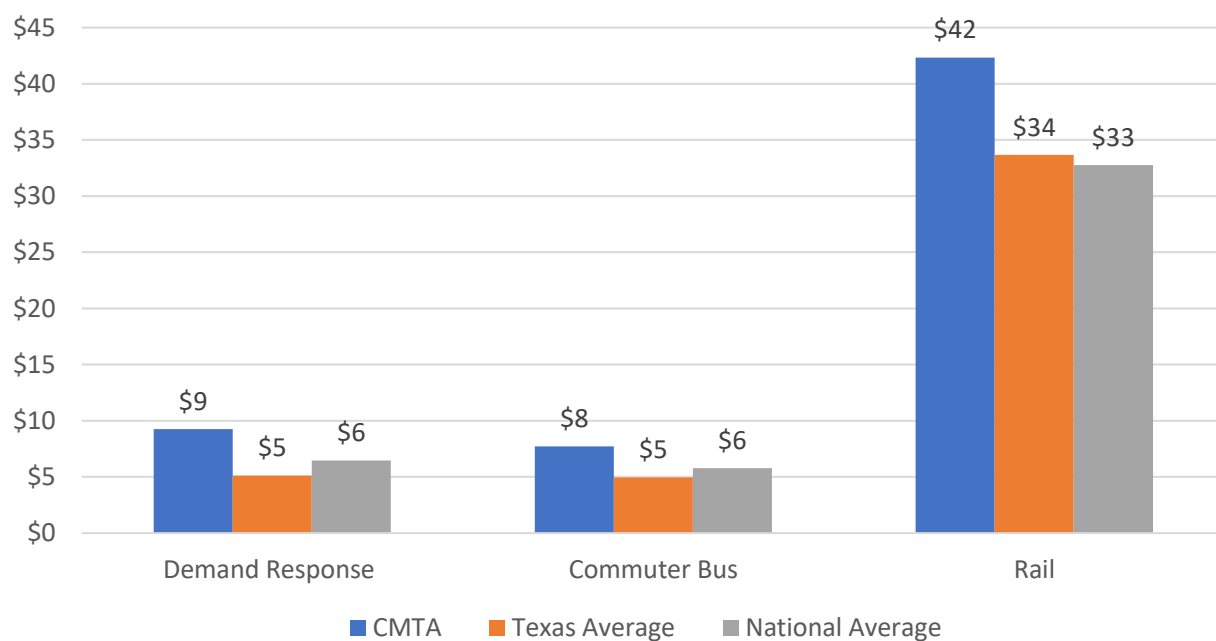


Figure 2.18: CMTA FY 2020 Cost Per Unlinked Passenger Trip

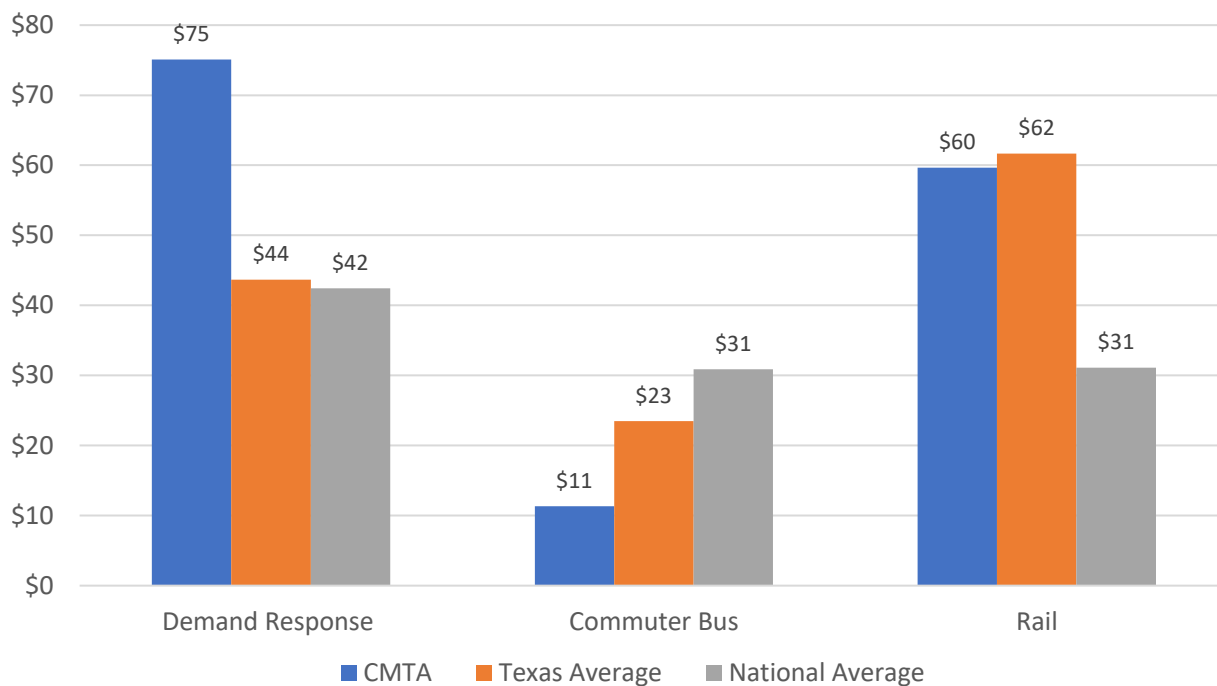


Figure 2.19: CMTA FY 2020 Trips Per Revenue Hour

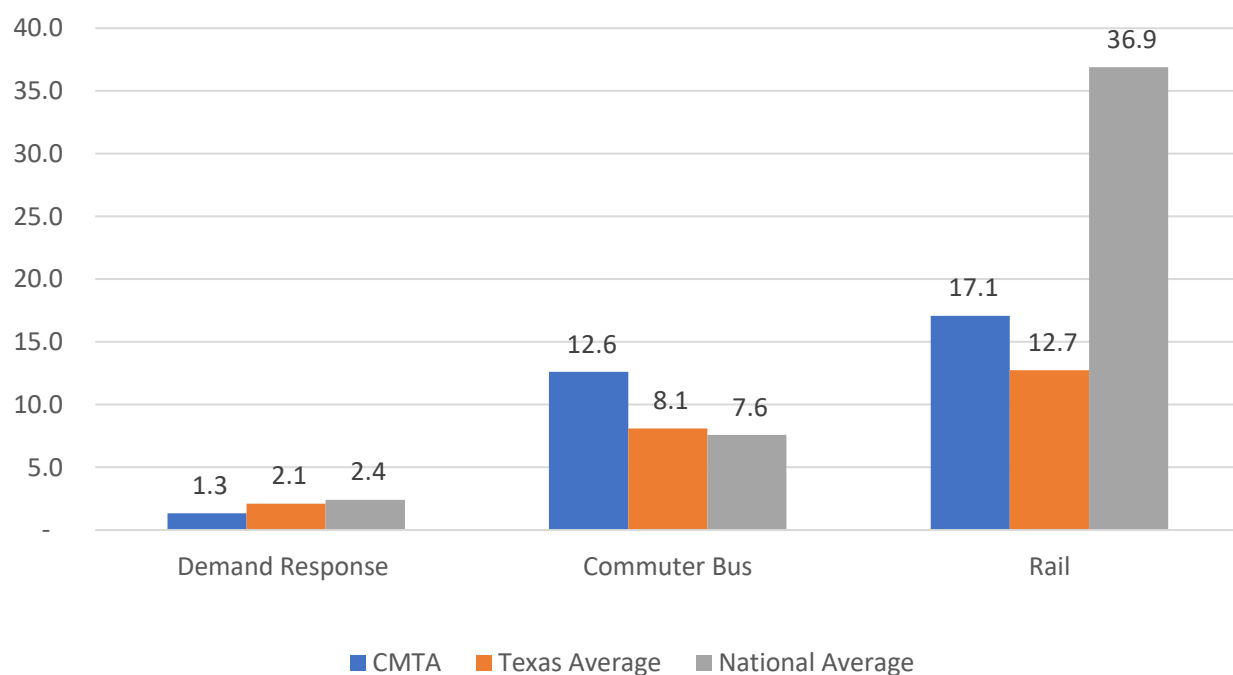
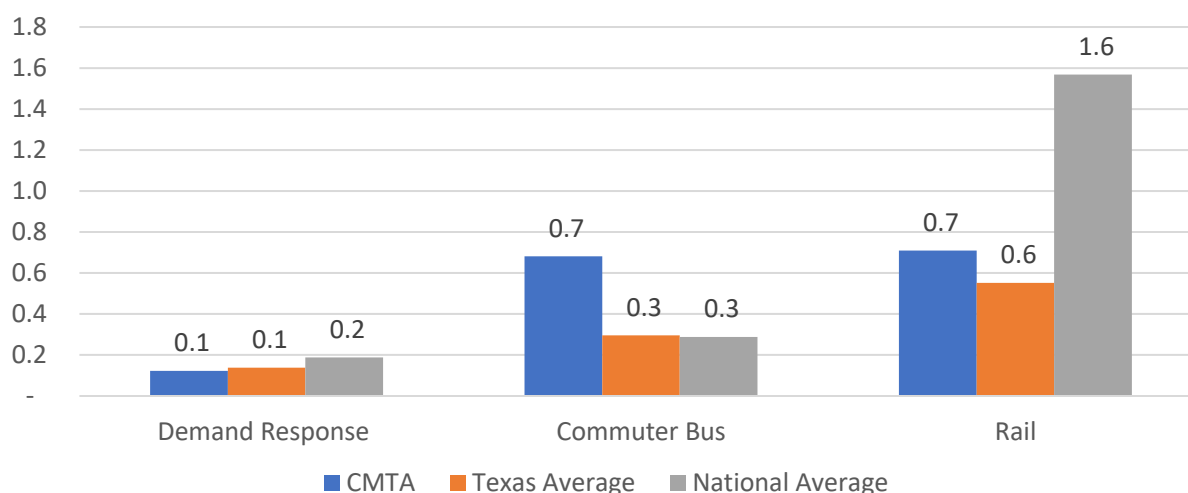


Figure 2.20: CMTA FY 2020 Trips Per Revenue Mile



2.5.2 Leander Resident Cost Per Unlinked Trip

The cost per UPT is a primary metric that can be used to evaluate the cost effectiveness of a transit service. Prior to the COVID-19 Pandemic (March 2020) the average daily boardings (each boarding is two UPTs) for the combined Leander services was about 635 boardings, which equated 365,000 annual UPTs. The COVID-19 Pandemic significantly reduced ridership to about 130 daily boardings or 78,000 annual UPTs. As stated above, about 48% of the commuter bus and rail trips were/are Leander residents. Therefore, prior to the COVID-19 Pandemic, about 198,000 of the 365,000 annual UPT were Leander residents and in Fall 2021 44,000 of 78,000 annual UPT are Leander residents (**Table 2.3**). The 2020 sales tax contribution to CMTA was \$7.8 million and the 2021 projected sales tax contribution is \$9.4 million.⁷

Table 2.3: City of Leander Total Daily Boardings

Service	Pre-Pandemic	Pandemic
Pickup Daily Boardings	70	20
MetroExpress Daily Boardings	300	30
MetroRail Red Line Daily Boardings	285	80
Total Daily Boardings	685	130
Total Annual UPT	365,000	78,000
Non-Leander Residents	167,000	34,000
Leander Residents	198,000	44,000

Pre-Pandemic 2019: Total Sales Tax = \$7.8M / Leander Resident Trips 198,000 = **\$39 Per UPT**

Pandemic 2021: Total Sales Tax = \$9.4M / Leander Resident Trips 44,000 = **\$214 Per UPT**

⁷ Texas Comptroller of Public Accounts. (2021). Sales and Use Tax. Texas Comptroller. <https://comptroller.texas.gov/taxes/sales/>

The cost per Leander resident trip prior to the start of COVID-19 Pandemic was \$39 per trip (**Figure 2.21**), which was on par with CMTA, Texas and national systems operating similar services. After the COVID-19 Pandemic started, the cost per UPT in the Fall of 2021 was \$214 per UPT (**Figure 2.22**).

Figure 2.21: Pre-Pandemic 2019 Cost Per Unlinked Passenger Trip (combined rail, commuter bus, & demand response)

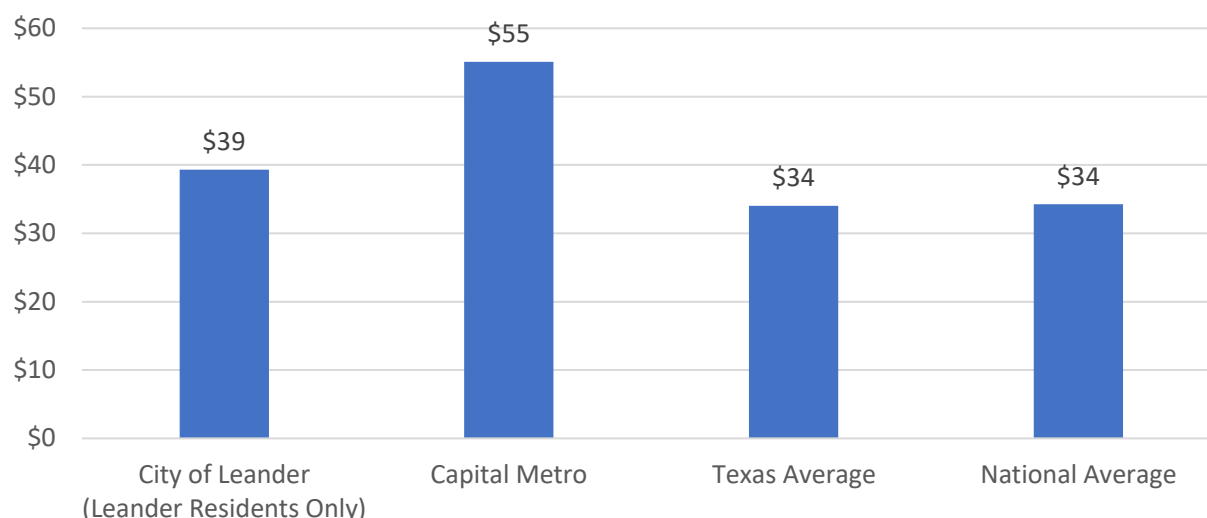
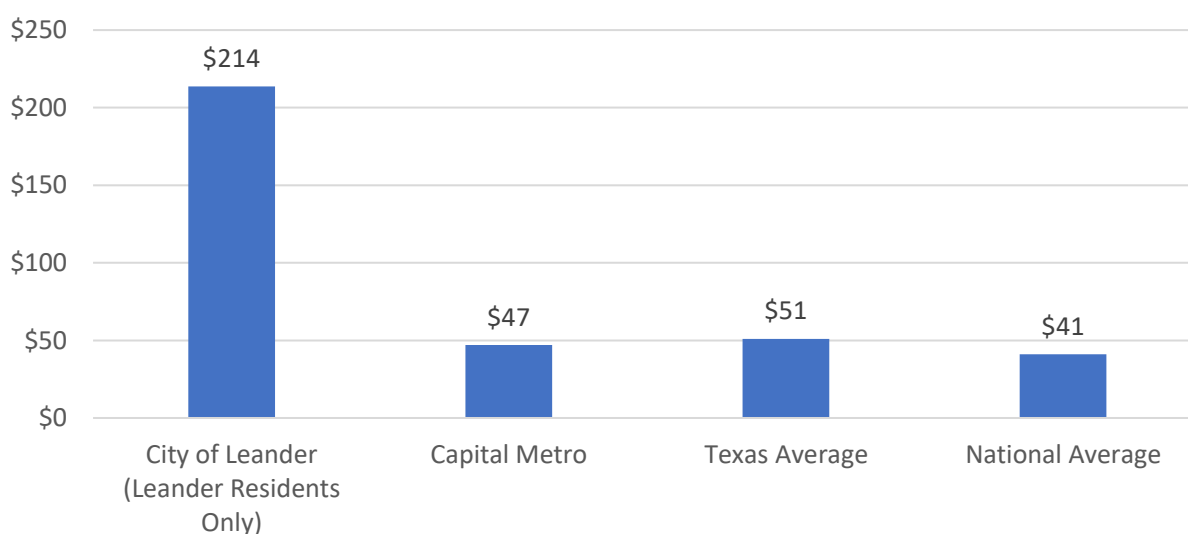
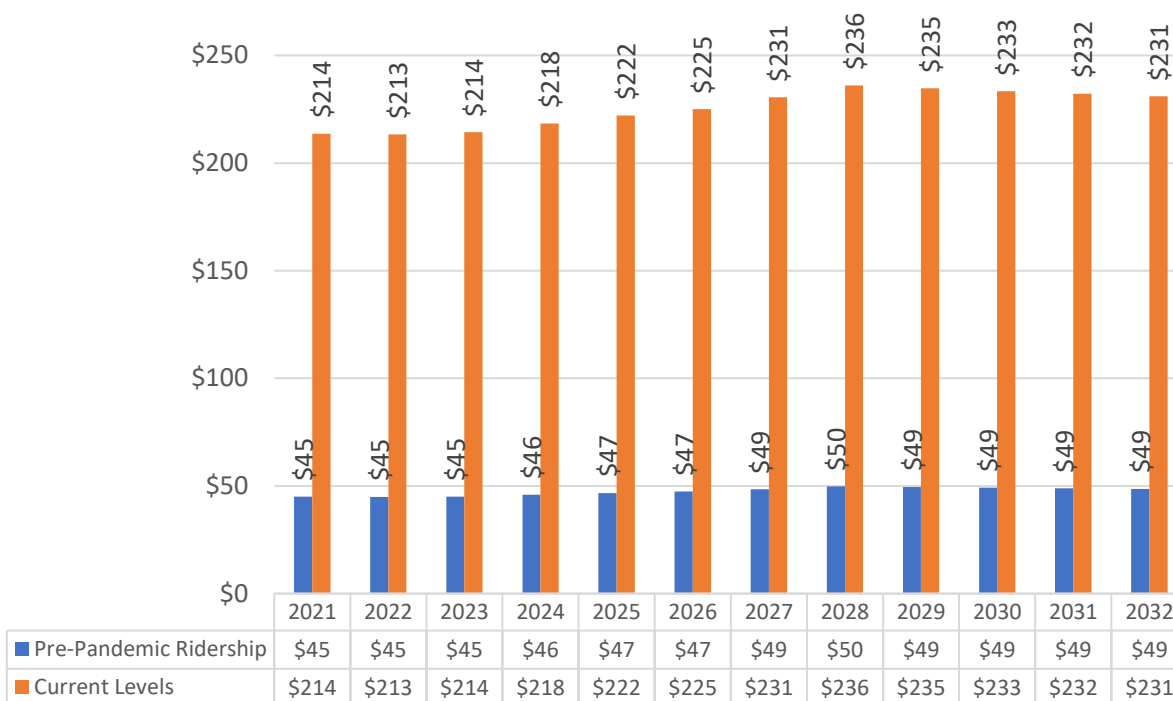


Figure 2.22: Fall 2021 Cost Per Unlinked Passenger Trip (combined rail, commuter bus, & demand response)



The CAMPO Regional Travel Demand Model forecast trip growth rates within the metropolitan area. The Leander area is forecasted trip growth rate is forecasted to grow at an CAGR of 5.6%. Using a conservative sales tax growth rate of 5.3% provides a similar slope line as the trip growth rate. Therefore, the cost per UPT is forecasted to be about the same for the next 10 years (**Figure 2.23**). However, this could change depending on the status of the on-going COVID-19 Pandemic.

Figure 2.23: Forecasted Cost Per Unlinked Passenger Trip – Pre-Pandemic and Current Levels



2.5.3 Local Funding Per Capita

There are several Texas cities that provide transit services to its residents. The populations of cities within this peer list range from 31,000 to 400,000. The cities do not have a dedicated sales tax for transit service.⁸ In other words, these cities have the authority to fund transit at any prescribed level and the funding is not tied to a dedicated tax. Leander has a population of about 60,000 and in 2020 generated about \$7.8 million for transit, which is about \$131 per person and in 2021 Leander generated \$9.8 million for transit which was \$165 per person. Between 2015 and 2021, on average, Leander annually generated about \$5.8 million for transit services, the average among all the other Texas cities was \$1.1 million (**Figures 2.24 and 2.25**). In 2020, Leander generated \$7.8 million for transit services, the average among the peers in 2020 was \$1.3 million.⁹

⁸ The transit authorities with dedicated sales tax serves larger urbanized areas and only 2010 population data is available for service areas and therefore the analysis for systems with dedicated sales tax was omitted.

⁹ FY20 Funding levels were not available at the time of writing this report.

Figure 2.24: Total Local Dollars Expended/Generated for Transit Programs vs. 2020 Population

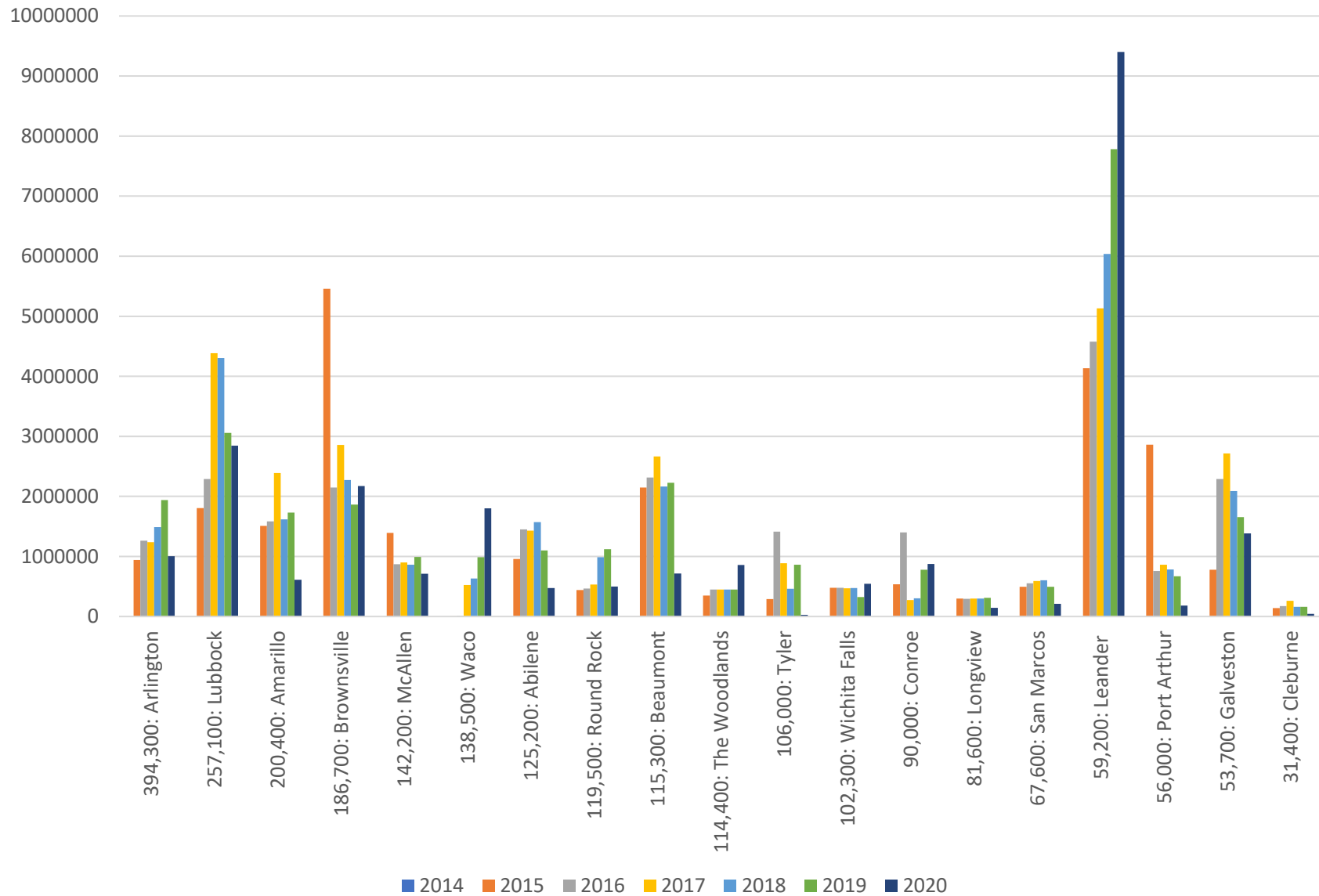
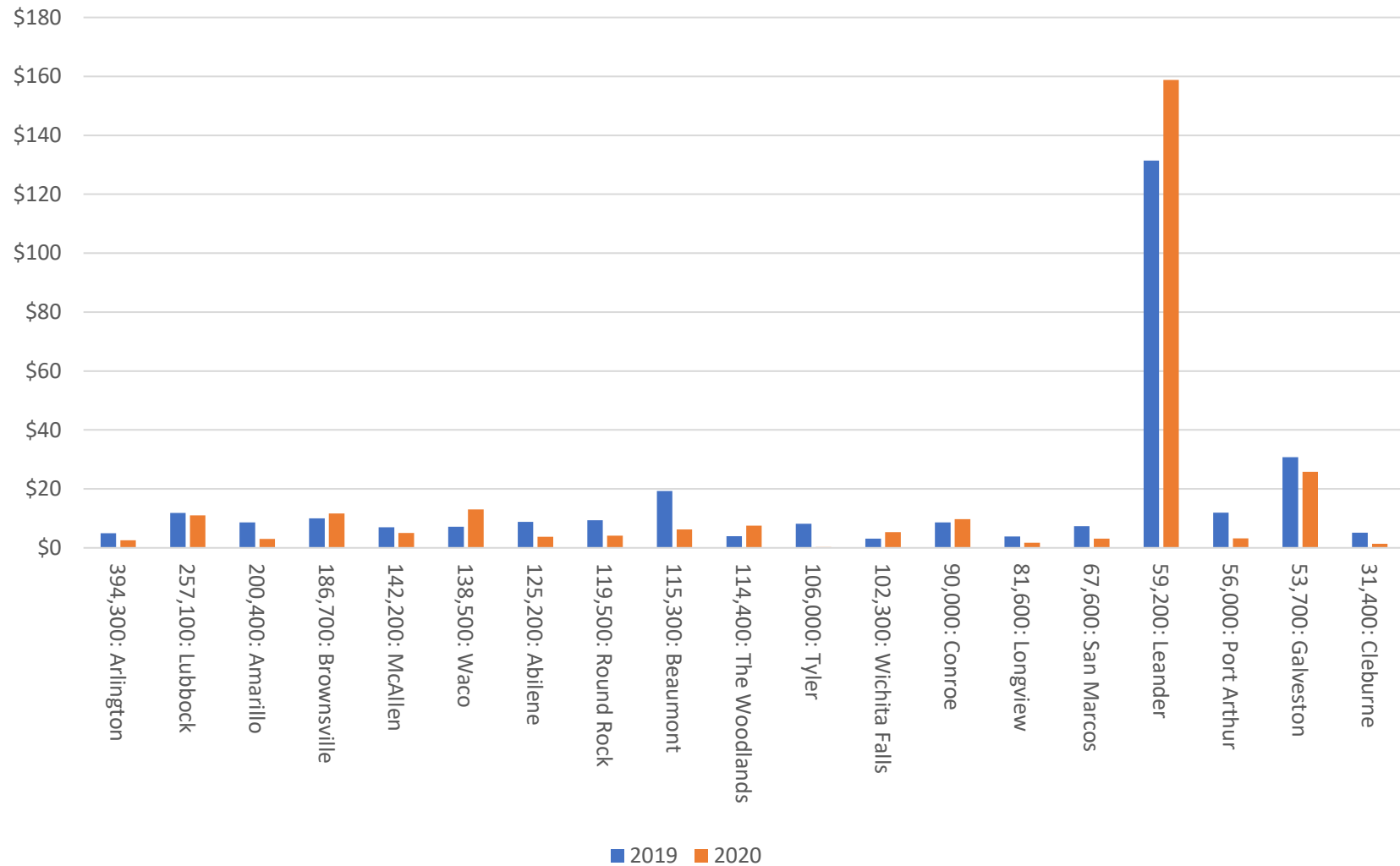


Figure 2.25: Local Dollars Expended/Generated on Transit Per Person in 2020



3.0 Economic Impacts of Current Transit Service

3.1 Literature Review

Leander currently receives transit services through CMTA. Leander Station Park and Ride is the northernmost stop of the 32-mile Red Line that connects the fast-growing northwest suburbs to Austin's downtown. The station hosts both MetroRail (commuter rail) and MetroExpress (commuter bus) services with Park and Ride. Leander Station is located less than half mile from downtown Leander and is in the center of a planned transit-oriented development (TOD) – Northline district. The surrounding area is approved for mixed-use development. Since 1985, Leander has been paying for CMTA's services through 1% of the city's sales tax, totaling approximately \$7.8 million 2020, according to the state comptroller (Girtman, 2021). The Leander City Council is considering bringing to a public vote the option of opting out of CMTA service and starting their own transit service operated by the City. Do the benefits of the commuter rail service justify its cost? Leander is not the only city that has this question.

Commuter rail use in the U.S. has seen a steady increase since the late 1990s; there has been a 9.2% growth, or more than 42 million additional trips, in the last decade alone (Sisson, 2019). Cities tend to renovate underutilized or unused freight lines as new commuter lines for suburban transit. The new stations are often surrounded by TOD and downtown suburban developments in hopes of attracting new businesses and boosting the local economy. In the case of Los Lunas, an Albuquerque suburb in New Mexico, the Rail Runner Express is believed to have been part of the reason Facebook decided to build its data center campus there (Schatz and Price, 2021). The City of Arvada in the suburb of Denver, Colorado, observed more new development and a spike in economic activity before the opening of the Gold Line commuter rail station in its downtown district in April 2019 that connects the suburb to Denver. According to an article of Sisson (2019), sales tax in the downtown district grew 75% between 2013 and 2018 as new businesses opened in anticipation of the arrival of the rail link. New residential units have significantly increased within a half-mile of the station in recent years. The local authority believes the new rail line makes it easier for business to retain and attract workers. Similarly, the Dallas Area Rapid Transit (DART) is scheduled to open the Silver Line Commuter Rail in 2022 that will link the northern suburbs to Dallas/Fort Worth International Airport. According to DART, roughly \$1 billion in commercial space, multifamily, and retail is taking shape in and around planned stations (Sisson, 2019).

There is a rich body of literature on economic impacts of rail transit, especially its effects on business development and property values. Credit (2018) compared new business starts in "treatment" and "control" areas before and after the opening of the light rail system in Phoenix, Arizona. The findings suggest that transit adjacency greatly contributes to new business creation, providing evidence to support the use of light rail systems as new business catalyzation or revitalization tool. The impacts diminish with distance from the stations but are still significant at one mile (network distance) from stations. Credit (2018) describes the presence of a 'novelty factor' as the increase in the absolute number of businesses erodes over time, which is consistent with Mohammad et al. (2013) finding that "the perceived benefit of the rail system at time of announcement is often higher compared to the actual realized benefit after the system stabilizes".

Empirical research on the impacts of rail transit on property value is mixed in its conclusion. Literature suggests that the value of properties generally increase in proximity to stations. Property value premiums are largely attributed to the improvement of convenient access from other parts of a region to the rail

stations (Diaz and Mclean, 1999). However, there is a ‘nuisance’ penalty for the properties directly adjacent to the tracks due to factors like noise, visual instruction, and industrial land use associated with rail right-of-way (Arndt, 2009; Credit, 2018; Diaz and Mclean, 1999). Research shows that rail investments tend to have a higher impact on commercial properties or land uses (Cervero and Seskin, 1995; Credit, 2018), however there is little consensus about the effects of rail transit on residential development, especially in suburbs (Dong, 2016).

Discussions about the economic values of transit investments have centered around congestion management and affordable mobility. Rail transit can possibly generate economic benefits through increasing travel time reliability, reducing congestion, accidents, and emissions, as well as decreasing per-capita transportation expenses (Arndt et al., 2008). However, these benefits are not always valid as Garret (2004) argues. There is little evidence that rail transit has reduced traffic congestion due to the increased number of registered vehicles and car-dependent lifestyles. The paltry schedule for after peak hour service and route choices, which are more politically expedient than economically efficient, greatly limit the use of rail transit (Bosselman, 2019; Harris, 2020). In terms of environmental benefits, although an electric light-rail has incomparable advantages over automobiles when it comes to air pollution, significant pollution reduction from rail transit is not guaranteed (Garret, 2004).

While the benefits of rail transit are arguable, the costs are obvious. Commuter rail systems have high capital and operating costs often attributed to infrastructure and equipment. Rail systems could not operate without subsidies from local sales taxes and state and federal grants (Garrett, 2003). It is especially difficult to justify service expansions to less urbanized areas due to low ridership, revenue, and limited funding sources. Cities such as Chicago, Boston, Washington D.C., and Philadelphia have suburban rail systems that serve only 2% to 6% of commuters (Short, 2019). The COVID-19 pandemic has exacerbated the existing funding challenges as ridership declined an average of 79% among the commuter rail agencies reported to the National Transit Database (NTD) from September 2019 to September 2020 (Schatz and Price, 2021). The pandemic has also led to shifts in commuting patterns and an increase in teleworking that could leave a long-term impact on commuter rail ridership, and ultimately funding.

The rejuvenation of commuter rail systems requires investment and consistency. The rail (commuter or light rail) itself is usually not sufficient to spur significant spin-off development around routes and stations (Levin et al., 1992). The development requires coordination of transit planning, economic development, and land use policies. As ridership is mostly driven by development density surrounding the stations and frequency of service, it is suggested that cities should eliminate all regulatory barriers to enable the land around rail transit systems to be used to the fullest extent, as well as redirect the savings from removing low-performing lines to add frequency of service on core parts of the line (Harris, 2020). In many cases, commuter bus could be a better option in terms of route choice and service schedule at a much lower cost.

3.2 Local Station Area Property and Sales Tax Revenue Projects

There is about 165 undeveloped acres of land within about ½ mile of the Leander Station. Northline is on the northside of the station is currently planning on developing a 116-acre major mixed-use community. The site plan is shown in **Figure 3.1** and layouts the following:¹⁰

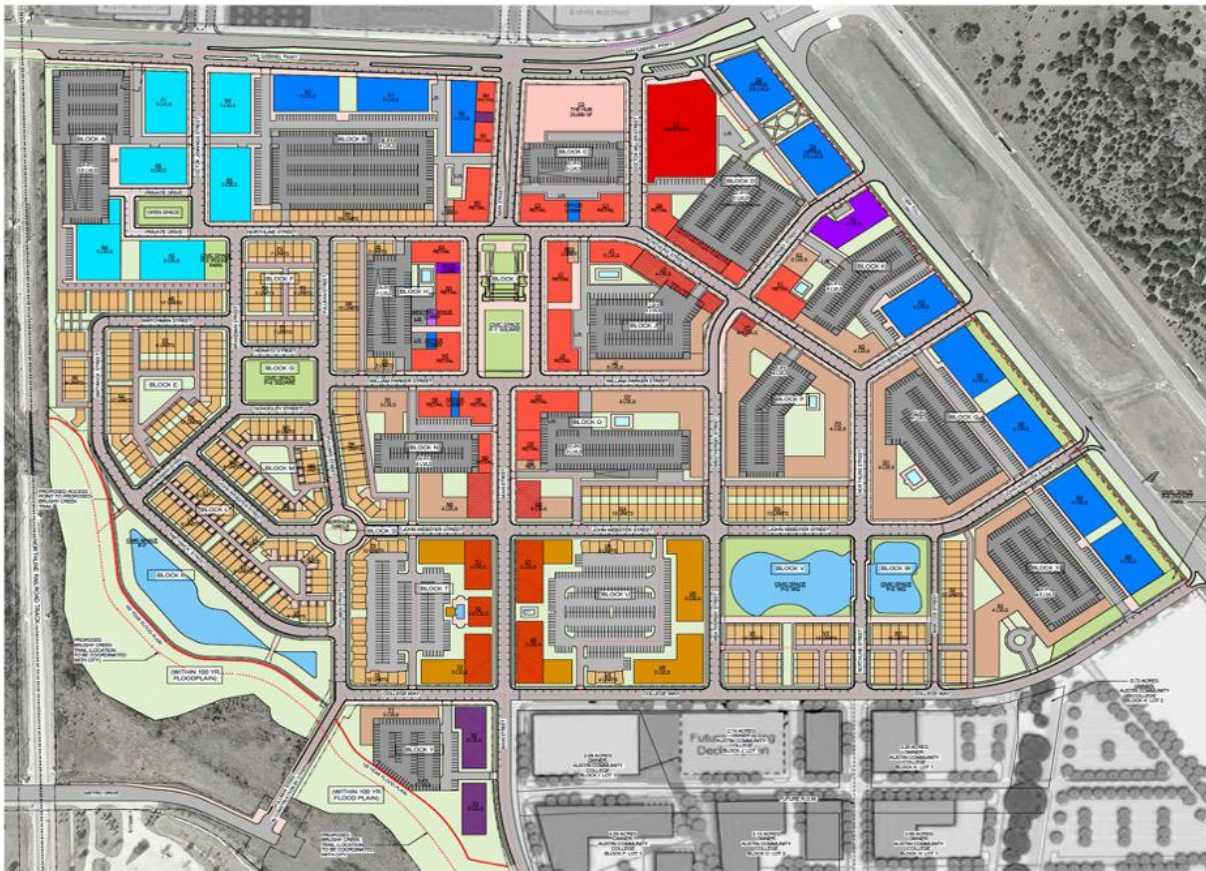
- 225,000 square feet of retail space

¹⁰ Northline Leander. (2021, October 6). Northline Leander. <https://northlineleander.com/>

- 1,900,000 square feet of office space
- 175,000 square feet of planned hotel space
- 2,150 planned apartments
- 250 planned townhomes
- Other planned community amenities include a town square, signature parks and civic spaces with water features, playscapes and trails.

This development is part of the Leander Tax Increment Reinvestment Zone (TIRZ) No.1. On July 12, 2021, a presentation was provided to the Leander TIRZ No. 1 for agenda item #4 *Discuss and consider action on a request to amend the Northline Planned Unit Development (PUD) and Reimbursement*. The presentation presented the sales and property tax projections of the fully realized development from 2021 to 2032. This was further updated in October 2021.

Figure 3.1: Northline Site Plan (July 2021)

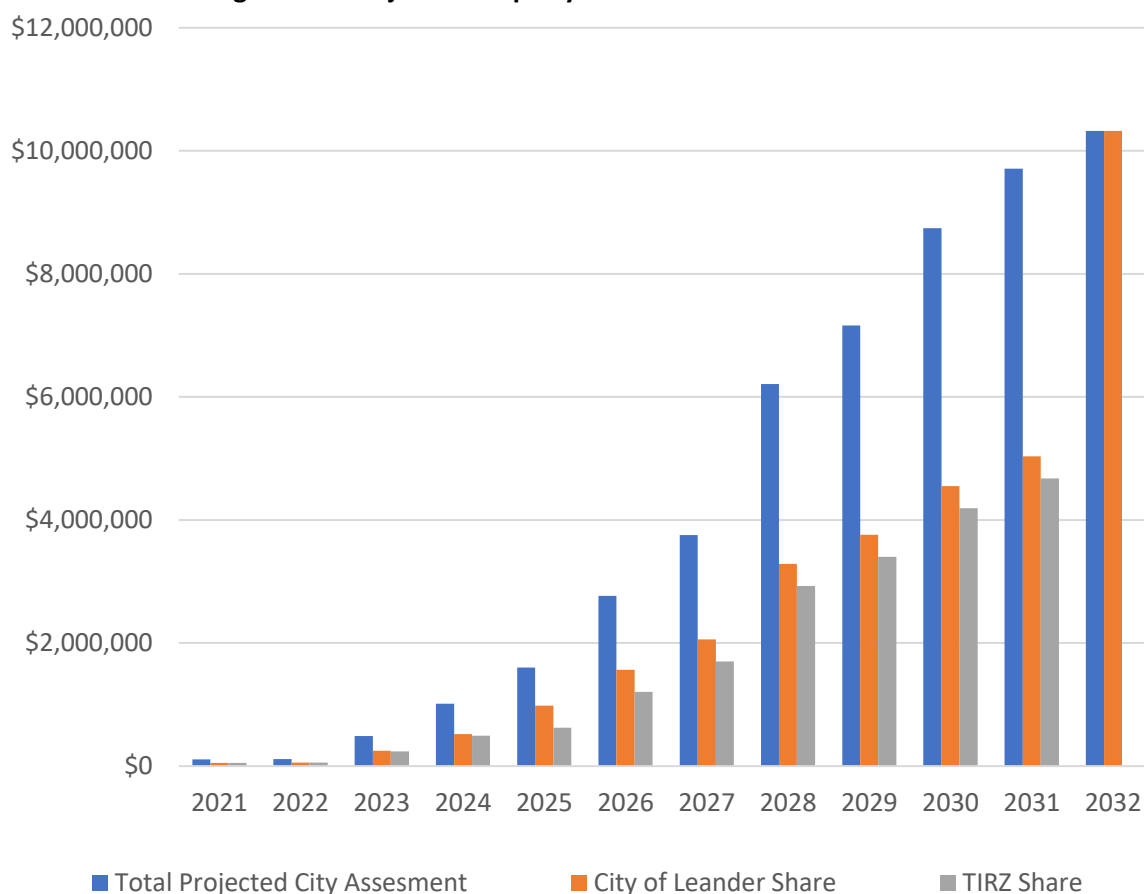


Additionally, using the same assumptions and methodology of the Northline development, the sales and property tax were estimated for the property to the south of Leander Station. Currently, the site plan for the property to the south of the Leander Station, **Figure 3.2**, calls for about 35,000 square feet of retail space and a 385 multi-family apartment complex.

[illegible]

36

Figure 3.3: Projected Property Tax Collection for TIRZ No. 1



3.3 Stakeholder Meetings

Several meetings were held with stakeholders around the Leander Station Park and Ride. The meetings included discussions with the Lincoln Group and the Northline Development, Austin Community College, and St. David's Hospital. The purpose of these meetings was to discuss how transit service, particularly rail service, impacted their decision to develop near the Leander Station Park and Ride. A meeting was also held with CMTA to discuss CMTA's existing transit program, membership withdraw guidelines, future transit plans, and planning work at it relates to Leander.

3.3.1 Lincoln Group and Northline Development

On October 19, 2021, a meeting was held with representatives of the Northline Development and the Lincoln Group (Northline Development real estate partner) to discuss the relationship between the development and the MetroRail Red Line.

The Northline development is an urban mixed-used development consisting of 116 acres of planned retail, office, and hotel space along with 2,150 planned apartments and 250 planned townhomes. Other planned community amenities include a town square, signature parks, and civic spaces with water features, playscapes and trails (**Figure 3.4**).

Figure 3.4: Northline Development Phase 1



Source: www.northlineleander.com

According to the representative from Northline, the Red Line was a huge driver for the site selection of the Northline development and there would be downward pressure on Northline if the Red Line were to cease operations.

The representative from the Lincoln Group mentioned that they are promoting the site to potential occupants based on Leander's outstanding school district, road infrastructure and quality of life. They mentioned that rental rates are competitive or better than the Domain and Downtown Austin. However, the representative noted that there is not a linear relationship between the ceasing of the Red Line and the percentage of development that would not be realized. There are too many factors that go into the decision to develop and lease/buy space to isolate rail service.

The Lincoln Group representative mentioned that rail service is meaningful to a variety of firms, mostly as firms on the east and west coast begin to relocate to the Austin market, since rail service (light rail or commuter rail) is more akin to their communities. The rail service is a big marketing tool for Northline and a key variable.

The Lincoln Group representative also mentioned that a shared use garage could jump-start the development, which is very important to the “snowballing” of the development. The shared use garage helps off-set the cost of rent, which can further attract businesses, and can provide access to transit.

3.3.2 Austin Community College – San Gabriel Campus

Austin Community College (ACC) is an accredited community college serving Central Texas residents through 11 campuses as the primary gateway to higher education and technical training opportunities since opening in September 1973.

The San Gabriel Campus is the newest addition to ACC located on 100 acres in Leander. The campus offers students general education classes for those interested in transferring to a university, obtaining an associate degree, or completing career-technical training.

On November 4, 2021, a meeting was held with a representative of ACC to discuss how transit, specifically impacted the site selection of the campus and how transit, specifically rail service, is utilized by existing students.

The representative mentioned that ACC considered transit access when selecting the site for the San Gabriel campus and promoted the Red Line as a selling point for students to attend the campus. It was noted that all ACC faculty, students, and staff can ride CMTA for free.

Currently the San Gabriel campus has a lot of dual credit high school students, and due to COVID-19 the majority of the students are taking virtual classes. ACC does anticipate that 50%-60% of the students will be back on campus next spring, but this is still below pre-pandemic levels of in-person learning.

In the future, ACC plans on having their campuses divided into divisions – North, Central, and South. These divisions will allow students to take all their required courses without having to travel outside of their division. The San Gabriel campus is in the North division along with Round Rock, Cypress, and North Ridge campuses.

A discussion was had regarding the possibility of campus-to-campus transfer activity and if transit could help with those transfers. The ACC representative mentioned that they did try a route to connect two campuses, but it was not successful. They believe this is because of the type of student’s community colleges enroll – part-time students who work in between classes or who have families. The ACC representative did mention that all their campuses are located on existing CMTA transit routes, so existing transit could facilitate those transfers if needed.

3.3.3 St. David’s HealthCare

St. David’s HealthCare has over 119 sites across Central Texas, including St. David’s Emergency Center in Leander, and includes seven of the Austin area’s leading hospitals and is one of the largest health systems in Texas. St. David’s Emergency Center is a freestanding emergency room (ER) in Leander that provides emergency care 24 hours day, seven days a week. The ER has 12 multipurpose exam rooms, including one trauma room, and a therapeutic hypothermia treatment room for heart attack patients. The facility is staffed by board-certified physicians and trauma-certified registered nurses. The ER is the first phase of St. David’s HealthCare plan for a full hospital in Leander.

A meeting was held with a representative of St. David’s HealthCare on November 10, 2021, to discuss how transit impacted their decision to build the ER and if patients and employees utilize transit service. The

representative mentioned that having the Red Line and Pickup (demand response) service is beneficial, but it did not factor into their decision to locate the facility. They based the location of the ER and future expansion of the site on the local population growth and housing that is currently being developed in the area. The representative mentioned that having transit service is important and they support transit, but they do not know how many employees or patients currently utilize transit to access the facility.

3.3.4 Capital Metro Transit Authority

On November 16, 2021, a meeting was held with representatives of CMTA. The purpose of the meeting was to discuss CMTA's existing transit program, membership withdraw guidelines, future transit plans, and planning work as it relates to Leander.

CMTA mentioned that the world is not in post-pandemic yet and the commuter market had been the hardest hit during the pandemic. CMTA is confident that eventually ridership will return to the pre-pandemic level and the Leander Station will see even more activities in the years to come. CMTA stated that the greater Austin region has such an incredible population growth, so even holding the current mode share steady, the pre-pandemic ridership will still be realized.

Currently, CMTA is in the process of double tracking the line between the Leander and Lakeline stations, which is the longest single tracked section of the line. This \$8.9 million project will allow the Red Line to obtain 15-minute headways, if needed, in the future, but the primary goal is to improve travel time reliability.

In terms of financial obligation, CMTA uses the percent of Leander's population in the service area against the sum of Leander's share of assets which include cash equivalents, short- and long-term investments.

CMTA did mention that if the City of Leander's residents were to vote out of CMTA, the option exists for Leander to contract transit service with CMTA. This contract service would include rail, commuter bus, and pick-up service, but it would be at CMTA's fully burdened cost.

4.0 Transit Demand Analysis

To better understand how the existing travel markets within and external to the City of Leander could support a range of transit strategies within the commuter bus and on-demand microtransit paradigms, an analysis was conducted to identify the transit demand for both local and commuter transit services. By understanding the existing travel patterns within each of these travel markets, Leander can explore an array of transit solutions that can serve the community and deliver public transportation benefits to its residents. This section summarizes the travel pattern analysis and describes the approach in estimating transit demand for local and commuter services.

4.1 Local Service

The transportation marketplace is ever adapting to the needs of the users. Over the past 10 years, with the emergence of technology, transit has experienced significant changes to its service offerings. Most notable, is the emergence of on-demand microtransit that is currently being offered in Leander, Metro Pickup. Another traditional service offering for local service is fixed-route bus. Fixed-route bus is characterized by bus that operates between fixed stops. Both on-demand microtransit and fixed-route bus have been used to support travel markets in cities such as Leander.

Historically, most non-urban transportation systems have been designed for transit-dependent riders. However, the ability to access public transportation is one of the key ingredients to a useful public good offering. Therefore, an in-depth review of transit accessibility is one of the most important lenses in which to evaluate various local transit offerings that the City could implement. Strategically enhancing transit's accessibility to various populations, origins and destinations within the City will provide the opportunity for choice riders (riders who have a car but choose to use transit) to use the services. This in-turn provides a more efficient and effective transit service.

An emerging evaluation tool to assess transit accessibility is the Transportation Equity Demand Index (TEDI).¹¹ TEDI is a tool developed by LINK Houston to objectively identify where the high transit need areas exist. Demographic characteristics were weighted to calculate the TEDI score. The score is calculated for each block group, using data from American Census Survey (ACS), Longitudinal Employer-Household Dynamics (LEHD) and Center for Neighborhood Technology (CNT). A total of 15 indicators were used to identify high-need areas in Leander where safe, affordable transportation is most needed to improve quality-of-life (**Table 4.1**).

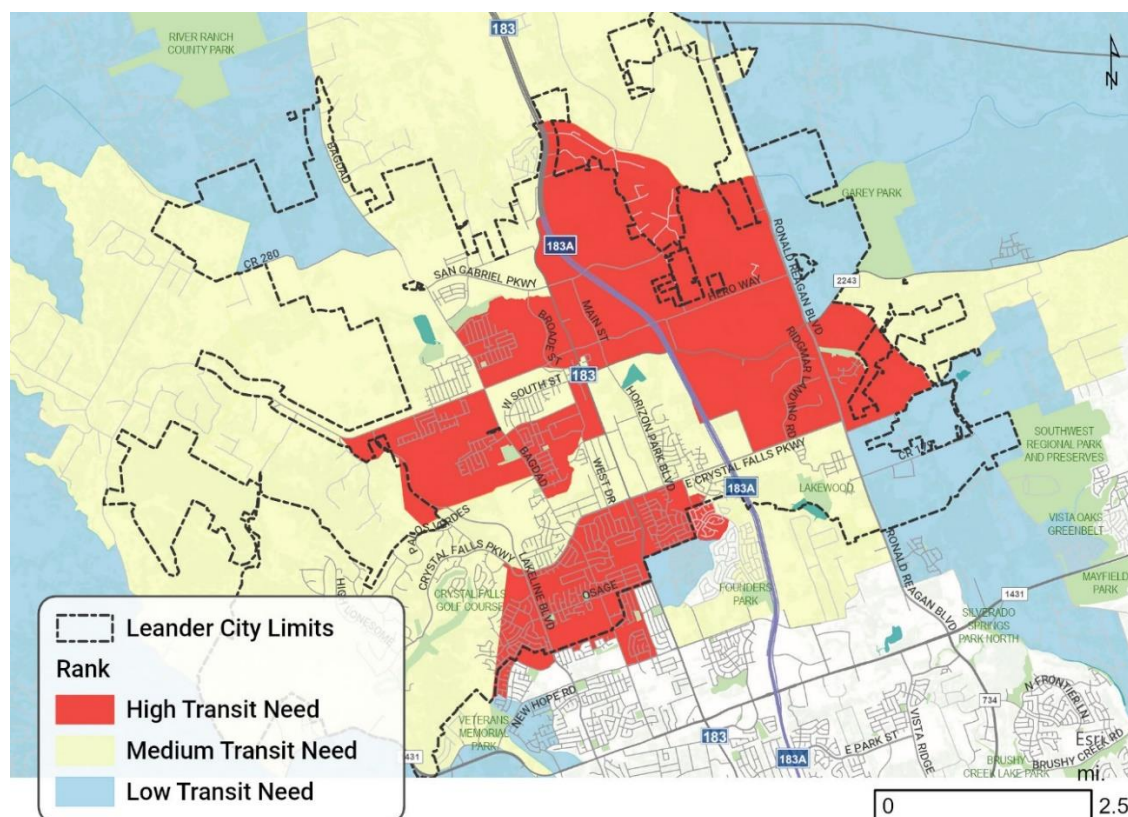
Every block group is evaluated by assessing 15 indicators. Each block group has one value for each indicator, and the value was normalized to a percentile rank (1-100) as compared to all other block groups in Leander for the same indicator. The percentile rank reveals how high or low the indicator was for that block group in comparison to all others. Higher values mean higher relative priority and/or suitability for equitable transportation. The TEDI rating of a block group is the average of all 15 indicators, each given equal weight to indicate equal importance. The result is a TEDI rating of each block group in the City. Higher values mean higher relative need for future transportation investments and services in support of equitable long-term outcomes. The areas in red, shown in **Figure 4.1**, contains the highest relative transit within the City.

¹¹ Link Houston. Equity in Transit. Retrieved in November 2021 from https://linkhouston.org/wp-content/uploads/2018/11/LINKHouston_EquityinTransit2018_Report.pdf.

Table 4.1: Transportation Equity Demand Index (TEDI) Indicators

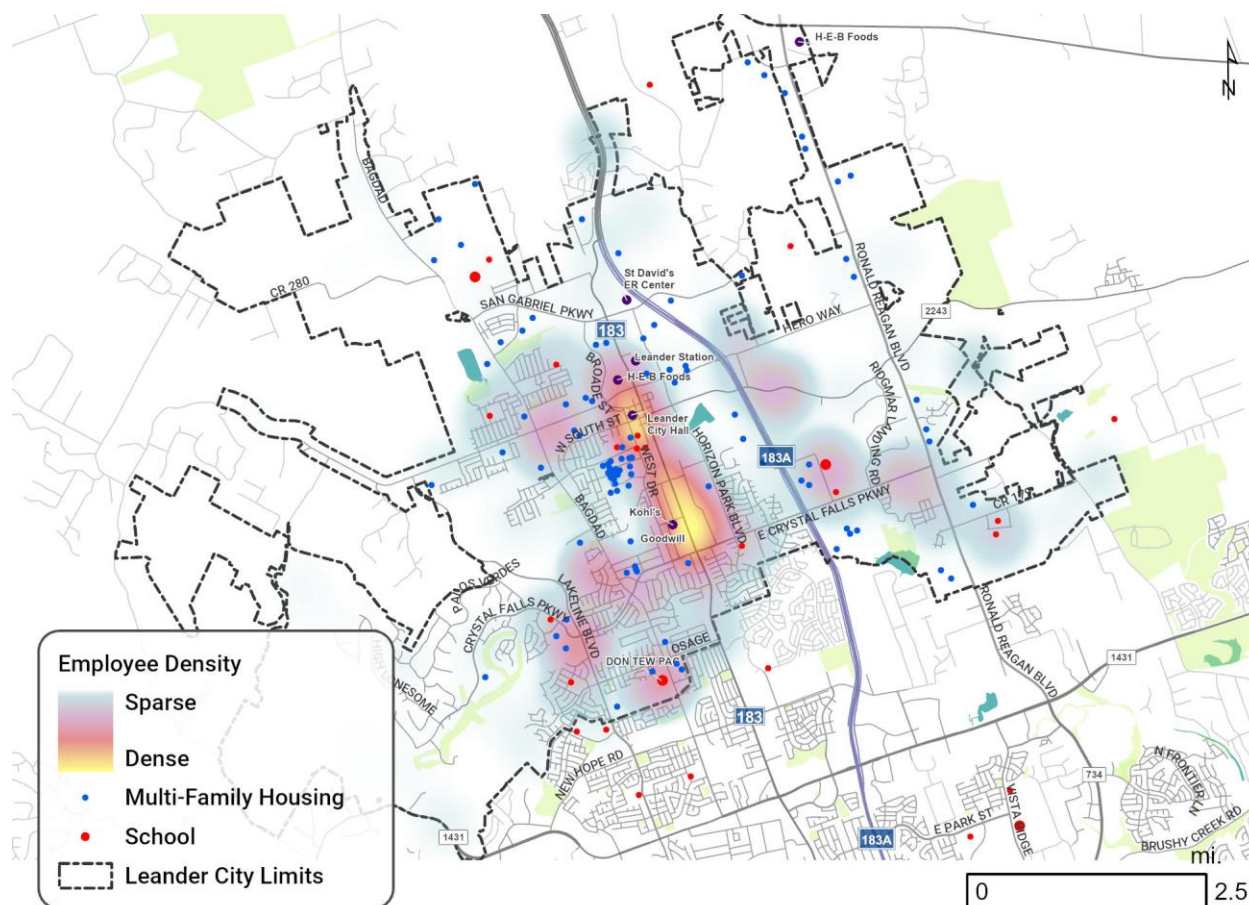
Category	Indicator	Data Source	Year
Fundamental Demographic Need (%)	Poverty (Low-income households)	ACS	2018
	Single Parent Female Headed Households with Children Under-age of 18	ACS	2018
	Population with a Disability	ACS	2018
	Homes of Workers with Jobs Paying Less than \$15,000 Annually	LEHD	2017
	Work Sites of Workers with Jobs Paying Less than \$15,000 Annually	LEHD	2017
Likely Higher Transit Use (i.e., propensity, latent demand, or induced demand) (%)	Minority Population	ACS	2018
	Zero Vehicle Available Households	ACS	2018
	Workers Commuting by Transit	ACS	2018
	Homes of Workers with High School Education or Less	LEHD	2017
	Work Sites of Workers with High School Education or Less	LEHD	2017
Human and Built Environment Suitability	Population Density	ACS	2018
	Household Density	ACS	2018
	Street Intersection Density	CNT	2015 for ACS, 2014 for LEHD
	Average Block Perimeter - Feet	CNT	2015 for ACS, 2014 for LEHD
	Compact Neighborhood Score	CNT	2015 for ACS, 2014 for LEHD

Figure 4.1: Transportation Equity Demand Index (TEDI) – Transit Need



Another strong indicator of local transit need is location of major transit trip generators and attractors. A major trip generator would be a multi-family housing unit, and examples of major trip attractors include grocery stores, employment centers, health care and government facilities (**Figure 4.2**). Efficient and effective connections to these major trip generators and attractors can provide for a more robust transit service and provide opportunity for the choice rider to use the service. Both the TEDI and Major Trip Generators Map provide the basis for the fixed-route and on-demand microtransit demand analysis.

Figure 4.2: Major Trip Generators



4.1.1 Fixed Route Demand Analysis

Key indicators for an efficient and effective fixed-route system are demographics, concentration of major activity centers and household densities. As shown above, Leander's land use is not concentrated and therefore many of the key destinations are spread out throughout the city. Additionally, many of the roadways are designed for a suburban form, which are less conducive for fixed route bus service. According to the Transit Cooperative Research Program (TCRP) Transit Capacity and Quality of Service Manual, Third Edition (2013) there are minimum densities that are needed to support a type of transit service. These minimum densities were developed in the 1970's and have been a "rule of thumb" by transportation planners for decades (**Table 4.2**). Fixed route bus service can certainly be supported outside of these density thresholds; however, if fixed route is offered outside of these thresholds, the subsidy rate will likely significantly increase.

Table 4.2: Minimum Densities for Fixed-Route Bus Service

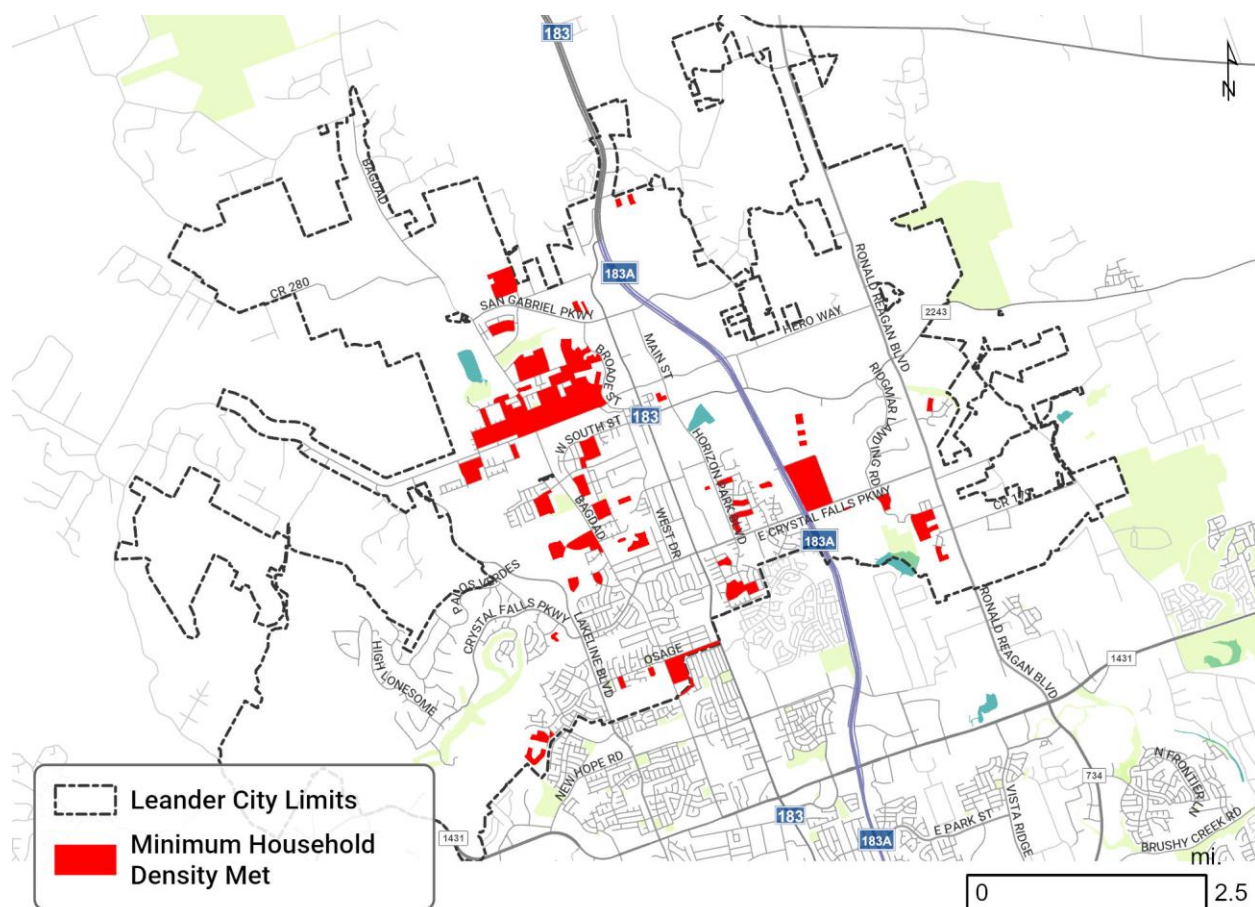
Transit Service	Minimum Residential Density	CBD Commercial/Office Density
Local bus, 1 bus/h	4.5 dwelling units/net acre	5-8 million ft
Local bus, 2 bus/h	7 dwelling units/net acre	8-20 million ft
Local bus, 6 bus/h	15 dwelling units/net acre	20-50 million ft

An analysis of various fixed-route corridors was completed using 2021 Williamson and Travis County Appraisal District data and 2020 US Census Decennial Data. Due to the low household per acre densities (**Table 4.3** and **Figure 4.3**) and spread-out nature of the commercial/office space, fixed-route service would need to be would comparatively operate less efficient and effective than peer fixed-route systems.

Table 4.3: Household and Commercial Density

Corridor	Household Per Acres	Total Commercial/ Office Square Footage
US 183	3.12	1,400,000
2243 and South	3.62	363,000
Bagdad	4.16	1,700,000
Crystal Falls	3.64	1,400,000
Hero Way	4.06	1,100,000
Lakeline	3.63	454,000
Ronald Reagan	1.39	733,000
San Gabriel	3.31	500,000

Figure 4.3: Leander Minimum Household Density Met



4.1.2 On-Demand Microtransit Demand Analysis

Due to the nature of the curb-to-curb service, on-demand microtransit service effectiveness and efficiency is not as dependent on minimum density thresholds. Instead, ridership estimates for the on-demand microtransit service are generated from the daily total travel market sizes, assuming that the services were similar to conventional or premium public transportation services. To estimate potential ridership, the following two variables are determined to create the daily travel market size and transit modal share and then multiplied together to create the daily trip estimates.

Variable 1: How many trips are traveling within each sub area (trip flow)?

- Source: StreetLight LLC (cell phone data)

Variable 2: What percentage (modal share) would use transit?

- Source: The current transit mode share for CMTA Pickup service area is 0.55%, which is on par with the regional and state average modal split for public transportation operating in similar environments. Fall 2021 CMTA Pickup ridership is divided by total trips within the service area to determine the observed modal split (**Table 4.4**).

Two additional zones were identified as market areas: Expanded and City-Wide (**Figures 4.5 and 4.6**). Average weekday trip flows were aggregated at the market area level for origin and destinations within

the city and the observed 0.55% was applied to determine the projected ridership. Additionally, for each market area, key indicators of on-demand micro-transit demand are shown below.

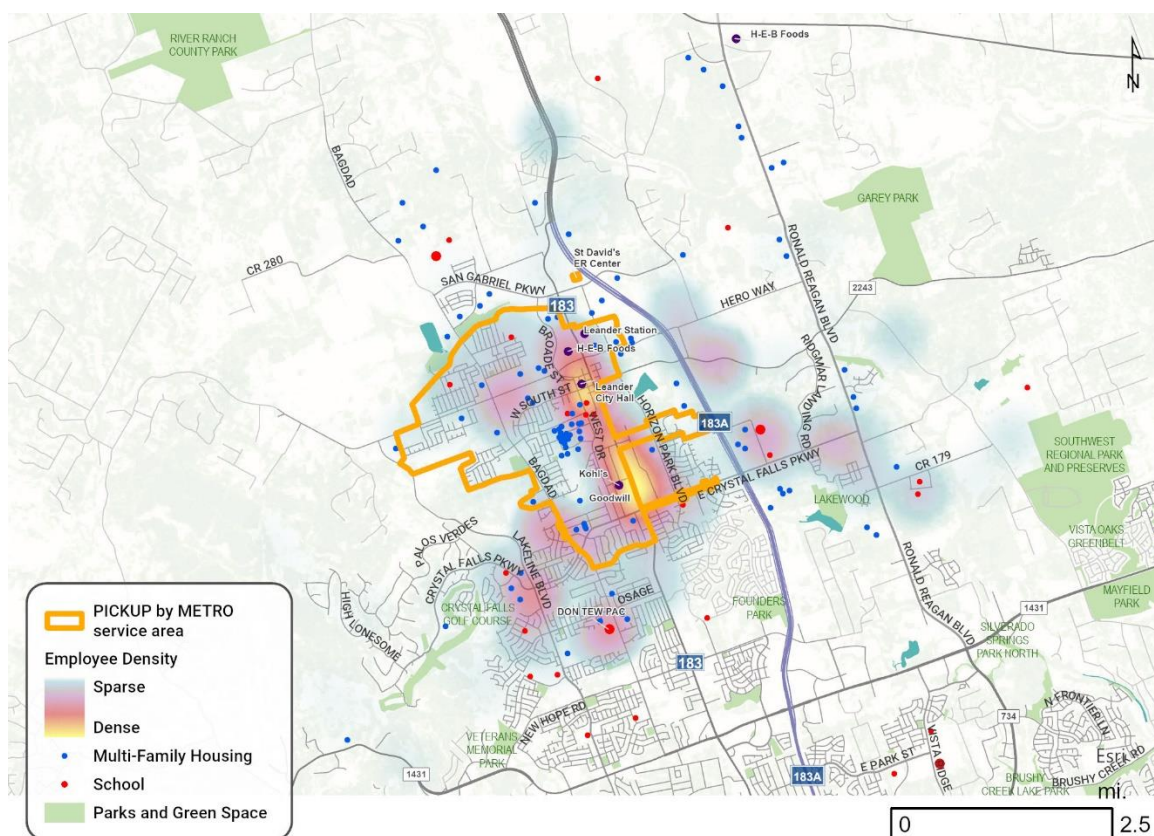
Table 4.4: Observed CMTA Pick-Up Modal Split

Market Area	Fall 2021 Origin/Destination Daily Volume	Fall 2021 Daily Transit Trips	Fall 2021 Transit Modal Share
	Equation #1 All Trip Flow	Equation #2 Daily Transit Trips	Equation #1 x #2 Transit Modal Share
CMTA Pickup	8,100	45	0.55% (observed)
Expanded	25,600	140	0.55%
City-Wide	30,350	170	0.55%

4.1.2.1 CMTA Pickup Market Area

The existing CMTA Pickup market area is five square miles (**Figure 4.4**). The area contains about 42 major trip generators and about 3,700 jobs.¹² According to the 2020 US Decennial Census, the estimated population in the CMTA Pickup market area is 20,000. When compared to the entire City of Leander, this market area contains about 25% of all trips and 30% of all population and 45% of all employment.

Figure 4.4: Existing CMTA Pickup Market Area

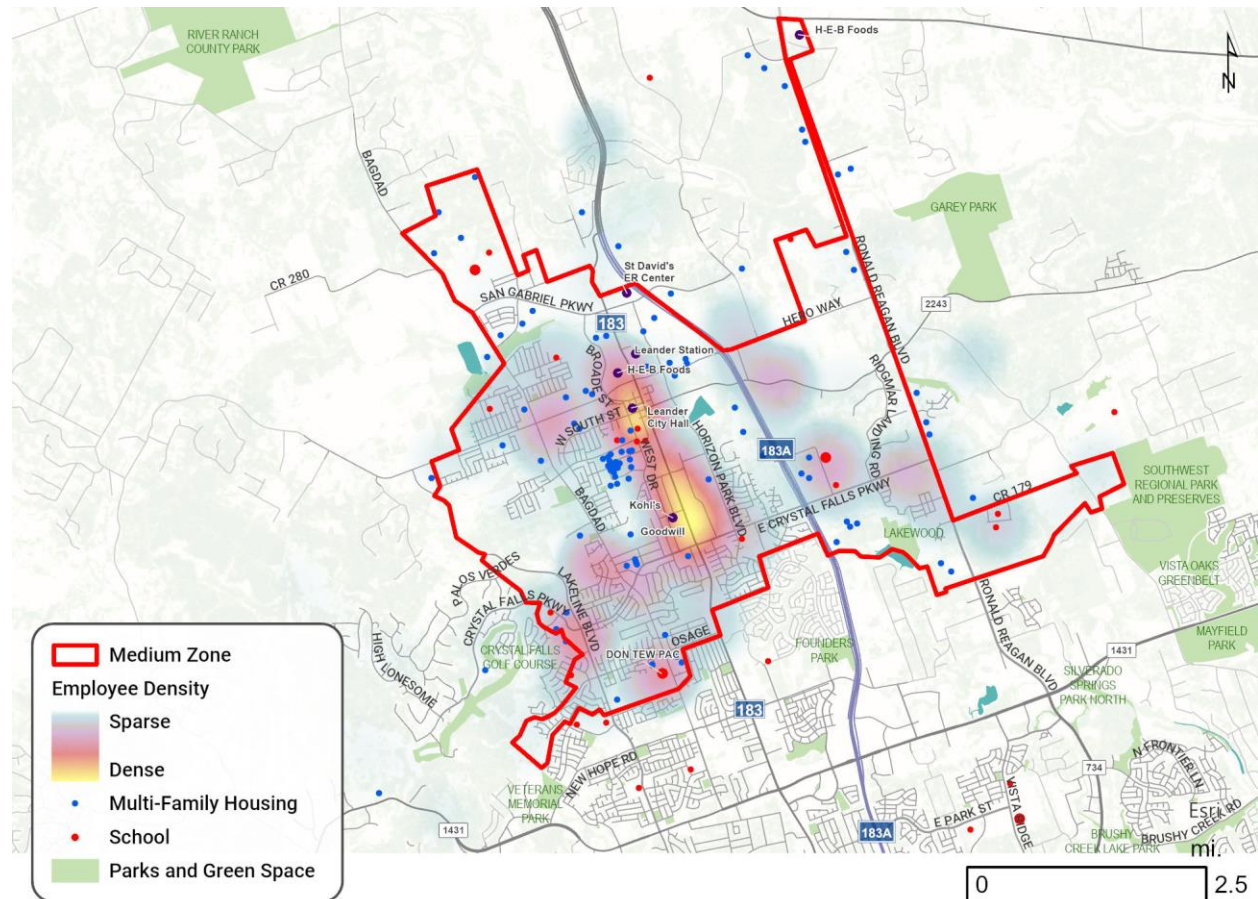


¹² Esri Business Analyst Online (BAO). Retrieved November 2021.

4.1.2.2 Expanded Market Area

The Expanded market area is 18 square miles (**Figure 4.5**). The area contains about 68 major trip generators and about 7,300 jobs.¹³ According to the 2020 US Decennial Census, the estimated population in the Expanded market area is 49,000. When compared to the entire City of Leander, this market area contains about 85% of all trips and 75% of all population and 90% of all employment.

Figure 4.5: Expanded Market Area



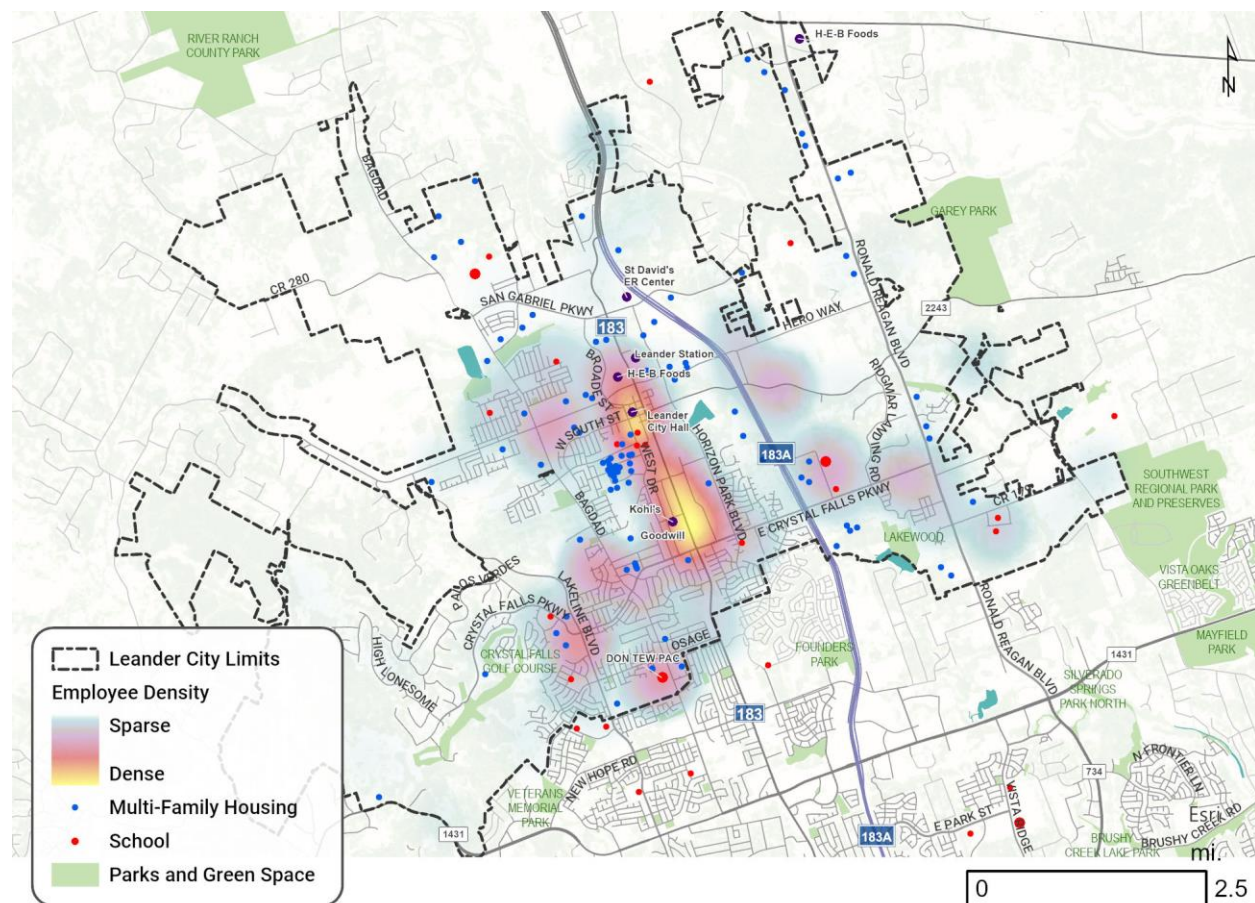
4.1.2.2 City-Wide Market Area

The City-Wide market area is 38 square miles (**Figure 4.6**). The area contains about 71 major trip generators and about 8,300 jobs.¹⁴ According to the 2020 US Decennial Census, the estimated population in the Expanded market area is 64,000. When compared to the entire City of Leander, this market area contains about 100% of all trips and 100% of all population and 100% of all employment.

¹³ Esri Business Analyst Online (BAO). Retrieved November 2021.

¹⁴ Esri Business Analyst Online (BAO). Retrieved November 2021.

Figure 4.6: City-Wide Market Area



4.2 Commuter Service

This section reviews the data and methodologies used to estimate demand for express bus ridership from City of Leander to various destination areas in the Austin metro area. A park and ride will be likely be successful and generate demand if it meets or exceeds several key factors:

- **Density:** Are there people to ride the bus to and from major destinations?
- **Connectivity:** Does the route connect people to where they want to go?
- **Travel Time:** Is the bus competitive or more consistent with other modes of travel?
- **Frequency:** Does the bus come often enough or when “I miss it, it’s easier to just drive”?
- **Reliability:** Is the bus on-time all the time?
- **Comfort:** Is the bus clean and comfortable?
- **Safety:** Do the bus and stations feel safe?
- **Walkability:** Are the origins and destinations easy to access?
- **Comprehensibility:** Is taking the bus easy to pay, read route map, find, etc.?
- **Marketing:** Do people know the bus even exists and do people understand the benefits of riding the bus?

The City can control several of these factors and others are a product of the external environment. Density, connectivity, and travel time are the key factors that are primarily used to determine the park and ride demand, as described below. Once park and ride peak demand is determined, the City can

provide the level service (frequency, reliability, comfort, safety, walkability and comprehensibility) needed to serve that transit demand. Additionally, a robust marketing plan is critical to ensure commuters are aware of any new service.

The methodology used to determine commuter transit demand from the City to various destinations throughout the Austin metro area was developed by the Texas Transportation Institute (TTI) and is based on TTI's *Procedures for Estimating Park & Ride Demand in Large Texas Cities*.¹⁵ The TTI report outlines six methodologies to estimate Park and Ride demand. This feasibility study uses the Modal Split methodology, which is also used by CMTA and VIA Metropolitan Transit (San Antonio) when siting a park and ride.¹⁶ The Modal Split methodology requires solving two equations. Solving these two equations will provide parking demand estimation for commuter service:

Equation 1: How many trips are traveling from the capture area to the destination area (trip flow)?

Equation 2: What percentage (modal split) would use transit?

4.2.1 Trip Flows

Trip flows are determined by an examination of the home-based work (HBW) trips found in the 2020 Capital Area Metropolitan Planning Organization (CAMPO) Travel Demand Forecast Model (TDF) and cell phone data.¹⁷ The CAMPO TDF model is the federally funded regional TDF model. The TDF model estimates the HBW trips from a production Traffic Analysis Zone (TAZ) to an attraction TAZ, which produces the Production and Attraction (P&A) table (one-way trips). The TDF model accounts for future study area population, projected employment, socioeconomic characteristics of study area residents, and travel time and cost characteristics of the competing highway and transit modes of travel. The model simulates travel on the entire highway and transit system in the CAMPO service area and future transportation improvements contained in the area CAMPO's Long-Range Plan. The cell phone data provides a picture of the existing travel conditions. The cell phone data was validated against the CAMPO TDF model.

This methodology requires an analysis of the population and workers that will be served by the Leander Station or the population "up-stream" of the facility given the ultimate "down-stream" destination **Figure 4.7**). The Leander Station service area (up-stream) is about seven miles in length and width about one mile south of Leander Station (**Figure 4.8**). About 50% of the origin market area is in the City of Leander, while the rest of the origin market area is in unincorporated Williamson County and Liberty Hill.

¹⁵ TTI, *Procedures for Estimating Park-and Ride Demand in Large Cities* (1987).

¹⁶ Capital Metro. *Line Service Design Standards*. Retrieved in February 2020 from https://capmetro.org/uploadedFiles/New2016/Plans_and_Development/Transit-Oriented_Development/Transit-Design-Guide.pdf

¹⁷ StreetLight LLC. Copyright © 2011 - 2021, StreetLight Data, Inc. 677 Harrison St. San Francisco, CA 94107. All rights reserved.

Figure 4.7: Upstream Origin Area

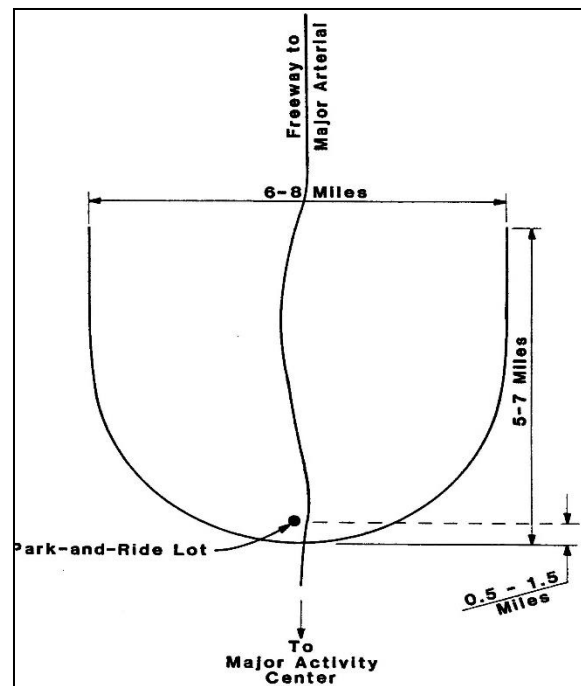
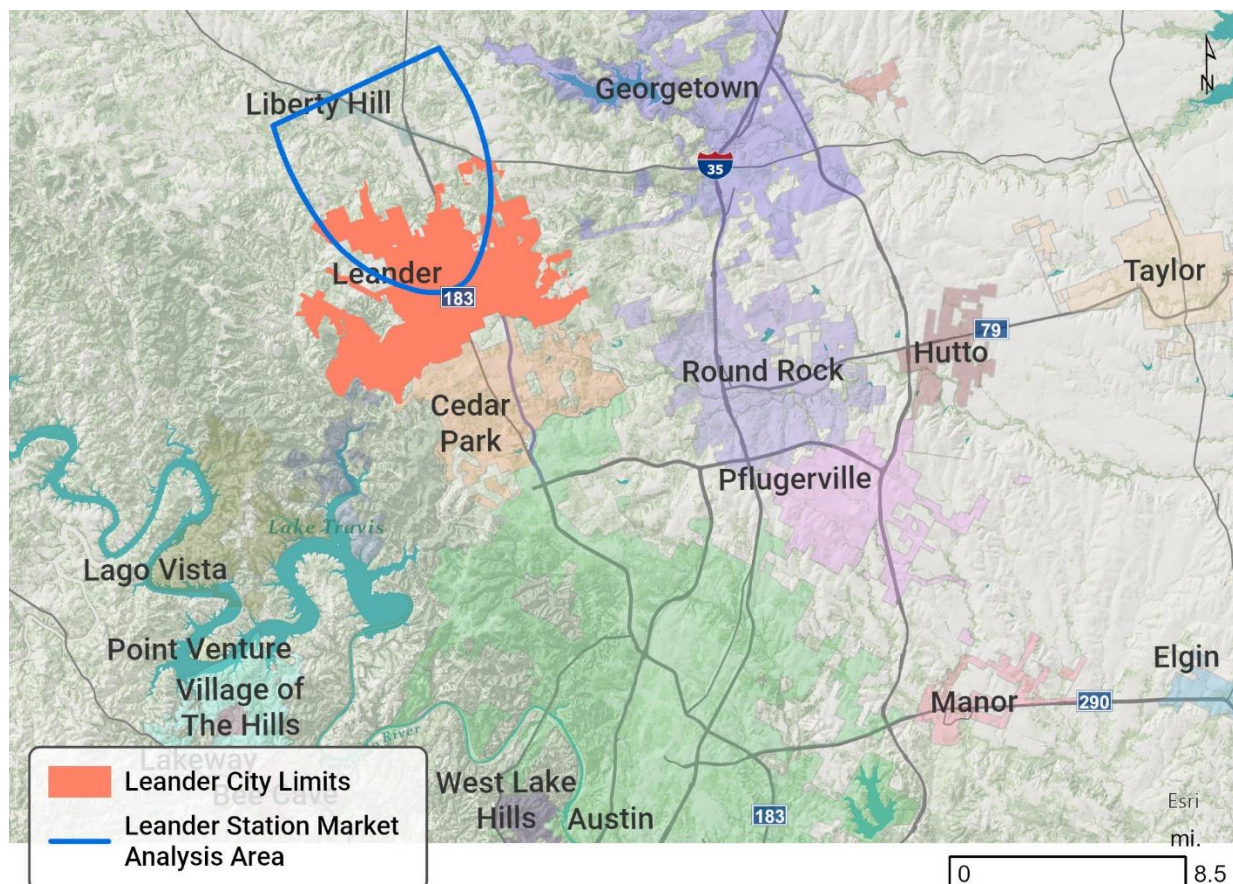


Figure 4.8: Market Area Origin



The cell phone data provides the number of average one-way daily trips from the Leander Station origin area to major destination areas throughout the Austin metro area (**Figure 4.9**). **Figure 4.10** shows the total trip for year pre-pandemic (2019) and year 2021 from the Leander Station to these Austin metro areas, which is considered Equation #1 (trip flows). Most of the AM peak trips travel to the Lakeline area and then to Austin Central Business District and University of Texas. Of the total HBW trips only a percentage will use public transportation, which is represented in Equation #2 (**Table 4.5**).

Figure 4.9: Regional One-Way Daily Trips

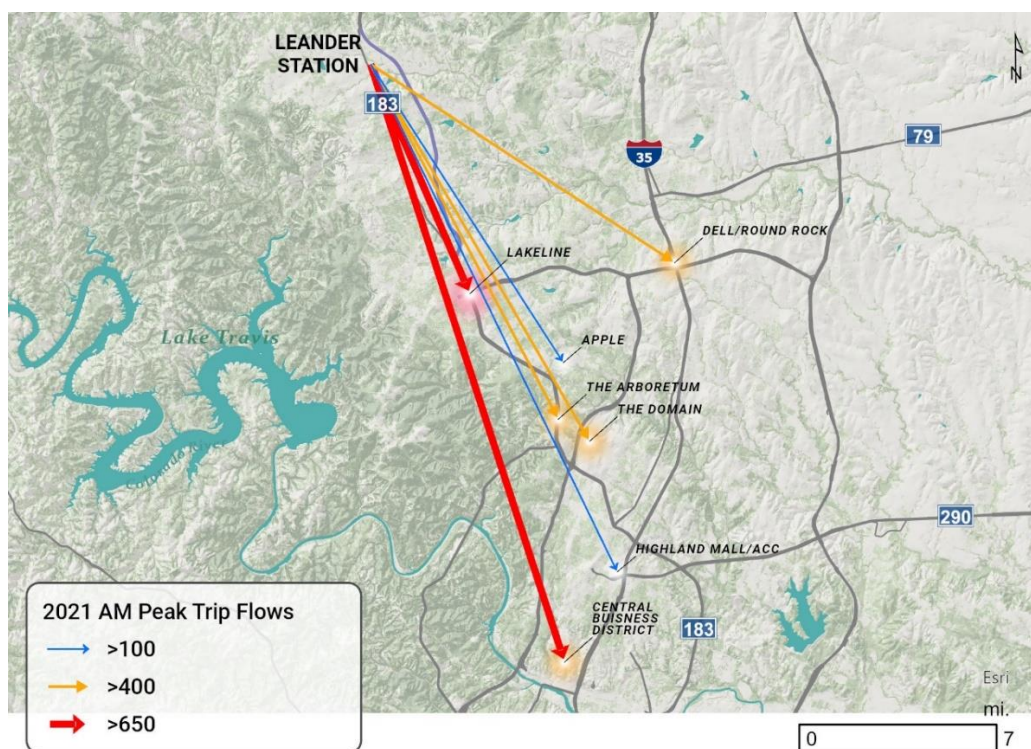


Figure 4.10: AM Peak Trips from Leander 2019 vs. 2021

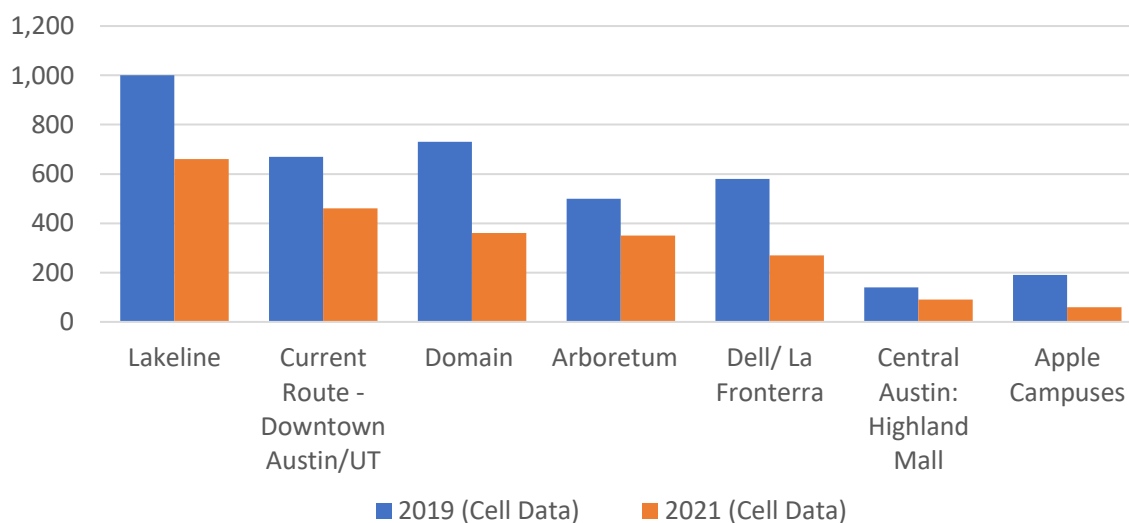


Table 4.5: One-Way AM Peak Trips

One-Way AM Peak Trips			
Destination Area	One-Way AM Trips Equation #1	Transit % Equation #2	Est. Daily One-way Trips
Lakeline	660	Equation #2	Equation #1 x #2
Current Route - Downtown Austin/UT	460	Equation #2	Equation #1 x #2
Domain	360	Equation #2	Equation #1 x #2
Arboretum	350	Equation #2	Equation #1 x #2
Dell/ La Frontera	270	Equation #2	Equation #1 x #2
Central Austin: Highland Mall	90	Equation #2	Equation #1 x #2
Apple Campuses	60	Equation #2	Equation #1 x #2

4.2.2 Modal Split

The TTI Modal Split method solves two equations. The first equation is used to determine the market area by overlaying the origin market area boundary (parabola) and then aggregating all the trips from the origin market area to destination area(s). The second equation is to calculate a modal split for the trips. The modal split can be obtained by using the FTA Instructed Binomial Logit Model Choice Model (Logit Model) and is supported by observed modal splits in the region.¹⁸ Like the CAMPO TDF Mode Choice Model, travel time, cost and socioeconomic data are primary functions of the Logit Model.

The Logit Model reflects the true cost of commuting for each mode. However, most commuters do not calculate the true cost of commuting or weigh one function higher than another. Given that, a park and ride demand analysis only examine the probability of a person choosing transit over automobile while considering the value of time, cost of parking, transit fares and auto operating cost only (does not include the capital cost of the vehicle). The vehicle cost, derived from the 2019 American Automobile Association, is reduced from the total average of \$0.55 per mile to \$0.17 per mile to reflect only vehicle operating costs.¹⁹ **Table 4.6** outlines the functions and assumptions that are used to calculate the Logit Model outputs or the probability of the use of automobile versus transit. In general, for users to choose transit over automobile, there must be some competitive advantages for transit. In the case of the Leander Station, there are a few transit competitive advantages: parking costs and automobile operating cost.

A validation to the calculations in the Logit Model is the observed modal splits derived from current operations from the Leander Station. Existing commuter bus ridership and parameters were used to estimate the transit mode share of trips. This base/existing data was also used to calibrate the modal bias for transit in the region to ensure the Logit Model was producing accurate results. The transit modal split is currently about 8% but was around 20% pre-pandemic (**Table 4.7**).

¹⁸ Koppelman and Bhat. 2006. *A Self Instructing Course in Mode Choice Modeling: Multinomial and Nested Logit Models - Prepared For U.S. Department of Transportation Federal Transit Administration.*

¹⁹ Source: American Automobile Association, 2020. Your Driving Costs Retrieved in April 2020 from <https://exchange.aaa.com/automotive/driving-costs/>.

Table 4.6: Mode Choice Model Coefficients

Mode Choice Model Coefficients	
Coefficient	Description
In-Vehicle time (all)	Average in-vehicle time from door to door (including parking time).
Walk time	Time to walk to/from car/stop and destination
Wait Time	Total transit wait time per day.
No. of Transfers	Total transfers per day. Depending on the weight of other functions, a transfer can reduce ridership by as much as 30%.
Transit Fare	Average daily transit fare
Auto Operating Cost	Average daily vehicle operating cost
Toll Cost	Average daily toll cost ²⁰
Parking Cost	Average daily CBD parking cost ²¹
Constant (modal bias transit)	Calibrated based on the observed parameters and existing transit modal split.

Table 4.7: Observed Commuter Bus Park and Ride Modal Splits

Observed Commuter Bus Park and Ride Modal Splits			
Time Period	One-Way AM Trips Equation #1	Transit % Equation #2	Est. Daily One-way Trips
2019	710	21%	150
Fall 2021	440	8%	35

4.2.3 Demand Summary

The projected transit modal split for commuter bus originating from Leander Station to various locations around the Austin metro is about 8% to 9%, increasing to 17% to 19% by 2032. Additionally, according to the CAMPO Travel Demand Model, trips flows will continue to grow 3% and 9% annually, depending on the destination area (**Table 4.8**). The estimated transit share and estimated ridership years 2021 and 2032 are shown in **Figure 4.11**.

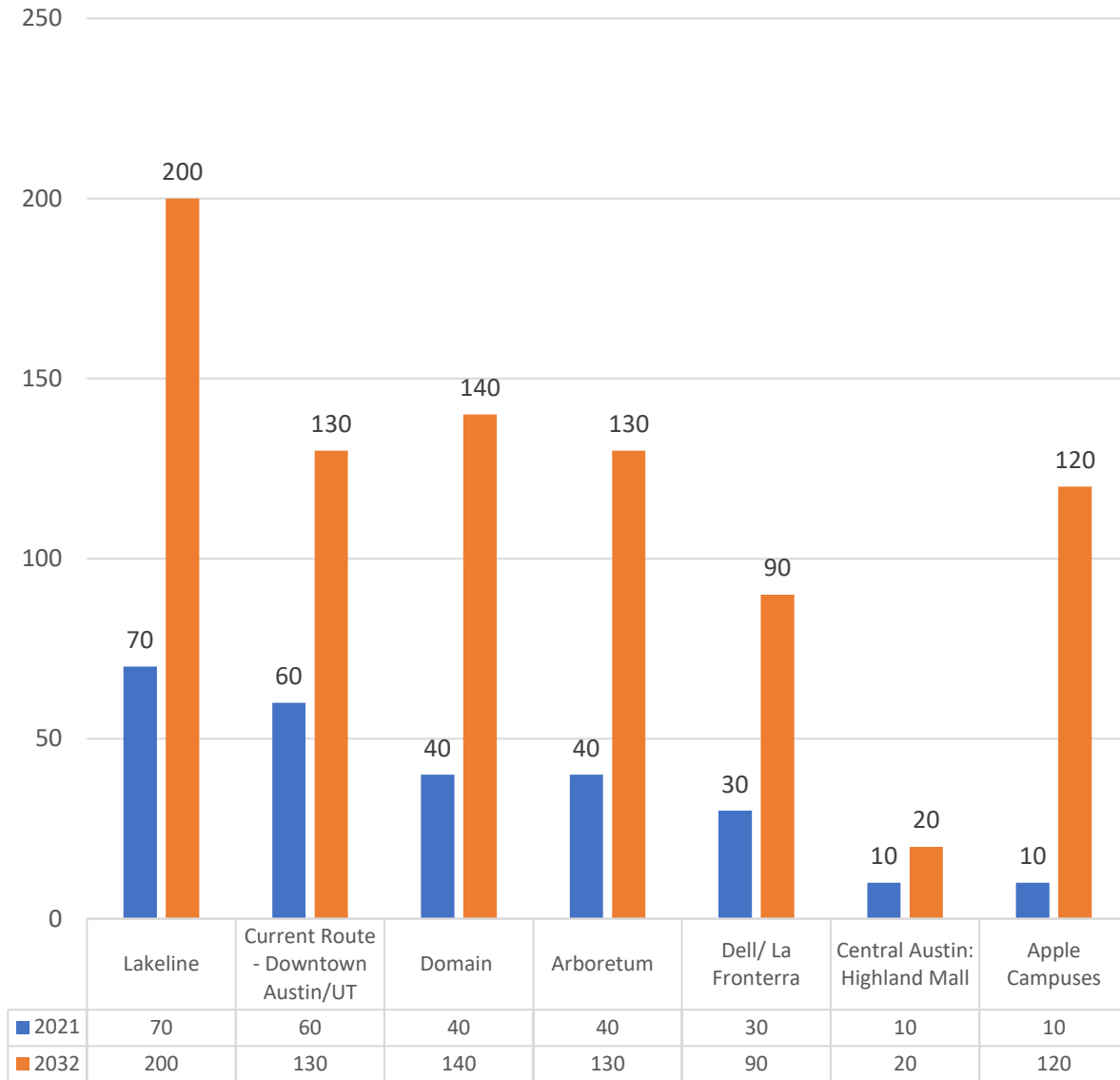
Table 4.8: Trip Flow Annual Compounded Growth Rate (2025 – 2045)

Destination Area	Trip Flow Annual Compounded Growth Rate (2025-2045)
Lakeline	5.72%
Current Route - Downtown Austin/UT	3.13%
Domain	4.46%
Arboretum	3.75%
Dell/ La Frontera	3.73%
Central Austin: Highland Mall	3.94%
Apple Campuses	8.99%

²⁰ Central Texas Regional Mobility Authority. (2021). CTRMA. <https://www.mobilityauthority.com/>

²¹ Downtown Austin Alliance (2021, December). Downtown Austin Alliance | Enhancing Downtown Austin's Vitality. Downtown Austin Alliance. <https://downtownaustin.com/>

Figure 4.11: Estimated One-Way Transit Trips 2021 and 2032



5.0 Transit Service Plan Alternatives

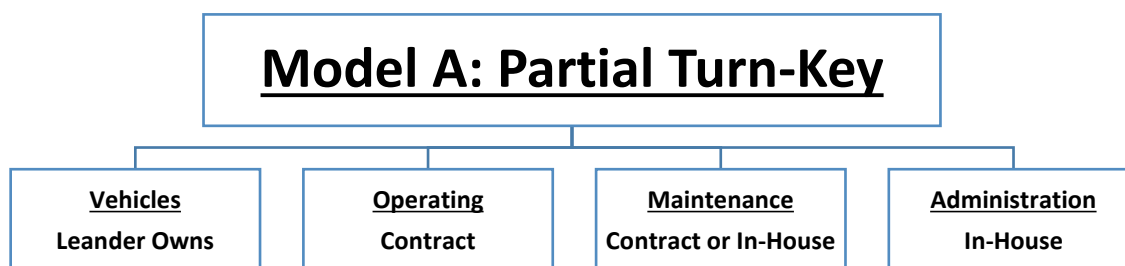
This section presents potential transit alternatives should the Leander residents opt to vote out of CMTA. Based on the transit need that was identified in Section 4.0, transit alternatives for local service and commuter service have been identified along with an implementation strategy.

5.1 Service Delivery Model

5.1.1 Model A: Partial Turn-Key

Under a partial turn-key model, the City would be responsible for providing the capital and procuring or leasing their own vehicles. The City would handle operations and administration of the program through either new contracts or in-house (**Figure 5.1**). This includes marketing the service and providing customer service. The City would enter a partnership with a transit provider to develop and operate the service. Under this model, there is more time needed for service start-up, there is federal money for vehicles, and it is approximately 40% lower in cost than the full turn-key model.

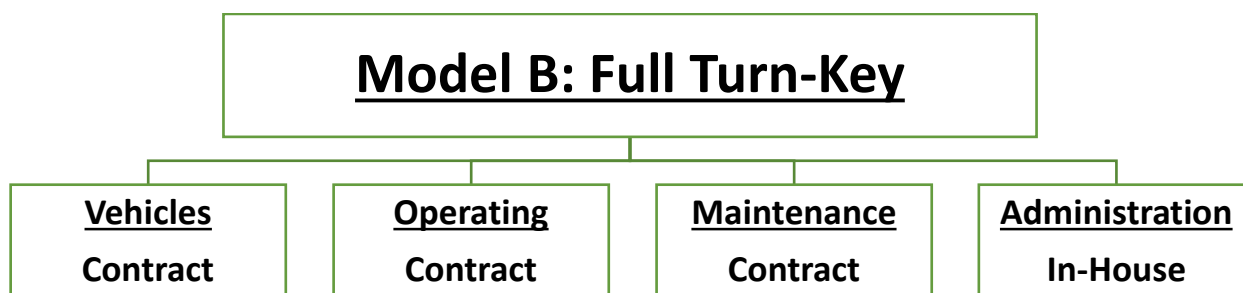
Figure 5.1: Model A: Partial Turn-Key



5.1.2 Model B: Full Turn-Key

Under a full turn-key contract (**Figure 5.2**), the City would enter into a contract with a transit provider. The transit provider would be responsible for providing the capital, operating, administrative, and software services. This includes marketing as well as service monitoring. The transit provider would supply drivers and operate the service. The City would only be responsible for providing oversight of service.

Figure 5.2: Model B: Full Turn-Key



5.2 Alternative Transit Scenarios

Utilizing the commuter demand and the on-demand microtransit alternatives that were presented in Section 4, three transit scenarios have been developed to serve the residents of Leander:

- Base Scenario
- Plus Scenario
- Max Scenario

For each scenario, cost, trips per day, and key performance metrics were developed. Cost of service for each scenario is based on the Full Turn-Key model. Note that cost estimates are subject to change based on pricing structure of the service provider contract, age of vehicles, maintenance, and other services provided.

5.2.1 Base Scenario

The Base Scenario assumes commuter bus with the existing on-demand microtransit zone (**Figure 4.4**). Commuter bus would operate Monday to Friday providing three trips to Downtown Austin/University of Texas. This scenario would produce 120 trips per day (60 passengers) with a load factor of approximately 50%.

This scenario would require the City to hire one full time employee (FTE) and would cost \$1,245,000 annually. **Table 5.1** provides an overview of the Base Scenario, while **Table 5.2** shows the breakdown of costs.

Table 5.1: Base Scenario Overview

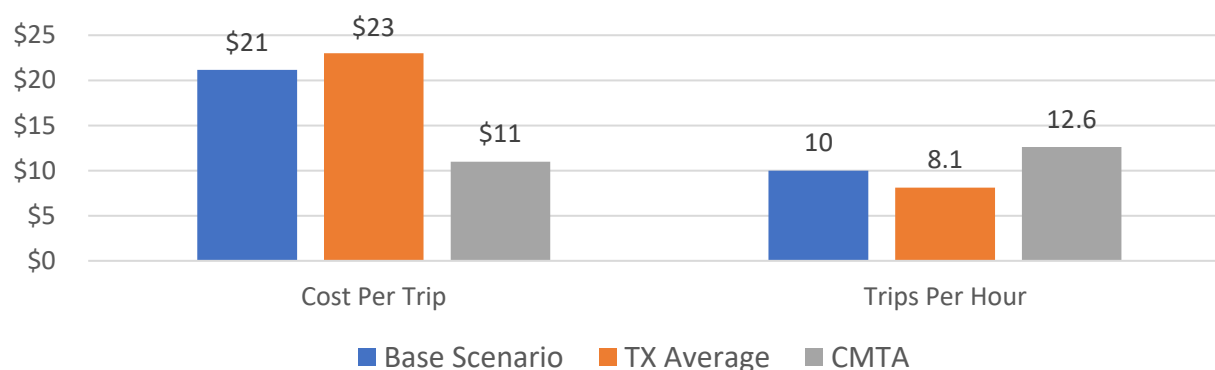
Commuter Service	Local Service – Existing Zone
Service Monday – Friday	Service Monday – Saturday
120 trips per day (60 passengers)	45 trips per day
Load Factor approximately 50%	10 min estimated wait time
3 trips to Downtown/UT	30% of population served

Table 5.2: Base Scenario Projected Annual Cost

Service	Cost
Commuter Service (Bus)	\$660,000
Local Service (Microtransit)	\$460,000
Administration (1 FTE)	\$125,000
Total Annual Cost	\$1,245,000

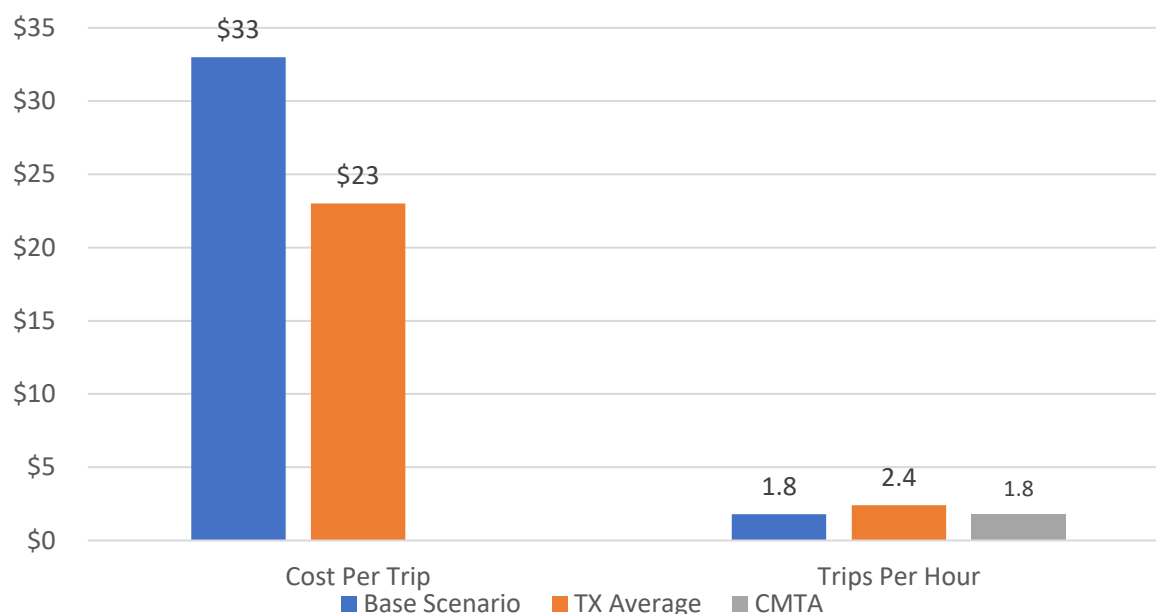
Figures 5.3 and 5.4 show the key performance metrics for this scenario as compared to the Texas average and CMTA. Cost per trip and trips per hour for the commuter service and local on-demand microtransit service is on par with state and local averages.

Figure 5.3: Base Scenario Commuter Service Performance Metrics



Source: National Transit Database (FY20)

Figure 5.4: Base Scenario Local Service Performance Metrics



Source: National Transit Database (FY20)

5.2.2 Plus Scenario

The Plus Scenario offers commuter bus service Monday to Friday along with the Expanded Zone (**Figure 4.5**) for local on-demand microtransit. The commuter bus will provide three trips to Downtown Austin and the University of Texas along with three trips to Lakeline (currently not offered by CMTA MetroExpress). The total annual cost of the Plus Scenario is \$2,430,000 and would require the City to hire two FTEs to manage the system. **Table 5.3** shows a breakdown of the service while **Table 5.4** shows the breakdown of costs.

Table 5.3: Plus Scenario Overview

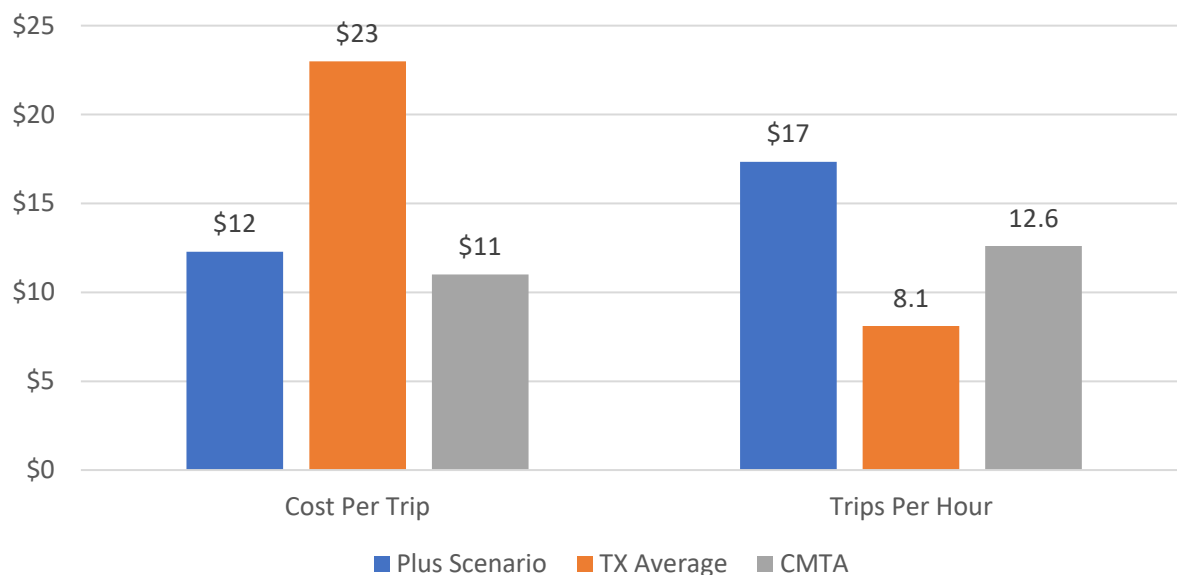
Commuter Service	Local Service Expanded Zone
Service Monday – Friday	Service Monday – Saturday
260 trips per day (130 passengers)	140 trips per day
Load Factor approximately 50%	10 min estimated wait time
3 trips to Downtown/UT	75% of the population served
3 trips to Lakeline	85% of internal trips served

Table 5.4: Plus Scenario Projected Annual Cost

Service	Cost
Commuter Service (Bus)	\$830,000
Local Service (Microtransit)	\$1,400,000
Administration (2 FTE)	\$200,000
Total Annual Cost	\$2,430,000

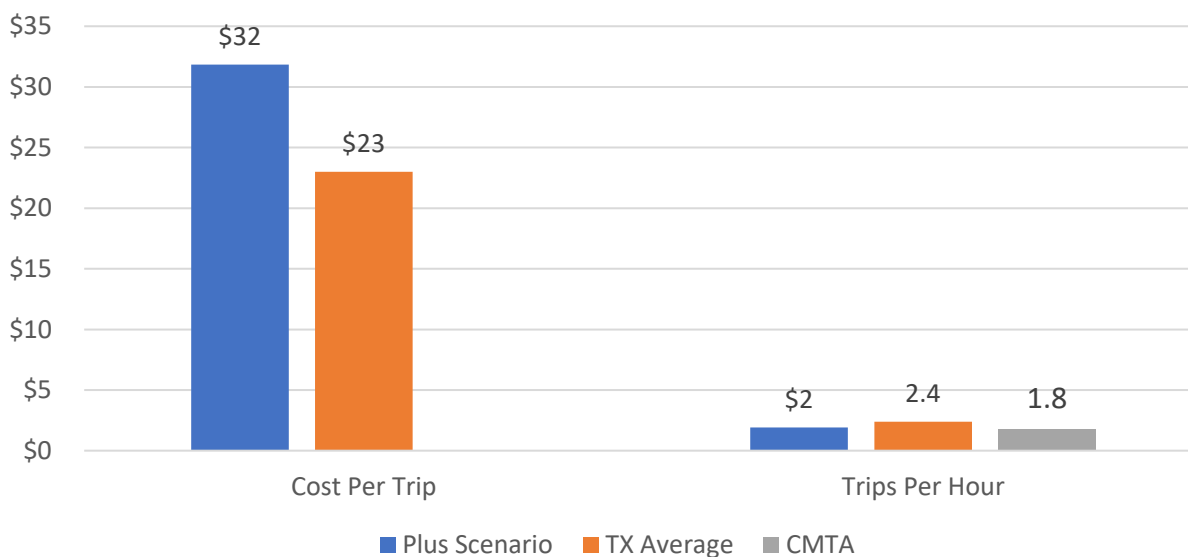
Figures 5.5 and 5.6 show the performance metrics for the Plus Scenario as compared to state and local averages. As shown in the figures, the commuter bus performs well below the state average and on par with CMTA, while the local service is on par with state and local averages.

Figure 5.5: Plus Scenario Commuter Service Key Performance Metrics



Source: National Transit Database (FY20)

Figure 5.6: Plus Scenario Local Service Performance Metrics



Source: National Transit Database (FY20)

5.2.3 Max Scenario

The Max Scenario offers commuter bus service Monday to Friday and local microtransit service Monday to Saturday via the Expanded Zone (**Figure 4.5**). The Max Scenario offers three commuter bus trips to

Downtown Austin and the University of Texas, three trips to Lakeline, and three trips to the Apple Campuses located along Parmer Lane. The current commuter bus operated by CMTA does not provide service to Lakeline or the Apple Campuses. This scenario also provides special event service for MLS games and three trips on Saturday and Sunday to the Domain. The total annual cost for the Max Scenario is estimated at \$2,910,000. **Tables 5.5 and 5.6** provide a breakdown of the service and cost respectively.

Table 5.5: Max Scenario Overview

Commuter Service	Local Service – Expanded Zone
Service Monday – Friday	Service Monday – Saturday
660 trips per day (330 passengers)	140 trips per day
Load Factor approximately 50%	10 min estimated wait time
3 trips to Downtown/UT	75% of the population served
3 trips to Lakeline	85% of internal trips served
3 trips to Apple Campuses (when fully open)	
Serve MLS special events (17/year, 200 trips/event)	
3 trips to Domain on Saturdays and Sundays.	

Table 5.6: Max Scenario Projected Annual Cost

Service	Cost
Commuter Service (Bus)	\$1,310,000
Local Service (Microtransit)	\$1,400,000
Administration (2 FTE)	\$200,000
Total Annual Cost	\$2,910,000

Figures 5.7 and 5.8 show the performance metrics for the Max Scenario as compared to state and local averages. As shown in the figures, the commuter bus performs well below the state average and on par with CMTA, while the local service is on par with state and local averages.

Figure 5.7: Max Scenario Commuter Service Key Performance Metrics

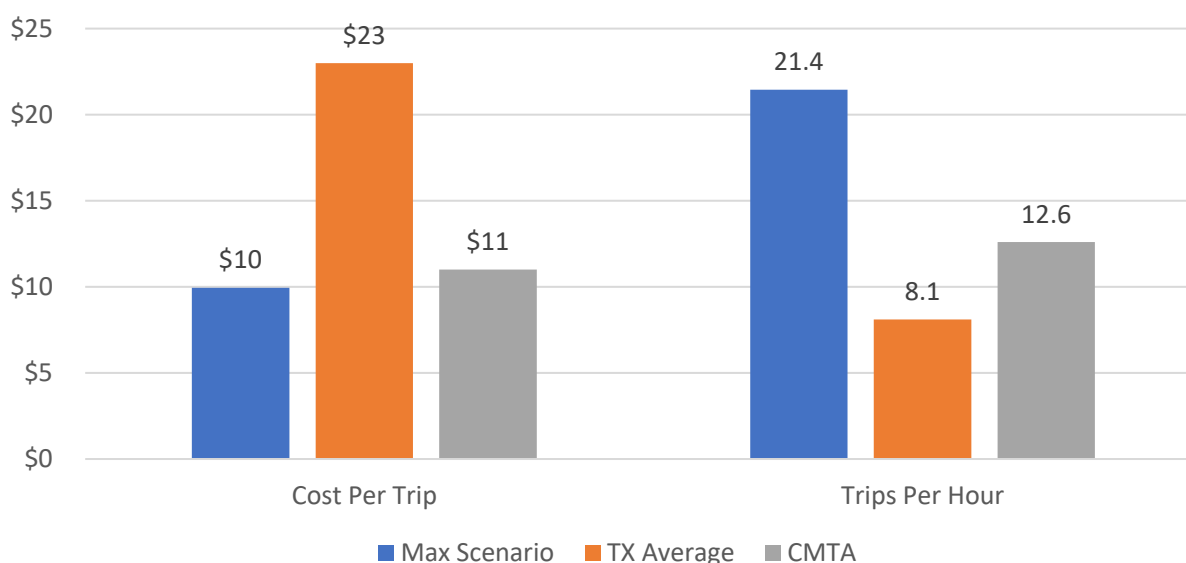
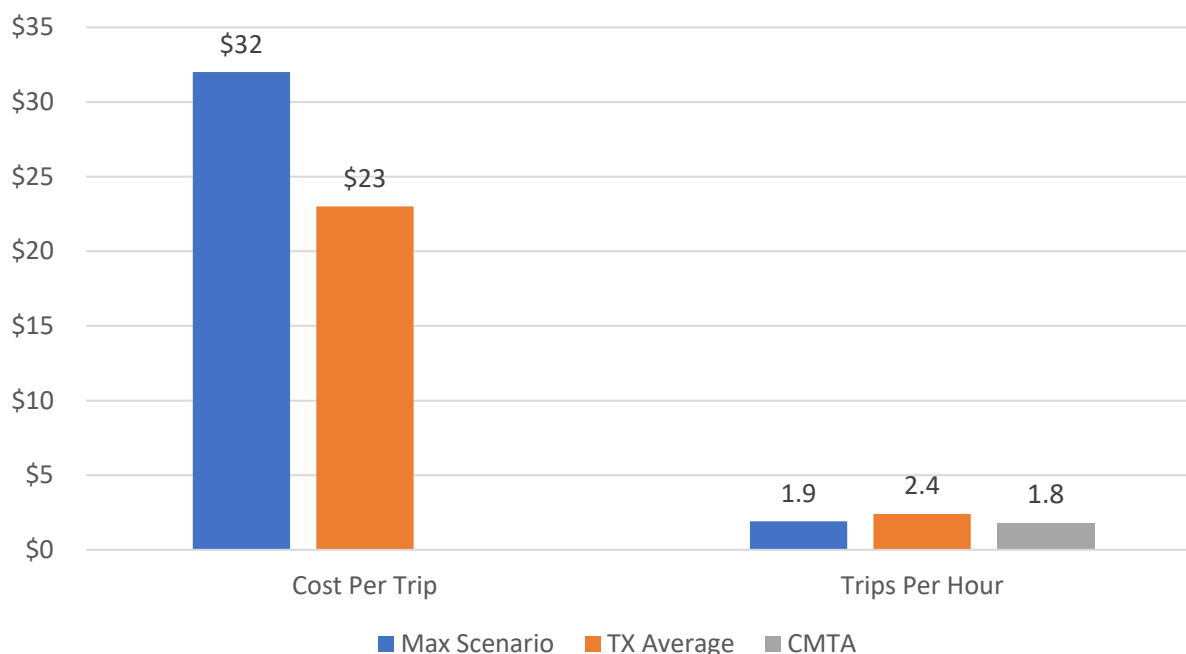


Figure 5.8: Max Scenario Local Service Performance Metrics



5.2.4 Transit Scenario Summary

In summary, the three transit scenarios presented are very scalable, and the bus service can be provided to meet the need of the citizens of Leander for about \$3 million. **Table 5.7** provides a summary of the three scenarios.

Table 5.7: Transit Scenario Summary

Service	Base Scenario	Plus Scenario	Max Scenario
Commuter Service (Bus)	\$660,000	\$830,000	\$1,310,000
Local Service (Microtransit)	\$460,000	\$1,400,000	\$1,400,000
Administration (2 FTE)	\$125,000	\$200,000	\$200,000
Total Annual Cost*	\$1,245,000	\$2,430,000	\$2,910,000

*Cost estimates are subject to change based on pricing structure of service provider, age of vehicles, maintenance and other services provided.

The City would also need to invest in a park and ride that should be located where it is visible and close to 183A. It is estimated that there will be a need for about 300 vehicles per day. At approximately \$20,000 per space for structured parking, the estimated cost of the park and ride would be \$6 million. There are joint development opportunities available through the Federal Transit Association (FTA) that the City could explore to help offset the cost of the park and ride.

If the citizens of Leander choose to vote out of CMTA, the City would have to option to contract with CMTA for rail service. CMTA's fully burdened cost (includes labor, capital, etc.) for rail service, as of December 2021, is \$2,800 per hour. To operate rail service that mirrors the service that is currently being offered would cost approximately \$10 million annually.

5.3 Administrative Needs

This section summarizes the back of house considerations, staffing needs, and civil rights considerations for implementing transit service in Leander.

5.3.1 Back of House Considerations

- **Reservation:** A contractor will need to provide a platform or technology-based app. Smartphone apps (iOS and Android) are the preferred method to plan, book, and pay for the trip.
- **Fare Structure and Fare Policy:** The fare policies vary from free to local fare to a premium fare. The following types of fares and policies should be considered:
 - Special Fares to promote the program and attract riders, special fares can be provided. Special fares include free fares at the start of the program, free trips for first-time users, and/or discounted pass via the app.
 - Transfer Policy and Regional Fare integration to promote first-mile/last-mile connections, provide free transfers or integration with CMTA fixed-route service.
 - Adjust fares based on times of day to increase ridership levels at times when they would normally be low.
 - A subscription model to guarantee revenue for the new service and lower fares for customers.
 - Referral program would allow a rider to get additional free rides when referred friends use the service.
 - Reduce fares for Leander residents, have riders register on the app or provide proof of residency to receive a reduced fare or premium parking at the park and ride.
- **Payment:** Customers should be encouraged to utilize the smartphone app to pay for the fare. However, vehicles offering on-demand and commuter service should also be equipped with fareboxes, so that unbanked passengers can use cash or pre-paid smartcards while boarding the vehicle.
- **Marketing:** For a new transit service to succeed, it is critical to understand best-practice marketing tactics. Marketing and outreach efforts will be necessary to publicize the new commuter bus and microtransit service. These efforts are often catered to the community targeting and should include:
 - Press releases/Newspaper articles
 - Website pages specific to the transit service, including specifics on hours of operation, schedule/destination, booking a trip, map of the service area, and fares
 - Promotional videos and radio advertisements
 - Social media advertisements
 - Engagement and partnerships with destinations

5.3.2 Staffing Needs

As mentioned in Section 5.2, if Leander was to implement transit service it is recommended that the City add up to two full time employees. This would include:

- **Transit Manager:** The Transit Manager would monitor the day-to-day operation of the transit system. They would conduct a variety of transportation, administrative, and financial support

duties along with overseeing the City's transit contractors. It is estimated that annual cost for the Transit Manager would be \$125,000.

- Mobility Coordinator: The Mobility Coordinator would lead the community engagement for the transit system. They would lead the marketing of program and reach out to stakeholders to promote the system. In addition, the Mobility Coordinator would support the Transit Manager with the administrative and financial duties, assist with transit operations. It is estimated that the annual cost of the Mobility Coordinator would be \$75,000.

5.3.3 Civil Rights Considerations

When implementing a transit system, the City will need to ensure compliance with federal Civil Rights by considering the following:

- Environmental Justice: The City will need to complete an Environmental Justice analysis to ensure the program does not adversely affect *minority and low-income populations*.
- Americans with Disabilities Act (ADA): The City will need to ensure that the contractor(s) is ADA compliant, or that there are a dedicated number of wheelchair vehicles available for the program to facilitated service to all individuals.
- Unbanked Population: To ensure that individuals with no debit or credit card can access the service, the transit vehicles (commuter and on-demand service) should be equipped with fareboxes, in which passengers are permitted to use cash while boarding the vehicle. If the program is to be cashless, customers should be permitted to use cash to purchase pre-paid and re-loadable fare cards that can then be used to pay for a trip.
- Limited English Proficiency (LEP): The City will need to follow LEP procedures to ensure that the program is available in a minimum of Spanish and any other languages spoken by disadvantage populations in the service area.
- Smartphone/Internet Access: A call center must be available for those customers without a smartphone or internet access. The City can utilize its existing customer service call center to reserve a trip, or the tech-based company can host a call center for trip bookings. The former would require that the City train customer service personnel.

5.4 Federal Funding Opportunities

If the residents of Leander vote to opt out of CMTA, FTA Section 5307 formula funds could become available to the City. Currently CMTA is the designated recipient of the \$115,000 in Section 5307 formula funds that Leander is allocated which is expected to raise to approximately \$300,000 based on the 2020 Census. FTA uses population, population density, low-income population, and vehicle revenue miles to determine the amount of Section 5307 funds designated to the CMTA service area and to the urbanized area outside of their service area.

There are several ways the City could receive these funds that is outline in CMTA's Service Expansion Policy. These include:

- Contract for Service: Service contracts allow CMTA to provide service through an interlocal agreement between the jurisdiction and CMTA. In this case, the City pays the cost of service, with a credit given to the City for Section 5307 eligible expenses.
- Form a Local Government Corporation (LGC): CMTA and the City may enter into an agreement to form an LGC, whereby the City and CMTA would establish a board of directors to oversee transit initiatives in the agreed upon area. CMTA would provide Section 5307 funding, while the City would provide local funds, such as general revenue, 4B sales tax, or private sector funding.
- Become an FTA Sub-Recipient: The City would become a sub-recipient and contract directly with a service provider and seek reimbursement for the federal portion of Section 5307 eligible expenses through CMTA. CMTA maintains responsibility for federal compliance, certifications, and related coordination with FTA. The City, as a sub-recipient, is eligible to receive service through the most appropriate contract service provider.
- Become a Direct Recipient: The City could become an FTA Direct Recipient to receive Section 5307 funds directly from FTA for eligible expenses. The City would be responsible for the management of funds and assumes all responsibility for federal compliance, certifications, and local match.

5.4.1 Service Expansion Guidelines

For Leander to implement their own transit service, CMTA has developed service expansion guidelines²² to ensure that the new transit service achieves regional goals. The City will need to submit an Application for New Service to CMTA during their annual Call for Projects. The application will include the following:

- A resolution demonstrating intent of commitment through the City Council. The resolution will provide assurances of the following:
 - Funding Commitment: The City must provide proof of local match for no less than one year of the program.
 - Community Support: The formal commitment will ensure that there is sufficient community and stakeholder support for the service.
- Support of a Regional Fare Structure: The resolution will include confirmation that the fare structure for the proposed service will be consistent with existing regional fares.
- Acknowledgement of ADA Complementary Paratransit Service Needs: For local fixed-route projects only, the resolution shall also address the requirement to provide ADA complimentary paratransit service. This would not be required because the service scenarios do not include fixed route service, but on-demand microtransit.

²² Capital Metropolitan Transportation Authority. Service Expansion Policy. (April 2014).

- A three-year (minimum) Transit Development Plan (TDP), which is a plan that identifies transit needs, analyzes service options and financing, and provides recommendations for service.
- The City may be asked to provide additional information pursuant to FTA requirements.

5.4.2 Transit Development Plan (TDP) Guidelines

A TDP provides recommendations for transit service in Leander. The plan helps to identify the transit service needs of the City that are not being met or that are not sufficiently met by existing services. The TDP will assist in developing and evaluating transit system alternatives and must include a financial plan. Once complete, the TDP will be adopted by City Council. This report is a good start for a TDP for Leander.

TDP's developed for service expansion with CMTA are required to cover at least three years of service and will be updated yearly. Yearly updates allow CMTA to evaluate performance of the service based on the measures identified in the TDP and to determine if changes are needed.

CMTA can provide technical assistance as needed to develop the TDP such as service planning, financial planning, and capital planning. CMTA will review the TDP to confirm that the guidelines have been followed and to ensure consistency. FTA Section 5307 funds may be used to support planning efforts for the TDP.

According to CMTA's Service Expansion Policy²³, the TDP shall include the following:

- Mission and goals
- Documentation of a public participation process
- Review of state and local transportation plans and the relationship to other plans and policies
- Explanation of connections to the regional system and regional goals
- Identification of areas for coordination with other local agencies, local communities and/or private entities
- Explanation of how service will be integrated in a regional intermodal network that increases connectivity, closes gaps, and minimizes duplication of service
- Analysis of transit supportive growth patterns
- Analysis of multimodal accommodations that support transit service, such as bicycle and pedestrian facilities
- Estimates of the demand for transit service
- Performance evaluation of any existing service
- Analysis of service alternatives, including financial impacts of each alternative
- Maps of the areas to be served and types and levels of service
- Three-year program of strategies and policies to support the proposed service
- Three-year financing plan

A monitoring program must be developed in the TDP to track the performance of the proposed transit service. The monitoring program shall include measures on system performance, quality of service, and level of customer satisfaction. The measures shall be based on generally accepted transit performance measures, such as:

²³ Capital Metropolitan Transportation Authority. Service Expansion Policy. (April 2014).

- Ridership
- On-time performance
- Passengers per mile
- Number of customer complaints
- Call center performance
- Number of accidents
- Number of vehicle breakdowns
- Revenue, expenses, and cost recovery
- Cost per vehicle mile
- Revenue per passenger and revenue per mile

Yearly updates to the TDP shall be in the form of a progress report and include:

- Detailed description of goals achieved
- Analysis of inconsistencies between TDP and its implementation
- Analysis of service based on performance measures identified in the monitoring program
- Description of any proposed changes to service for the upcoming year
- Revisions to the strategies and policies, if needed
- Revisions to the financial plan

5.4.3 Federal Transit Association Grantee Process

If the City chooses to become an FTA grantee, this section outlines the steps the City will need to follow the steps outlined below.

- **Step 1: New Grantee Request Letter**
To initiate the New Recipient Process, the City will need to send a letter to FTA Region VI outlining their intentions with regard to their FTA funding requests. The letter should contain the following elements:
 - Identify what types of activities FTA funds will be used to complete
 - Identify the type of FTA funds that new recipient will seek for these activities
 - Cite the planning basis for the activities being funded (i.e., feasibility study, transit service analysis, long-range transportation plan)
 - Identify a point of contact at the City to work with FTA through the review process.
- **Step 2: Demonstrate Legal Capacity**
Before FTA may award a grant, FTA must make a finding that the grant applicant has or will have the legal capacity to carry out the project.
 - Opinion of Legal Counsel – identifies the legal authority of the grant applicant, citing, for example State and local statutes, and states whether any significant legislation or litigation is pending that may affect the legal status of the applicant.
 - Authorizing Resolution – resolution from the City Council to show the City has the authority to file an official grant application, showing who has the authority to act on behalf of the application, and supporting the application.

- Annual Certifications and Assurances – before FTA may award Federal funding, the City must provide to FTA all certifications and assurances required by Federal laws and regulations.
 - FTA Master Agreement – the FTA Master Agreement is the FTA official document containing FTA and other cross-cutting Federal requirements applicable to the FTA recipient and its project(s).
- **Step 3: Demonstrate Financial Capacity**

The City must have financial policies and procedures; an organizational structure that defines, assigns and delegates authority; and financial management systems in place to match, manage, and charge only allowable cost to the award.

 - Documentation of Local Match – must show documentation through City Council resolution that the City has the required local match for the grant application.
- **Step 4: Demonstrate Technical Capacity**

Technical capacity involves the capability of the grant applicant to properly carry out and manage Federal grants.

 - Organizational Chart – the organizational chart should illustrate which positions and offices will carry out grant-related activities such as procurements, reporting, equipment maintenance, and operations.
- **Step 5: Comply with Other Requirements**
 - Meeting with FTA Region VI – as a follow up to the letter submitted to FTA Region VI to show intent of the City being a FTA grantee, the City should meet with Region VI representatives to review the application and discuss the project.
 - System Access Request
 - *Transit Award Management System (TrAMS)* – TrAMS is FTA’s platform to award and manage federal grants.
 - *Electronic Clearing House Operation (ECHO)* – a web application that allows FTA grant recipients to request payments from their grant awards.
 - Data Universal Numbering System (DUNS) – a unique, nine-digit series of numerals that identifies a business. The federal government uses the DUNS number to track how federal money is allocated.
 - System for Award Management (SAM) – SAM is an official website of the Federal Government, and the City must register to do business with the Government.
- **Step 6: Comply with Civil Rights**

New recipients must agree to comply with all applicable civil rights statutes and implementing regulations as a condition of receiving any FTA funding, regardless of type.

 - Title VI of the Civil Rights Act of 1964 – new recipients are required to submit a Title VI plan with the following elements:
 - Title VI Notice to the Public, including a list of locations where the notice is posted
 - Title VI Complain Procedures (instructions to the public on how to file a Title VI discrimination complaint)

- Title VI Complaint Form
 - List of transit-related Title VI investigations, complaints, and lawsuits
 - Public Participation Plan, including information about outreach methods to engage minority and limited English proficient populations (LEP)
 - Language Assistance Plan for providing language assistance to person with LEP
 - A table depicting the membership of non-elected committees and councils, the membership of which is selected by the recipient, broken down by race, and a description of the process the City uses to encourage the participation of minorities on such committees
 - A Title VI equity analysis if the recipient has constructed a facility, such as a vehicle storage facility, maintenance facility, operation center, etc.
 - A copy of City Council meeting minutes, resolution, or other appropriate documentation responsible for policy decisions reviewed and approved the Title VI program
- Disadvantage Business Enterprise (DBE) Plan and Annual Goal – all FTA recipients must comply with Department of Transportation (DOT) regulation, “Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs,” 49 CFR part 26.
 - Equal Employment Opportunity (EEO) Plan – the EEO plan is developed to establish a strong company policy and commitment to equal employment opportunity. FTA requires all recipients of FTA funding, which meet certain thresholds, to develop and submit for approval an EEO Plan every three years. The thresholds are:
 - 100 or more transit-related employees AND,
 - Receives capital or operating assistance in excess of \$1 million, OR planning assistance in excess of \$250,000.
 - Agencies with 50-99 transit-related employees who meet the monetary threshold are required to prepare and maintain an abbreviated EEO program but are not required to submit to FTA unless requested.
 - Agencies with between 50-99 transit-related employees that do not meet the monetary threshold are not required to prepare and maintain an abbreviated EEO Program however, FTA applicants, recipients, subrecipients, and contractors who do not meet EEO Program thresholds are still required to comply with all EEO statutes and regulations.
 - Americans with Disabilities Act of 1990 (ADA) – all transit vehicles and facilities must meet the accessibility requirements laid out in ADA. The City must also agree to comply and assures the compliance of each third-party contractor and each subrecipient at any time of the project complies with ADA. No specific submittal is required during the New Recipient Process, these requirements are incorporated into the FTA Master Agreement and Annual Certifications and Assurances.

6.0 Conclusion

The City of Leander has several options to consider if the Leander residents choose to stay in CMTA or vote out. If the residents chose to stay in CMTA, there are several transit and pedestrian service improvements that could be implemented. These include:

- The expansion of the Leander Metro Pickup zone
- Enhance the crossings to and from the Leander Station
- Commuter bus service to other destinations (Apple campuses, The Domain, etc.)

If the residents vote to leave CMTA, the City has several options to implement their own transit service or the City could enter into a contractual agreement with CMTA, or the Capital Area Rural Transportation System (CARTS) for transit service. If the City chose to enter into a contractual agreement with CMTA, the cost of transit service would be at CMTA's fully burdened cost. These costs are as of December 2021:

- Local Bus (i.e., fixed route service) – \$61 per hour
- Commuter Bus (MetroExpress) – \$213 per hour
- Commuter Rail (MetroRail) – \$2,830 per hour

If the City was to provide their own transit service utilizing the Full Turn-Key Model, procurement of a private service provider can take up to 120-180 days. The City would also need to hire one to two FTE's (Transit Manager, and Mobility Coordinator). The service scenarios outlined in the previous section would need to be refined and a public outreach effort would need to take place to educate the residents of the new transit service. The City would also be eligible to receive FTA Section 5307 funds to help support the transit system by either becoming an FTA Grantee or work with CMTA to become an FTA sub-recipient.

The key message to take away from this study is that a Texas city can scale their transit budget when its funding is not static (i.e., tied to sales tax).

Appendix A – Literature Review References

- Arndt, J. C., Morgan, C. A., Overman, J. H., Clower, T. L., Weinstein, B. L., & Seman, M. (2009). *Transportation, social and economic impacts of light and commuter rail* (No. FHWA/TX-10/0-5652-1).
- Bosselman, A. (2019, January 29). Denver's Buses and Trains Are Not Useful to Most People. A New Book Shows Why. *Streetsblog Denver*. Retrieved October 4, 2021, from <https://denver.streetsblog.org/2019/01/29/denvers-buses-and-trains-arent-useful-to-most-people-a-new-book-shows-why/>
- Caroll, M. C. (2017). The Economic and Fiscal Impacts of Development near DART Stations. *Dallas Area Rapid Transit*. Retrieved October 8, 2021, from <https://todresources.org/wp-content/uploads/2016/06/UNT-Study-May-2017.pdf>
- Cervero, R., & Seskin, S. (1995). An evaluation of the relationships between transit and urban form. *TCRP Research Results Digest*, (7). Retrieved October 12, 2021, from https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rrd_07.pdf
- Credit, K. (2018). Transit-oriented economic development: The impact of light rail on new business starts in the Phoenix, AZ Region, USA. *Urban Studies*, 55(13), 2838-2862.
- Diaz, R. B., & Mclean, V. A. (1999, May). Impacts of rail transit on property values. In *American Public Transit Association Rapid Transit Conference Proceedings* (pp. 1-8).
- Dong, H. (2016). If you build rail transit in suburbs, will development come? *Journal of the American Planning Association*, 82(4), 316-326.
- Garrett, T. A. (2004). Light-rail transit: myths and realities. *bridges. Technical report, Federal Reserve Bank of St. Louis*.
- Girtman, T. (2021, July 7). Leander Council Questions City's future in Capital Metro. *Community Impact*. Retrieved October 4, 2021, from <https://communityimpact.com/austin/cedar-park-leander/transportation/2021/07/07/leander-council-questions-citys-future-in-capital-metro/>.
- Harris, C. (2020). THE ECONOMICS OF URBAN LIGHT RAIL: A Guide for Planners and Citizens. *Manhattan Institute*. Retrieved October 8, 2021, from <https://media4.manhattan-institute.org/sites/default/files/economics-of-urban-light-rail-CH.pdf>
- Levine, M. V., Foss-Mollan, K., & Kim, S. (1992). Light Rail in Milwaukee: An Analysis of the Potential Impact on Economic Development. *Center for Economic Development, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin*.
- Mohammad, S. I., Graham, D. J., Melo, P. C., & Anderson, R. J. (2013). A meta-analysis of the impact of rail projects on land and property values. *Transportation Research Part A: Policy and Practice*, 50, 158-170.
- Schatz, B., Price, D. (2021, April 1). Commuter Rail: Information on Benefits and Funding Challenges for Service in Less Urbanized Communities. *U.S. Government Accountability Office*. Retrieved October 12, 2021, from <https://www.gao.gov/assets/gao-21-355r.pdf>
- Short, A. (2019, September 26). Commuter Rail's Potential is Untapped. *Streetsblog*. Retrieved October 12, 2021, from <https://usa.streetsblog.org/2019/09/26/commuter-rails-potential-is-untapped/>
- Sisson, P. (2019, October 8). *Can commuter rail save our suburbs?* Curbed. Retrieved October 4, 2021, from <https://archive.curbed.com/2019/10/8/20897153/train-transit-real-estate-development-suburbs>.



EXECUTIVE SUMMARY
02/22/2022

AGENDA SUBJECT:

Review existing city economic development tools and incentives and consider providing direction to staff.

BACKGROUND:

The staff liaison will provide information to the committee on what economic development tools the city has available to utilize in recruiting and retaining businesses. The committee may consider providing direction to staff on types of incentive programs or tools to investigate for further consideration.
