CapMetro Bikeshare

Expansion Plan

January 2025

CapMetro

CONTENTS

1. Introduction — 1
   - Background — 2

2. Strategic Framework — 4
   - Vision — 5
   - Plan Objectives — 5
   - Guiding Principles — 6

3. Market Study — 8
   - Socio-Demographic Analysis — 10
   - Membership Trends — 12
   - Trip Behavior and Travel Patterns — 14
   - Station Performance — 23
   - Future Growth and Development — 26
   - Propensity Analysis — 32

4. Public Engagement — 40
   - Engagement Process — 41
   - What We Heard — 45

5. System Design Guidelines — 52
   - Market Typologies — 53
   - Expansion Guidelines — 58

6. Expansion Plan — 62
   - Expansion Plan Overview — 64
   - Expansion Zone Description — 65

7. Performance Monitoring ——— 69

System Performance Metrics 70

Station Performance Metrics 71

Attainment Metrics 72

8. Conclusion ——— 75

FIGURES

1. Timeline of Bikeshare in Austin 2
2. Age by Geography 10
3. Minority Population by Geography 11
4. Ratio of Renewed Memberships to Renewed and Lapsed Memberships (January 1, 2020 to November 1, 2023) 12
5. Monthly Trips by Pass Type (July 2020-June 2023) 13
6. Total Monthly Ridership (July 2020-June 2023) 14
7. Internal and External Trip Flows 16
8. Neighborhood Trip Imbalance and Net Increase or Decrease in Trips During the AM Peak Period . . 19
9. Dockless Micromobility Demand 22
10. Bike Returns to Dock per Day 25
11. 2015-2045 Population Change per Acre (CAMPO, by Traffic Analysis Zones) 28
12. 2015-2045 Employment Change per Acre (CAMPO, by Traffic Analysis Zones) 29
13. Light Rail Phase I Map 30
14. High Ridership Propensity 35
15. Public Need Propensity 37
16. Combined Ridership and Public Need Propensity 38
17. How often do you use CapMetro Bikeshare? 47
18. What types of trips do you use CapMetro Bikeshare for? 47
19. What would make you use CapMetro Bikeshare more often? 48
20. Are there additional barriers not related to CapMetro Bikeshare that prevent you from using the service (other than a disability)? 48
21. This is a ten-year growth plan for CapMetro Bikeshare. What category of Community Amenities/ Destinations should we consider for connections as we expand? 51
22. If the expansion would provide you a better connection, what category of Community Amenities/ Destinations would get you to use CapMetro Bikeshare more? 51
23. What general feedback do you have for the CapMetro Bikeshare team? 51
24. Market Typologies 54
25. Expansion Zones 66

TABLES

1. Top 10 Neighborhood Origin-Destination Pairs 17
2. Top 10 Station Pairs 17
3. Top 10 Trip Imbalances by Neighborhood. 18
4. Micromobility Utilization 21
5. Stations with the Longest and Shortest Average Downtime Duration. 23
6. Stations with Highest and Lowest Returns to Dock per Day. 24
7. Propensity Measures 33
8. Market Typology Criteria 57
9. System Performance Metrics 70
10. Station Performance Metrics. 71
11. Attainment Metrics 73

This page intentionally left blank.

1. Introduction

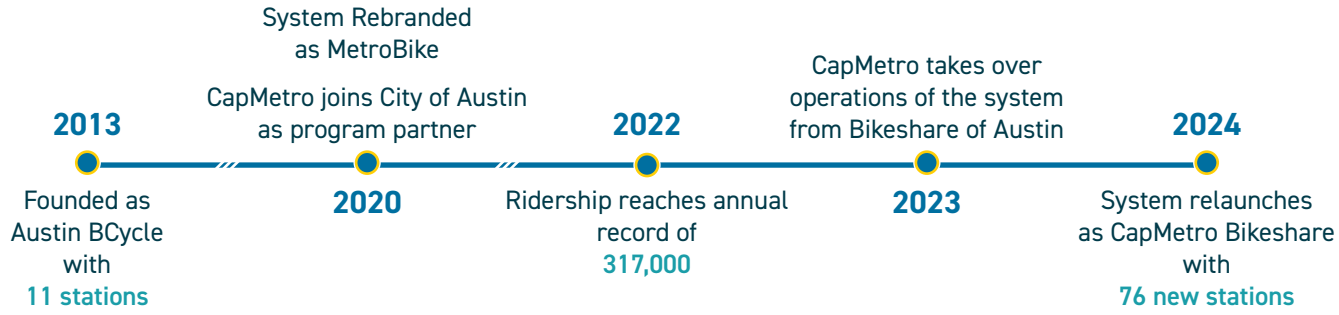
Background

CapMetro Bikeshare, formerly MetroBike and Austin BCycle, is a public bikeshare service in the city of Austin. The service launched as an 11-station system with 100 bikes all located within Downtown Austin and has expanded to over 76 stations and nearly 500 bikes.[1] Since its founding in 2013 until 2023, a non-profit, Bikeshare of Austin managed the day-to-day operations of the bikeshare system.

In 2020, Austin BCycle was rebranded as MetroBike and a new, collaborative management model was established. CapMetro and the City of Austin joined forces with Bikeshare of Austin to manage and maintain the system. Under the agreement, CapMetro managed system planning and provided funding; the City of Austin owned all equipment; and Bikeshare of Austin continued day-to-day management of the system. This collaboration between CapMetro, the City of Austin, and Bikeshare of Austin laid the groundwork for the development of an Interlocal Agreement (ILA) for the fiscal years 2023-2033 that integrated Bikeshare of Austin into CapMetro, expanding CapMetro's role in bikeshare operations in Austin.

The **MetroBike Strategic Expansion Plan Phase I** (SEP I) was completed in 2022 and outlined a growth plan for the bikeshare system to address the mobility, equity, opportunity, and climate needs in the city of Austin. The SEP I focused on short-term growth opportunities for MetroBike. CapMetro decided to initiate this plan, the **CapMetro Bikeshare Expansion Plan** (CBEP), to create a longer-term strategy for the program in light of several major changes impacting the system. In 2023 CapMetro took over operations of bikeshare. That same year, TxDOT awarded the City new Transportation Alternatives Set-Aside funds to fund the largest expansion in the program's history to date. In the summer of 2024, CapMetro undertook a relaunch of the system with new equipment and a change in branding from MetroBike to CapMetro Bikeshare. Finally, CapMetro has placed a renewed focus on public engagement around bikeshare, striving to strengthen local buy-in for the program and create a community-driven vision for the program.

Figure 1: **Timeline of Bikeshare in Austin**



1 Total by October 2024

This page intentionally left blank.

2. Strategic Framework

The strategic framework serves as a guide for the study. Performance measures, operating recommendations, and expansion recommendations will all tie back to the program vision, plan objectives, and guiding principles.

Vision

Vision statements describe an idealized future for the program. A vision statement answers the question: what do we ultimately hope to achieve with CapMetro Bikeshare?

Vision Statements:

1. CapMetro Bikeshare expansion will expand mobility options for Austinites while putting the needs of its most vulnerable and marginalized communities first.
2. CapMetro Bikeshare will help deliver on CapMetro's commitment to sustainability and will assist CapMetro in carrying out the goals of its Climate Action Plan.
3. CapMetro Bikeshare will be ubiquitous in Austin, and bicycling will be a favored way for Austinites to move around the city. Its integration with public transportation will be a model for other transit agencies.

Plan Objectives

Plan objectives describe the desired outcomes of this plan and serve to inform plan development. The plan objectives answer the question: what should this plan accomplish?

1. Engage the public to ensure CapMetro Bikeshare reflects their needs, goals, and desires.
2. Identify how CapMetro Bikeshare can better integrate with CapMetro's expanding transit network.
3. Create a long-term vision for the CapMetro Bikeshare program that is designed to be flexible enough to evolve with changing needs.
4. Outline resource needs for the CapMetro Bikeshare program to allow CapMetro to adequately prepare for program expansion.

Guiding Principles

Guiding principles articulate the goals of the CapMetro Bikeshare system. These are intended to be broad and visionary while forming the basis for future performance measures. The guiding principles answer the questions: what are evergreen principles that will guide program development and what does the system stand for?

A. BIKESHARE, AS PART OF AUSTIN'S PUBLIC TRANSIT NETWORK, CONNECTS PEOPLE TO WHERE THEY WANT TO GO.

Bikeshare fills transportation gaps, expanding mobility for the public and connecting riders to and from other CapMetro services.

B. BIKESHARE IS A TOOL TO REDUCE INEQUALITIES IN TRANSPORTATION.

Bikeshare helps more people move without a car, notably striving to help vulnerable and marginalized communities.

C. BIKESHARE PROVIDES AN ACCESSIBLE AND AFFORDABLE TRANSPORTATION OPTION.

The system's design, footprint, and user experience reflect the needs of all Austinites. CapMetro Bikeshare's many pass types ensure all users can access the system at a fair price.

D. BIKESHARE SUPPORTS COMMUNITY WELLBEING.

Bikeshare makes Austin a healthier and more resilient community in a few ways. The program promotes physical activity and the use of public recreation resources. It also supports wellbeing by providing residents access to jobs and opportunities.

E. BIKESHARE IS A GOOD STEWARD OF PUBLIC FUNDS.

CapMetro Bikeshare is a financially sustainable operation. CapMetro Bikeshare expansion learns from experience and makes sensible system development and expansion decisions. As the system grows and matures, revenue generation is balanced with providing greater geographic coverage.

This page intentionally left blank.

3. Market Study

The market study seeks to identify how CapMetro Bikeshare is used today and ways it could better serve the community in the future. The study team examined CapMetro Bikeshare's performance across several factors, including:

- **Socio-demographics of the CapMetro Bikeshare service area**
- **Membership Trends**
- **Trip Behavior and Travel Patterns**
- **Station Performance**
- **Future Growth and Development**
- **Geographic Demand for CapMetro Bikeshare**

These findings give us a data-driven understanding of Austin's bikeshare market.

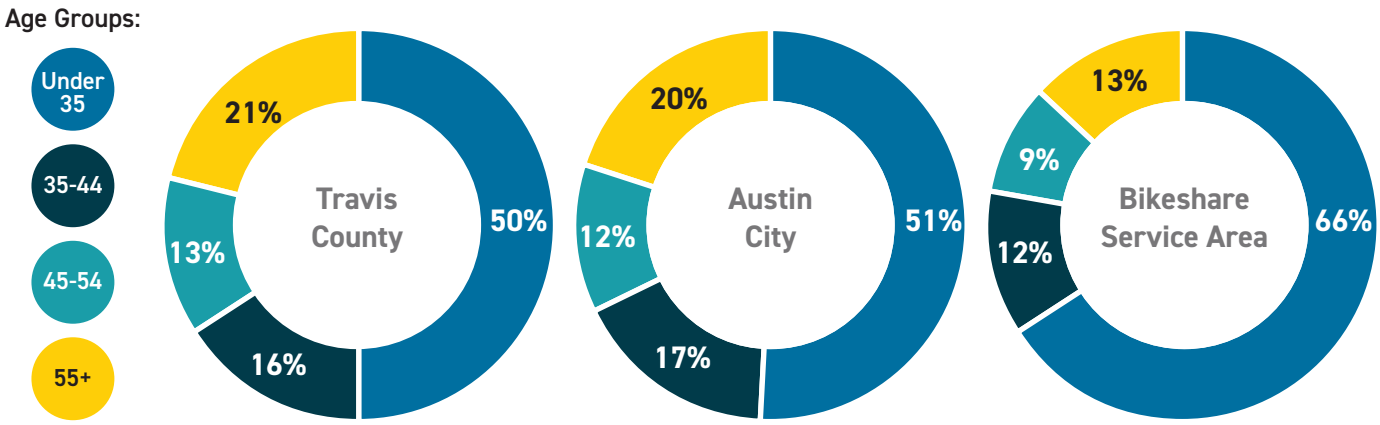
Socio-Demographic Analysis

To understand how representative the population served by CapMetro Bikeshare is to the wider region, the study team looked at a range of socio-demographic factors summarized to Census Block Groups with bikeshare stations. They then compared the results to the City of Austin and Travis County. All data relies on the American Community Survey (ACS) 2021 5-Year Estimates.[1]

Age

CapMetro Bikeshare stations are highly concentrated in the downtown Austin area and around the University of Texas' main campus, providing important connectivity to employment and educational opportunities, tourist destinations, social services, and existing transit services. As seen in Figure 2, **the residential makeup of the CapMetro Bikeshare service area is relatively young in comparison to the City of Austin and Travis County as a whole:** 66 percent of residents living in a Census Block Group with a CapMetro Bikeshare station are under 35 years old, 16 and 15 percentage points higher than Travis County and the City of Austin, respectively.

Figure 2: **Age by Geography**



Income

When comparing income across the three selected geographies, there are a few evident differences. Income disparities are greater amongst people living in the CapMetro Bikeshare service area: **households earning under $35,000 annually and those earning above $200,000 annually are more prevalent in the CapMetro Bikeshare service area than in the City of Austin or Travis County.** Households making under $35,000 make up almost a quarter of the population in the CapMetro Bikeshare service area, four percentage points higher than the City of Austin and five percentage points higher than Travis County. Meanwhile, households with incomes between $35,000 and $99,000 are not as common in the CapMetro Bikeshare service area as they are throughout the region.

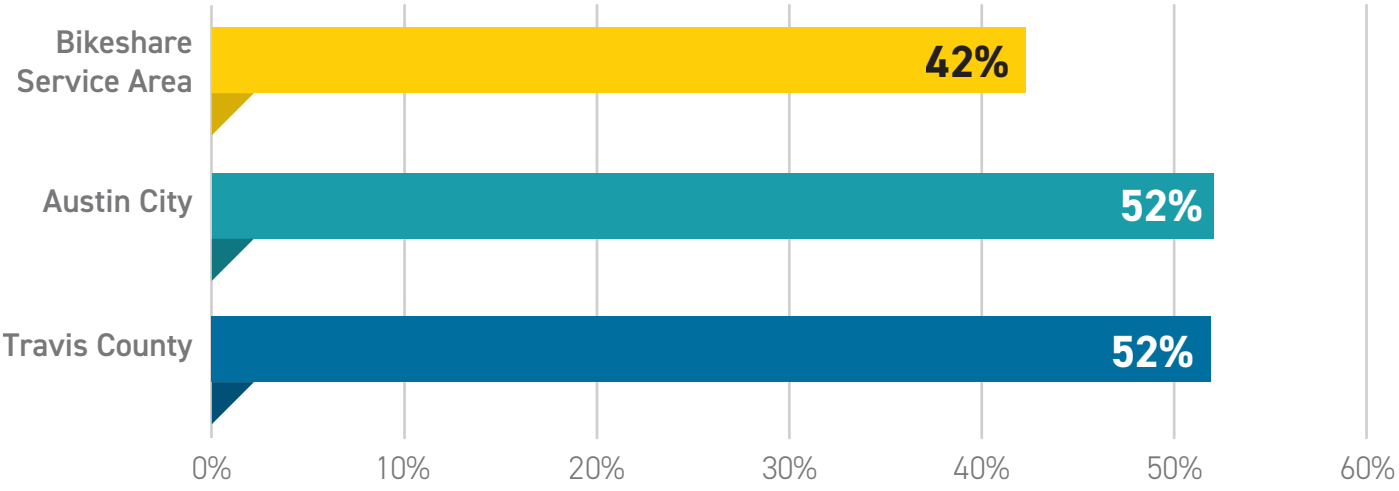
1 It's important to note that ACS data provides a broad picture of commuting patterns. Hybrid work arrangements post-COVID may complicate the classification of commuters (e.g., determining whether someone is a bike commuter if they only commute to the office once a week).

Race and Ethnicity

The population living within the CapMetro Bikeshare service area is also less racially and ethnically diverse than the City of Austin and Travis County. The percentage of minority residents (all non-white residents including those who identify as Hispanic or Latinx) in the CapMetro Bikeshare service area was only 42 percent, whereas 52 percent of the City of Austin and Travis County identified as a minority race or ethnicity (Figure 3).[1]

When breaking the demographics by race only, **downtown Austin has a significantly higher White population than the rest of the region:** the population living within the CapMetro Bikeshare service area is 71 percent White.[2] In contrast, Travis County is 66 percent White, and the City of Austin is 56 percent White. The region's Black and Asian populations across all three geographies remains similar, between seven to nine percent.

Figure 3: **Minority Population by Geography**



→ Key Finding

The CapMetro Bikeshare service area is not representative of the overall population in Travis County or City of Austin. Census Block Groups with CapMetro Bikeshare stations skew younger and are less diverse than the City and County as a whole. The bikeshare service area has a significantly smaller share of middle-income earners compared to the City and County.

1 Minority Population encapsulates all populations that identify as Hispanic/Latinx or any race that is not white.
2 This figure includes any individual who identifies as white per the American Community Survey, regardless of ethnicity.

Membership Trends

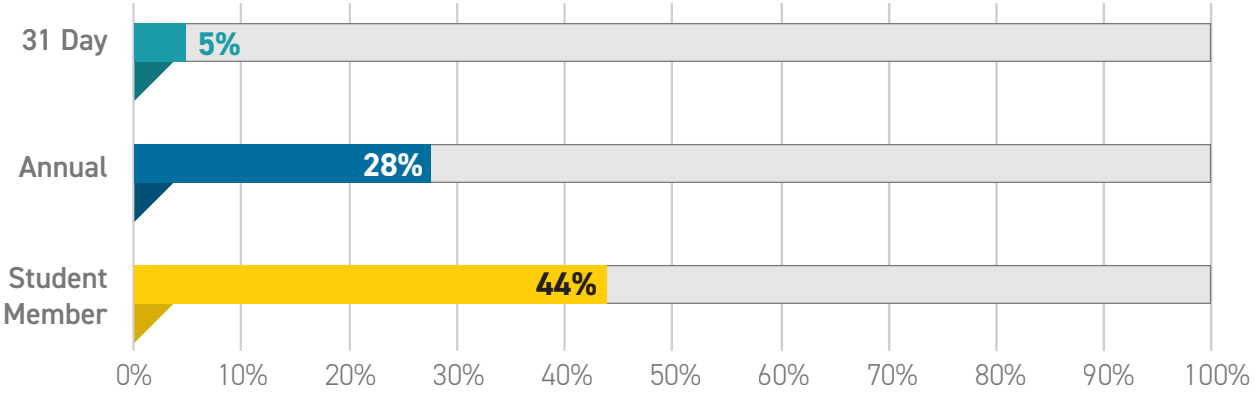
CapMetro Bikeshare has five pass types. Some pass names have been updated, the old names are noted in parentheses.[1]

- **31 Day (Local31):** a monthly membership that includes unlimited 60-minute trips.
- **Annual (Local365):** an annual membership that includes unlimited 60-minute trips.
- **Student Membership:** an annual membership that includes unlimited 60-minute trips.[2]
- **1 Day (Explorer):** a one-day membership with unlimited 60-minute trips during a 24-hour period.
- **Pay-as-you-ride:** a single-trip membership that charges an unlock fee and per minute fee.

These pass types can be further aggregated into two broad categories, casual and registered users. Pay-as-you-ride and Explorer pass types are considered casual users. Riders using these membership types tend to be infrequent users, including tourists and visitors. Those using Local31, Local365, and Student Memberships are categorized as registered users and represent frequent riders who tend to use bikeshare for basic mobility needs.

The study team calculated a renewal ratio, defined as the number of renewed memberships between January 1, 2020 and November 1, 2023 compared to the sum of renewed and lapsed memberships during that period. The analysis shows that renewal rates are lowest among monthly registered users and highest among student annual registered users. **No pass type yields a renewal ratio greater than 50 percent, meaning for every CapMetro Bikeshare pass type, more accounts lapsed during the reporting period than were renewed** (Figure 4). The study team was unable to benchmark this rate to other bikeshare systems due to inconsistencies with how systems collect and report renewal data.

Figure 4: **Ratio of Renewed Memberships to Renewed and Lapsed Memberships (January 1, 2020 to November 1, 2023)**

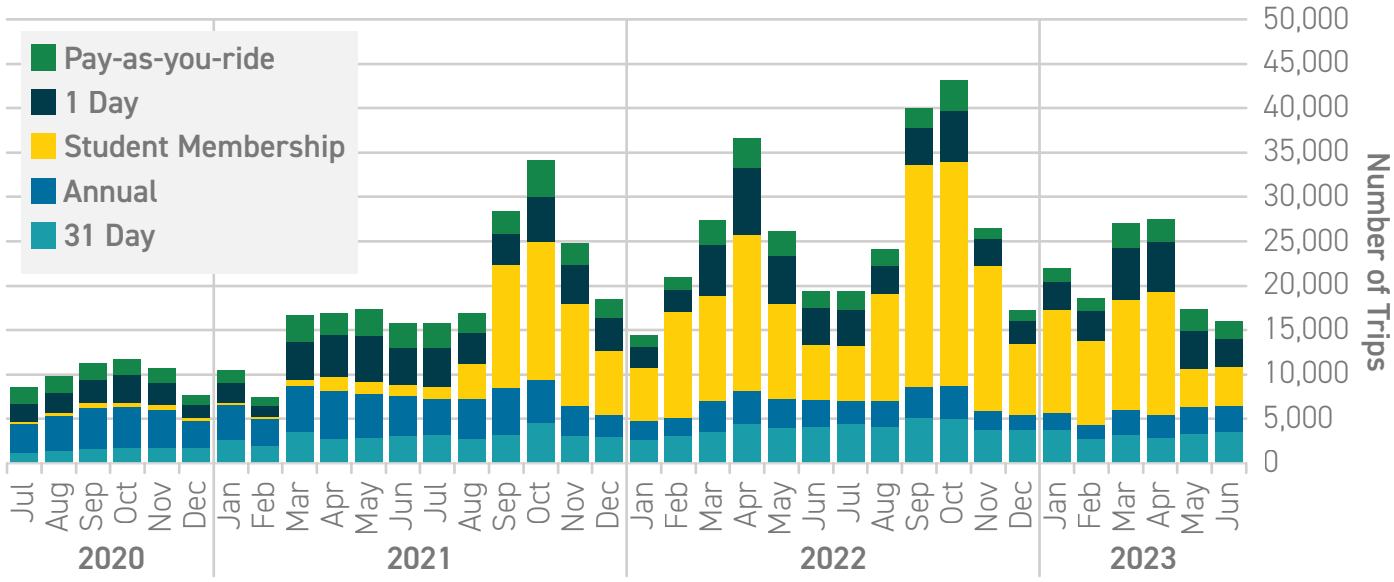


1 CapMetro, "Bikeshare," http://capmetro.org/bikeshare.
2 The student membership functions as a Local365 membership, but it is offered at a steeply discounted rate.

Ridership by Pass Type

Figure 5 shows total monthly trips by pass type from July 2020 through June 2023. Following the ridership trends shown in Figure 6, ridership varies by season and year. Trips were significantly lower between July 2020 and July 2021, when the COVID-19 Pandemic reduced travel, especially for student trips. During the analysis period, **registered user trips represented an average of 68 percent of all trips, with student memberships making up the highest proportion of those trips in 2022 and 2023.** Trip volumes for all users decline during the hottest months (June and July) as well as the coldest (December, January, and February). These variations may also be attributed to when students are on campus versus when they are away on break as well as when major citywide events, such a South by Southwest (SXSW) and Austin City Limits occur.

Figure 5: **Monthly Trips by Pass Type (July 2020-June 2023)**



→ Key Finding

CapMetro Bikeshare could increase ridership by focusing resources on better retaining its existing registered users. Two possible areas of focus are increasing retention of Annual registered users and converting Student Members to Annual memberships after graduation.

Since Fall 2021, CapMetro Bikeshare has disproportionately relied on students to generate ridership, with student passes accounting for over 60 percent of trips during peak months. To diversify and expand the user base, the system could target increased usage of Annual pass holders and casual users. The small share of trips by casual user trips is notable as pay-as-you-go is the dominant fee model for the vast majority of micromobility trips (e.g. bikeshare, shared scooters) in Austin. The small share of casual user trips to overall trips suggest that CapMetro Bikeshare serves a different user base than competing private dockless micromobility services.

Trip Behavior and Travel Patterns

The following presents an analysis of the existing CapMetro Bikeshare trip data, from July 2020 through June 2023. This analysis examines travel patterns, including the types of destinations that generate significant demand, times of day when demand is greatest, ridership performance statistics, and the net flow of vehicles throughout the day. This data is important for developing station typologies and understanding trip making patterns that may impact the performance of expansion stations.

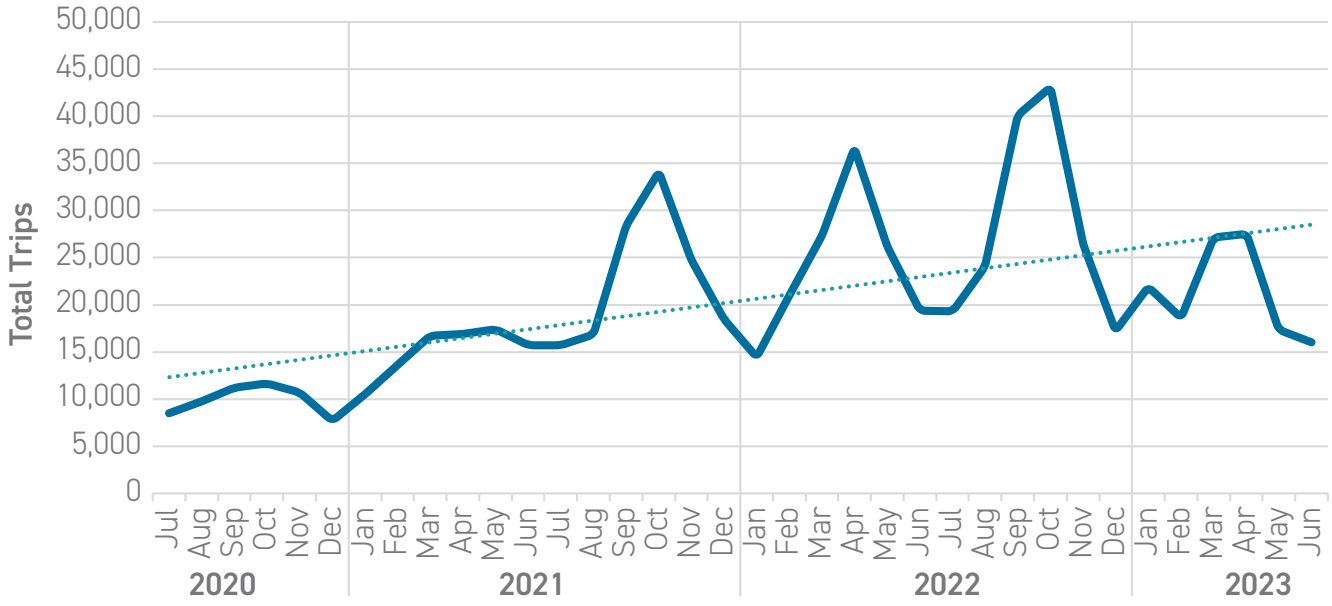
Ridership Trends

RIDERSHIP BY MONTH

Figure 6 shows monthly ridership from July 2020 through June 2023. Ridership varies by season, with more trips in the spring and fall and fewer trips in the hottest and coldest months of the year. Peaks in ridership roughly align with when students are on campus as well as with major citywide events, such as SXSW and Austin City Limits.

Between July 2020 and June 2023, the highest ridership month was October 2022 with over 43,000 trips, while the lowest ridership month was December 2020 with approximately 7,400 trips. **Overall, the linear trend shows growth in ridership since July 2020.** This increasing trend in ridership is, in part, attributable to the COVID-19 Pandemic when travel was restricted; monthly trips between July 2020 and July 2021 were lower compared to trips from August 2021 through June 2023. Low ridership in April 2023 corresponds with a system failure during SXSW, which negatively impacted ridership. Ongoing issues with theft and vandalism of vehicles also impacted ridership in 2023.

Figure 6: **Total Monthly Ridership (July 2020-June 2023)**



TRIPS PER BICYCLE (TPB)

A common measurement of bikeshare system utilization is the number of average daily trips per bicycle (TpB), which controls for ridership gains due to system expansion. From July 2020 through June 2023, CapMetro Bikeshare saw an average daily TpB of 1.36. Unlike other bikeshare systems, CapMetro Bikeshare's ridership patterns have two peak and two off-peak seasons that roughly align with when university classes are in session.

CapMetro Bikeshare's TpB is lower than that of systems in dense metropolitan areas, such as Washington, DC or Philadelphia. However, **CapMetro Bikeshare performs well in TpB compared to other similarly sized systems,** such as Pittsburgh, which averaged a TpB of approximately 0.66 in 2022, and Cincinnati, which averaged a TpB of approximately 0.62 in 2022.

Travel Patterns

TRIP ORIGINS AND DESTINATIONS

Figure 7 shows the origin and destination flows of CapMetro Bikeshare trips between July 2020 and June 2023, aggregated to the neighborhood level. Thicker, darker lines represent a higher volume of trips between two neighborhoods. Likewise, circles represent the number of trips that start or end within the same neighborhood. **Neighborhoods with the highest volume of internal trips include Downtown Austin, West Campus, and the University of Texas (UT). Between neighborhoods, the greatest number of trips flow between West University and UT, followed by trips from West University and UT to Downtown.**

Figure 7: **Internal and External Trip Flows**

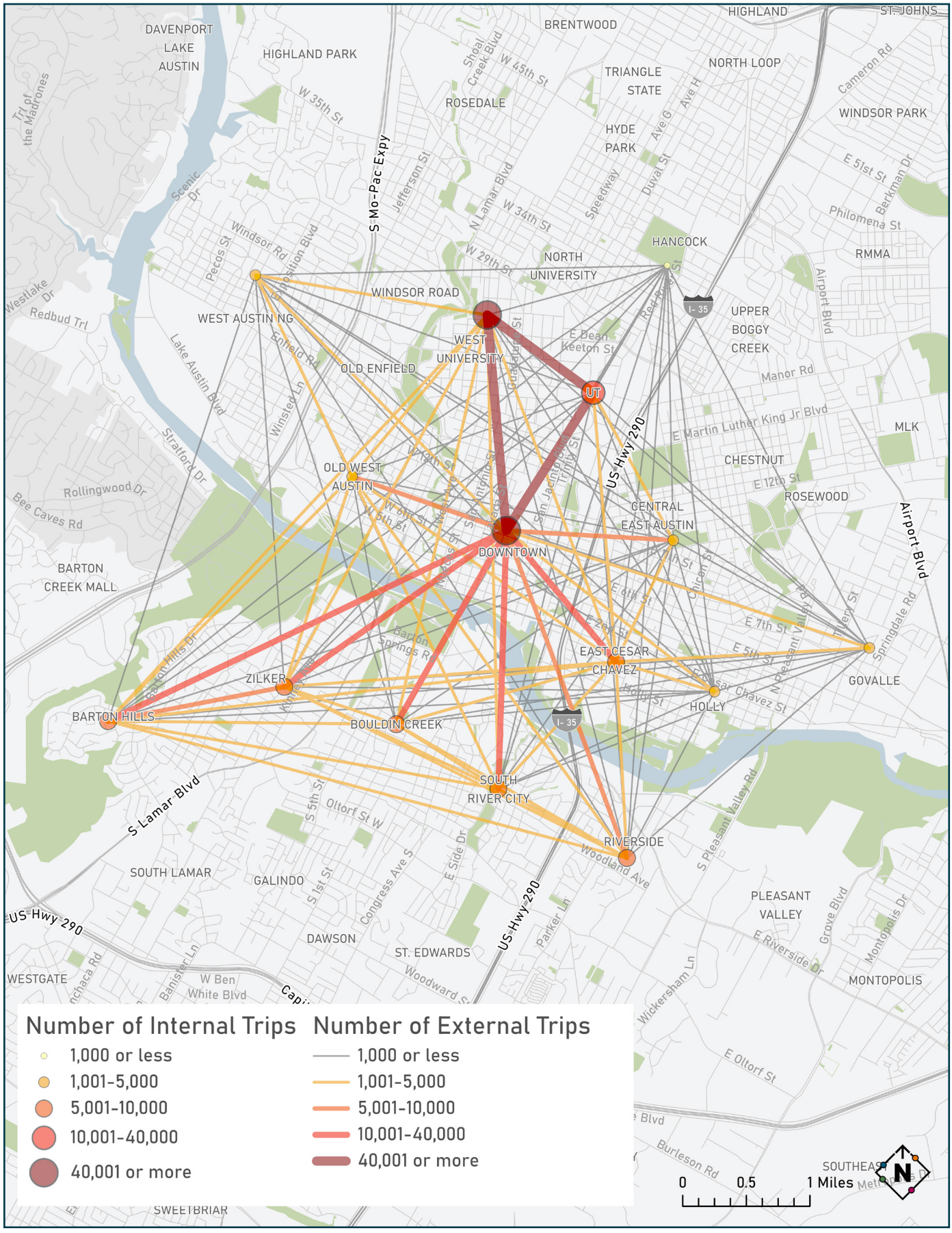


Table 1 presents the top ten neighborhood pairs for trips between July 2020 and June 2023. **Of the top 10 neighborhood pairs, all but one (West University and UT), are between Downtown Austin and another neighborhood.** Table 2 shows the top ten station pairs. Of the top 10 station pairs, all are located within the West University or UT neighborhoods. The remaining station is located Downtown, but near University of Texas facilities. Both the analysis of neighborhood and station pairs highlight the high level of ridership seen among University of Austin students, reinforcing findings from the analysis of ridership by pass type presented in Figure 5.

Table 1: **Top 10 Neighborhood Origin-Destination Pairs**

RANK	TO/FROM NEIGHBORHOODS	TOTAL TRIPS
1	West University – UT	102,450
2	West University – Downtown	65,563
3	UT – Downtown	43,932
4	East Cesar Chavez – Downtown	25,303
5	South River City – Downtown	23,054
6	Bouldin Creek – Downtown	18,107
7	Zilker – Downtown	16,498
8	Barton Hills – Downtown	11,078
9	Riverside – Downtown	9,891
10	Old West Austin – Downtown	9,419

Table 2: **Top 10 Station Pairs**

RANK	TO/FROM STATIONS	TOTAL TRIPS
1	Dean Keeton/Speedway & 21st/Speedway @ PCL	20,613
2	Dean Keeton/Whitis & 21st/ Speedway @ PCL	20,525
3	21st/Speedway @ PCL & 26th/Nueces	13,679
4	21st/Guadalupe & 21st/ Speedway @ PCL	10,975
5	21st/Speedway @ PCL & 22nd/Pearl	10,931
6	21st/Speedway @ PCL & 28th/Rio Grande	10,611
7	Guadalupe/West Mall @ University Co-Op & 21st/Speedway @ PCL	8,925
8	Dean Keeton/Speedway & 26th/Nueces	7,910
9	21st/Speedway @ PCL & 23rd/Pearl	7,887
10	21st/Speedway @ PCL & 22.5/Rio Grande	6,126

NEIGHBORHOOD TRIP IMBALANCE AND CORE NEIGHBORHOODS

NEIGHBORHOOD TRIP IMBALANCE

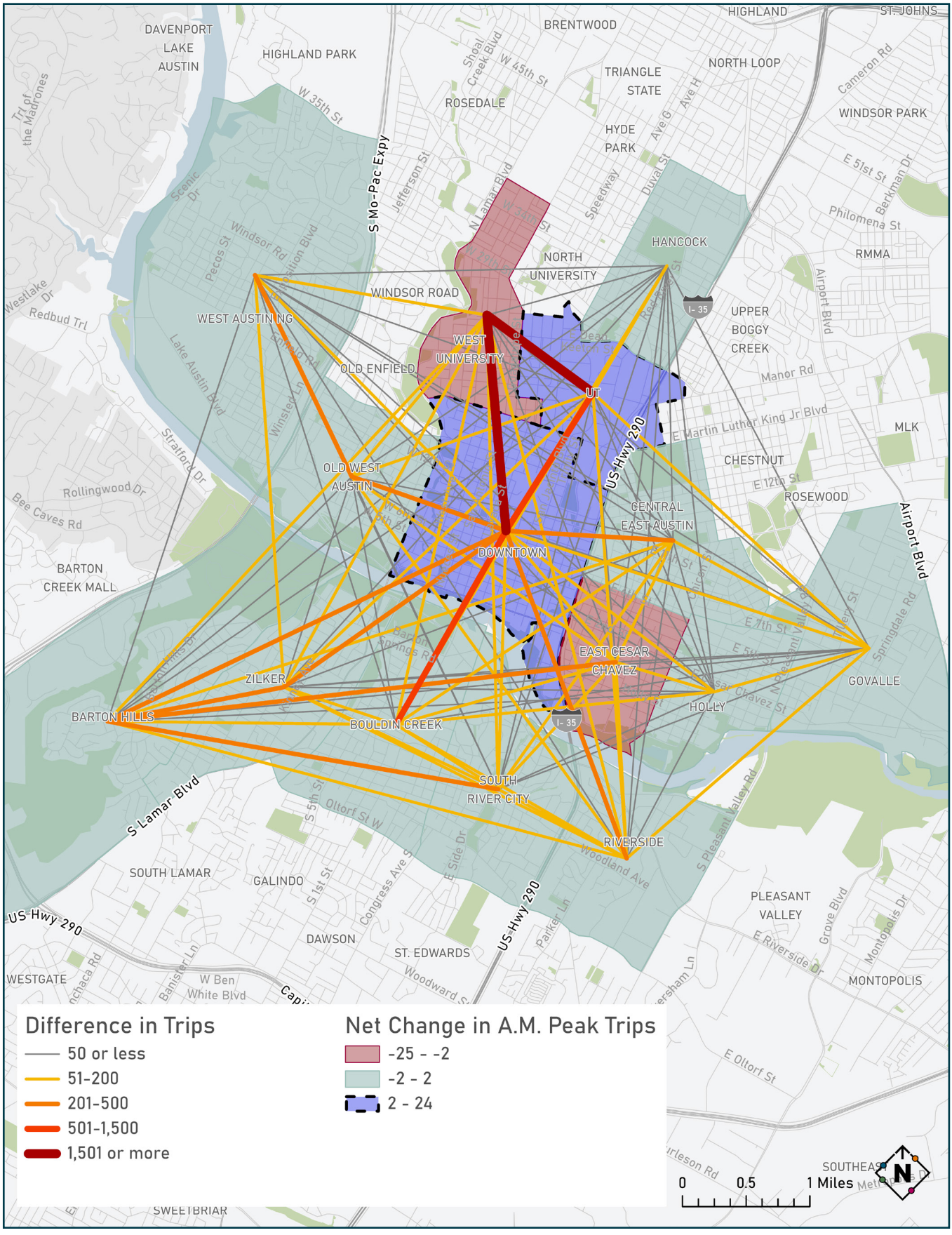
Figure 8 shows the net imbalance of trips between neighborhoods between July 2020 and June 2023. Lines represent the net difference in trips in one direction and another direction in any two neighborhoods for the data's entire time span. A large trip imbalance signifies that riders are more likely to take a trip in one direction than the other and is indicative of locations where rebalancing may be a challenge due to the unidirectional nature of demand.

Table 3 shows the neighborhood pairs with the highest trip imbalances between July 2020 and June 2023. The greatest trip imbalance occurs between West University and UT, where over 3,300 more trips between the two neighborhoods started in West University. A higher number of trips also started around the University of Texas (in West University and UT) and traveled to Downtown Austin than trips that began in Downtown and ended in West University or UT. **Much of the trip imbalance can be attributed to travel from areas with high concentrations of students (e.g. West University) to nearby destinations like the UT campus and Downtown or between Downtown and nearby key attractions.**

Table 3: **Top 10 Trip Imbalances by Neighborhood**

RANK	ORIGIN NEIGHBORHOOD		DESTINATION NEIGHBORHOOD	DIFFERENCE IN TRIPS
1	West University	→	UT	3,352
2	West University	→	Downtown	1,611
3	UT	→	Downtown	784
4	Downtown	→	Bouldin Creek	541
5	Barton Hills	→	Zilker	479
6	Zilker	→	Downtown	292
7	Old West Austin	→	Downtown	273
8	Downtown	→	Riverside	251
9	Downtown	→	Barton Hills	244
10	East Cesar Chavez	→	Barton Hills	238

Figure 8: **Neighborhood Trip Imbalance and Net Increase or Decrease in Trips During the AM Peak Period**



CapMetro Bikeshare

CORE NEIGHBORHOODS

Figure 8 also shows the net trips leaving and arriving during the AM Peak period (between 6:00 a.m. and 10:00 a.m.) by neighborhoods within the CapMetro Bikeshare service area. On the map, the red indicates the neighborhoods with the highest net departures in trips during the AM Peak period, green indicates neighborhoods with balanced departures and arrivals, and the blue indicates neighborhoods with the highest net arrivals in trips. Core neighborhoods, those which experience a net arrival in trips equivalent to or greater than one percent of all trips, are outlined with a dashed blue border. This analysis serves to determine how future CapMetro Bikeshare expansion will impact bikeshare capacity in the core.

Overall, the analysis shows the neighborhoods with **the greatest net gain of trips during the AM Peak period are Downtown and UT.** On a typical weekday morning, Downtown saw an average AM Peak net gain of 23 trips. Similarly, UT saw a net gain of 13 trips. **Twenty-seven percent of all AM Peak period trips originating outside of UT or Downtown end in one of those two neighborhoods.**

Above: Core neighborhoods like Downtown and UT have the greatest net gain of trips in the morning peak.

ASSESSMENT OF DOCKLESS MICROMOBILITY USAGE

Several micromobility operators provide dockless scooters and e-bikes in the Austin region. **The distribution of dockless trips — which are not constrained by station locations like CapMetro Bikeshare — helps to indicate where there may be latent demand for bikeshare stations.** Austinites take an average of 130,000 dockless e-bike trips and nearly 3 million dockless scooter trips annually (Table 4).[1] Typical trip distances are similar between the two modes, around one mile.

Dockless micromobility demand can be understood as the number of trips typically generated from an area, as shown in Figure 9. Overall, **dockless micromobility demand is highest within the CapMetro Bikeshare service area.** These trips are concentrated in Downtown Austin, UT, West University, East Cesar Chavez, Bouldin Creek, and Zilker. Micromobility demand extends outside of these neighborhoods along major corridors, but the demand dissipates outside of central Austin.

Table 4: **Micromobility Utilization**

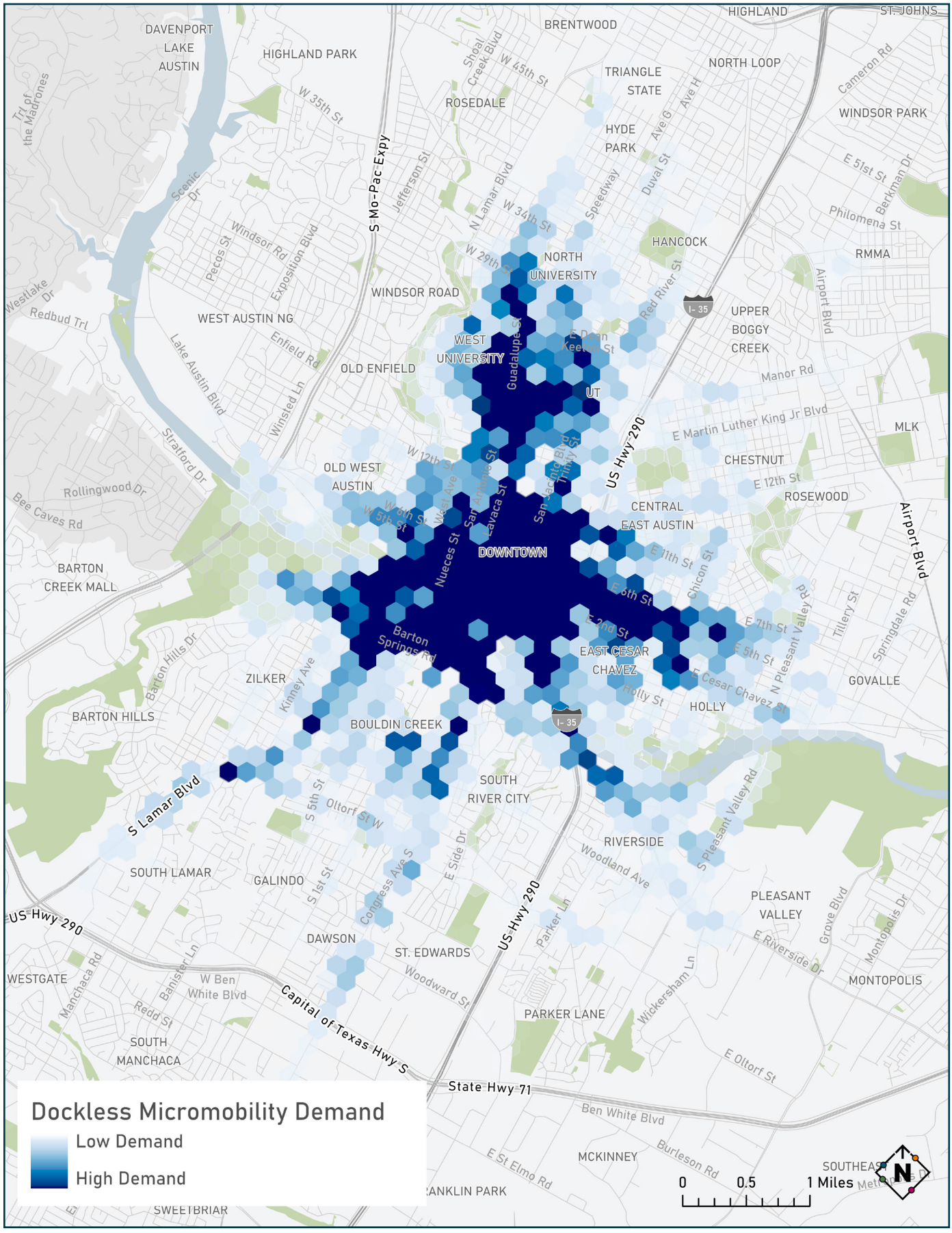
MODE	TOTAL TRIPS TO DATE (Q1 2019 to Q3 2023)	AVERAGE ANNUAL TRIPS	MEDIAN TRIP DISTANCE
E-Bike	552,800	130,071	1.2 miles
Scooter	15,081,400	3,175,032	0.8 miles
Overall	15,634,200	3,305,102	0.8 miles

→ Key Finding:

CapMetro Bikeshare today disproportionately serves travel needs in and around the UT campus. A potential challenge for the system as it expands is broadening its appeal in areas where student travel demand is low. The system comprises a small share of micromobility trips in Austin but trip generation among private dockless services roughly mirrors CapMetro Bikeshare ridership. Finally, the system shows a small net flow of trips into Downtown and UT each day, which indicates future expansion outside of Downtown/UT will lead to greater travel demand to those areas.

1 According to: public.ridereport.com/austin. Data is provided quarterly; this report divided the total available ridership by the number of available quarters (17 for e-bikes, 19 for scooters) and multiplied by four to obtain the average annual ridership estimate.

Figure 9: **Dockless Micromobility Demand**



CapMetro Bikeshare

Station Performance

Station Downtime

Station downtime refers to the amount of time a station is completely full or empty. This is a crucial measure of service reliability as stations experiencing downtime are failing to adequately meet demand. If a station is completely full or completely empty, a user may not be able to return a bike to a dock to end a trip or check-out a bike from a dock to start a trip, resulting in a lost trip. CapMetro Bikeshare systems address downtime by rebalancing bicycles between stations.

Table 6 shows the stations with the most and least downtime by event duration in 2022. **CapMetro Bikeshare experienced close to 29,000 downtime incidents in 2022, with an average event time of 56 minutes.** On average, stations are down approximately 17 percent of the day, with significant variation between stations. The CapMetro Bikeshare stations with the lowest average incident duration have a daily downtime percentage of five percent or less, whereas the stations with the highest average incident duration have a daily downtime percentage of over 30 percent.

In general, stations with the highest number of downtime incidents (i.e., when a station is completely full or completely empty) had a relatively low average incident duration. These stations are some of the highest ridership stations in the CapMetro Bikeshare system, such as 21st/Speedway @ PCL and Dean Keaton/Speedway. Rather, stations with the longest downtime incidents also tend to rarely see downtime events. These locations likely experience an irregular surge of demand, such as during a special event.

Table 5: **Stations with the Longest and Shortest Average Downtime Duration**

STATIONS WITH MOST DOWNTIME			STATIONS WITH LEAST DOWNTIME		
STATION NAME	NUMBER OF INCIDENTS	AVERAGE INCIDENT DURATION (HOURS)	STATION NAME	NUMBER OF INCIDENTS	AVERAGE INCIDENT DURATION (HOURS)
Zilker Park	38	8.0	21st/Speedway @ PCL	2,661	0.2
Barton Springs/Riverside	27	6.7	Dean Keeton/Speedway	2,068	0.4
8th/San Jacinto	26	5.0	Dean Keeton/Whitis	2,545	0.4
East 6th/Robert Martiniez	12	4.5	26th/Nueces	2,983	0.4
South Congress @ Bouldin Creek	83	4.5	28th/Rio Grande	1,072	0.5
Rosewood/Angelina	7	4.1	23rd/Pearl	1,434	0.6
East 11th/Victory Grill	28	3.9	22nd/Pearl	1,623	0.7
East 2nd/Pedernales	74	3.8	21st/Guadalupe	2,108	0.7
6th/Lavaca	42	3.8	Guadalupe/West Mall @ University Co-Op	1,923	0.8
8th/Congress	90	3.7	3rd/West	263	0.8

Station Turnover

The study team looked at station bicycle turnover to better understand where dock utilization is highest in the system. This information is useful for a few reasons: it can inform where CapMetro installs stations with charging capabilities and, when combined with data on downtime, station turnover can help identify the top candidates for future station expansion.

Table 7 shows the stations with the highest and lowest bike returns per dock per day, and Figure 10 shows dock utilization (bikes per dock per day) for all CapMetro Bikeshare stations in 2022. The stations with the highest returns per dock range from a low of two returns per dock per day up to over four returns per dock per day. **These stations correlate with those stations that have the highest productivity and are located primarily in UT and West University.**

The CapMetro Bikeshare stations with the lowest bike returns per dock per day have a rate of 0.09 to 0.27 returns per dock per day. These stations are located mostly on the edges of the CapMetro Bikeshare service area, which could help explain the lower dock utilization rates. Reducing the capacity at these stations could improve their performance in this measure. While bike turnover is relatively low at these stations, station electrification may not be appropriate, given the lower station utilization per bike.

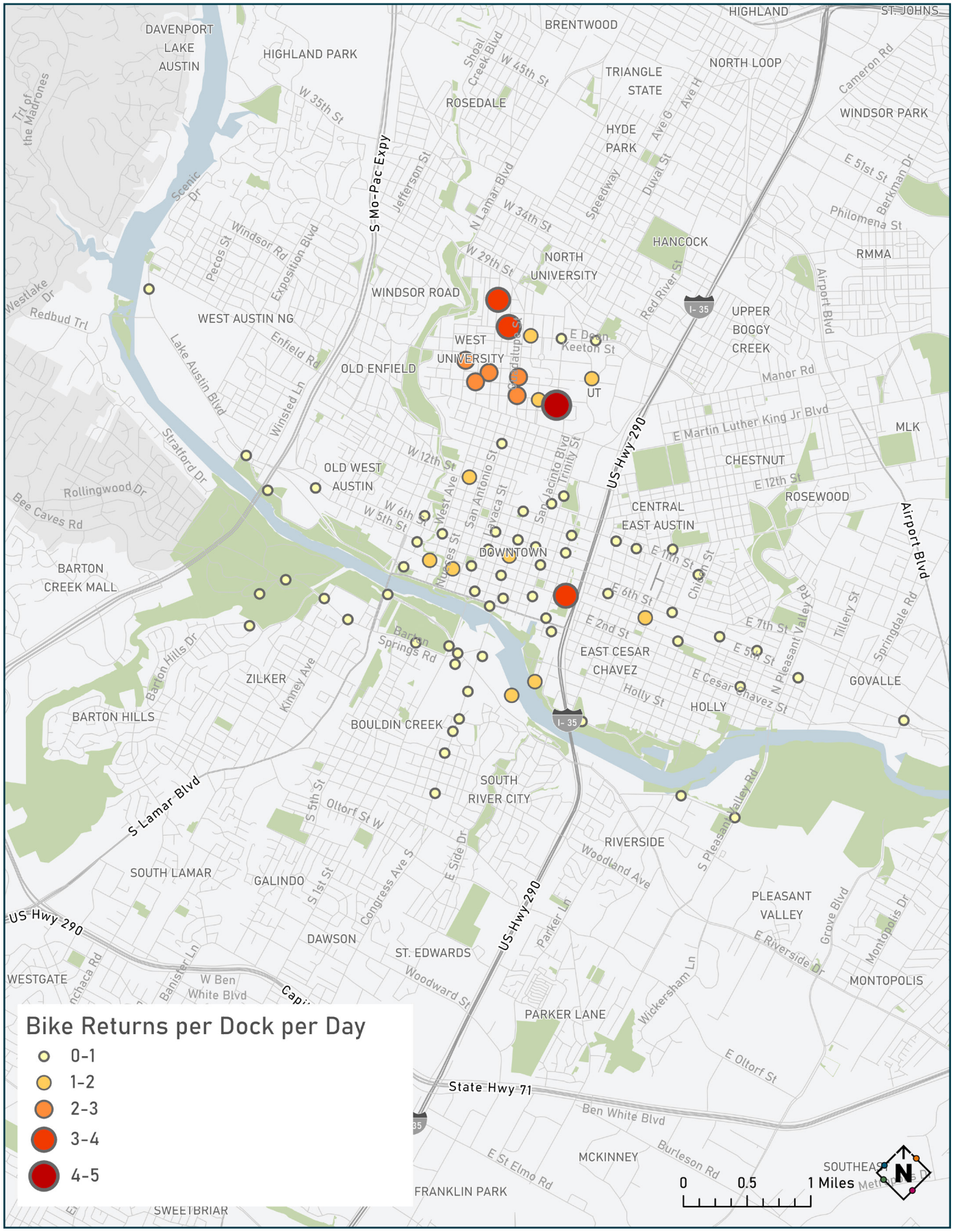
Table 6: **Stations with Highest and Lowest Returns to Dock per Day**

STATIONS WITH HIGHEST RETURNS PER DOCK			STATIONS WITH LOWEST RETURNS PER DOCK		
STATION NAME	NEIGHBORHOOD	BIKE RETURNS PER DOCK	STATION NAME	NEIGHBORHOOD	BIKE RETURNS PER DOCK
21st/Speedway @ PCL	UT	4.5	Dean Keeton/Park Place	Hancock	0.09
28th/Rio Grande	West University	3.6	One Texas Center	Bouldin Creek	0.19
26th/Nueces	West University	3.2	East 6th/Robert T. Martinez	Holly	0.19
Dean Keeton/Speedway	Downtown	3.2	11th/Salina	Central East Austin	0.20
21st/Guadalupe	West University	2.6	10th/Red River	Downtown	0.21
22.5/Rio Grande	West University	2.4	8th/San Jacinto	Downtown	0.21
22nd/Pearl	West University	2.3	East 11th/Victory Grill	Central East Austin	0.24
Guadalupe/West Mall @ University Co-op	West University	2.2	13th/Trinity @ Waterloo Greenway	Downtown	0.25
23rd/Pearl	West University	2.2	East 5th/Broadway @ CapMetro HQ	Govalle	0.27
Dean Keeton/Whitis	UT	2.0	4th/Sabine	Downtown	0.27

→ Key Finding:

Stations in and around UT and Downtown have the highest station productivity and bicycle turnover. Most of the lowest performing stations are on the edge of the existing service area. The highest ridership stations also tend to have the highest rates of station downtime but the average length of downtime events at these stations is very short.

Figure 10: **Bike Returns to Dock per Day**



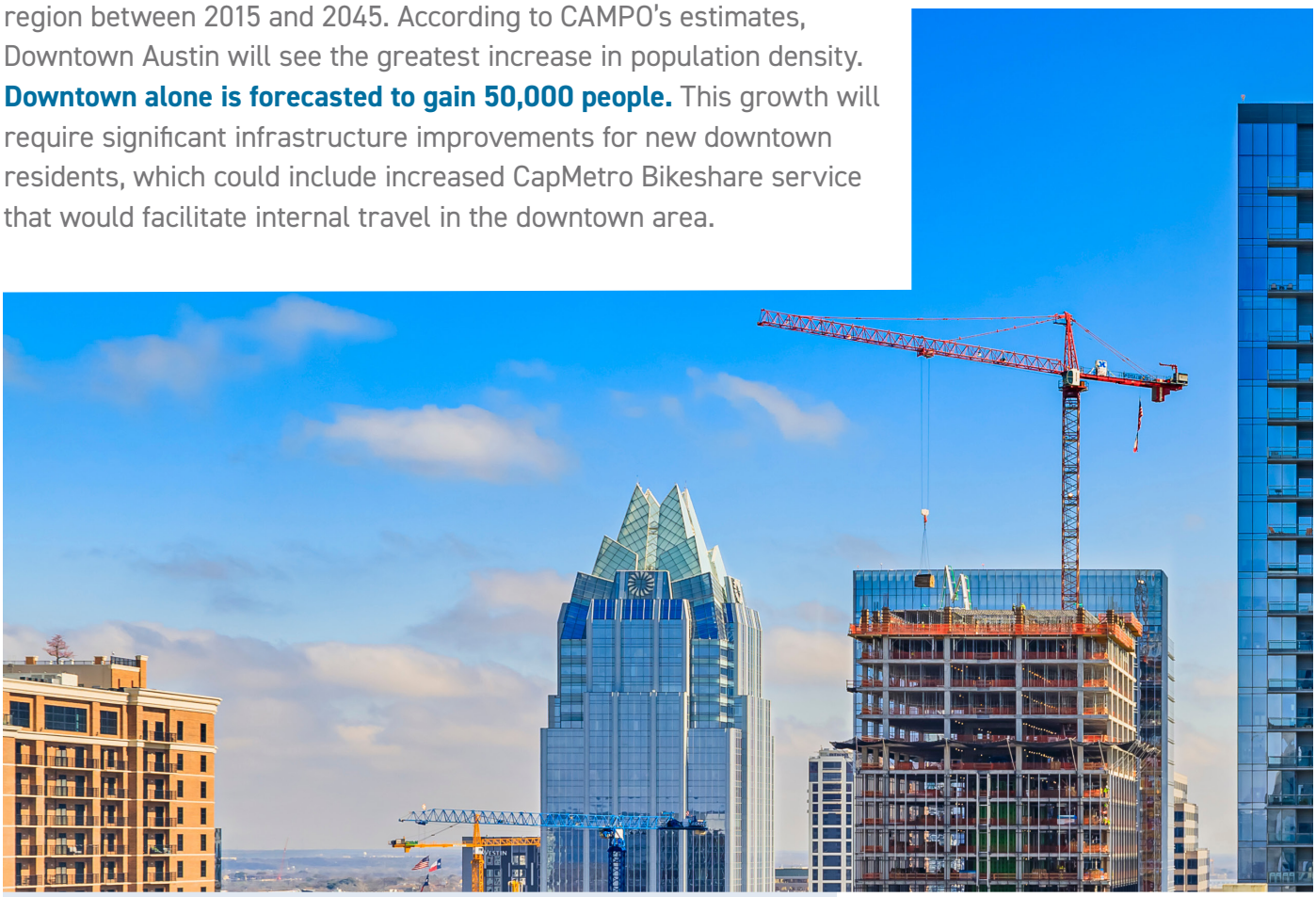
CapMetro Bikeshare

Future Growth and Development

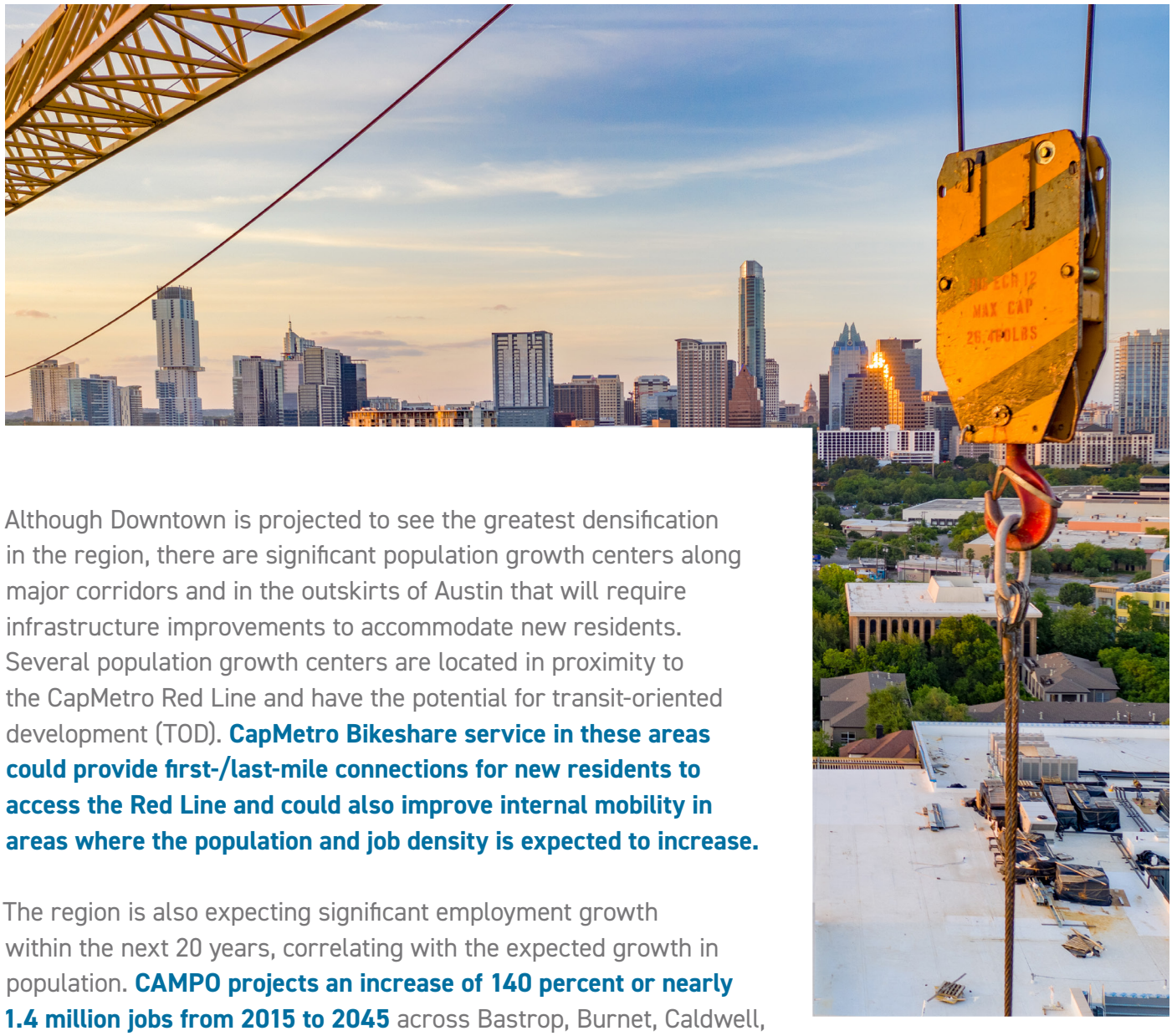
Population and Employment Projection

Austin is one of the fastest growing cities in the country, with that growth resulting in rapid changes to land use and travel demand across the region. The Capital Area Metropolitan Planning Organization's (CAMPO) Baseline 2045 Demographic Forecast estimated that **the region's population will grow by almost 150 percent from 2015 by the year 2045**, with an expected increase of over 2.8 million people across Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson Counties.

Figure 11 shows expected population changes throughout the Austin region between 2015 and 2045. According to CAMPO's estimates, Downtown Austin will see the greatest increase in population density. **Downtown alone is forecasted to gain 50,000 people.** This growth will require significant infrastructure improvements for new downtown residents, which could include increased CapMetro Bikeshare service that would facilitate internal travel in the downtown area.



Above: Austin's rapid growth results in changes to land use and travel demands



Although Downtown is projected to see the greatest densification in the region, there are significant population growth centers along major corridors and in the outskirts of Austin that will require infrastructure improvements to accommodate new residents. Several population growth centers are located in proximity to the CapMetro Red Line and have the potential for transit-oriented development (TOD). **CapMetro Bikeshare service in these areas could provide first-/last-mile connections for new residents to access the Red Line and could also improve internal mobility in areas where the population and job density is expected to increase.**

The region is also expecting significant employment growth within the next 20 years, correlating with the expected growth in population. **CAMPO projects an increase of 140 percent or nearly 1.4 million jobs from 2015 to 2045** across Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson Counties. As seen in Figure 12, the greatest increases in employment density are projected to occur in Downtown Austin. Significant growth is also expected in the areas surrounding Round Rock and Robinson Ranch.

Above: Bikeshare service could provide additional mobility in areas where population and job density is expected to increase.

Figure 11: **2015-2045 Population Change per Acre (CAMPO, by Traffic Analysis Zones)**

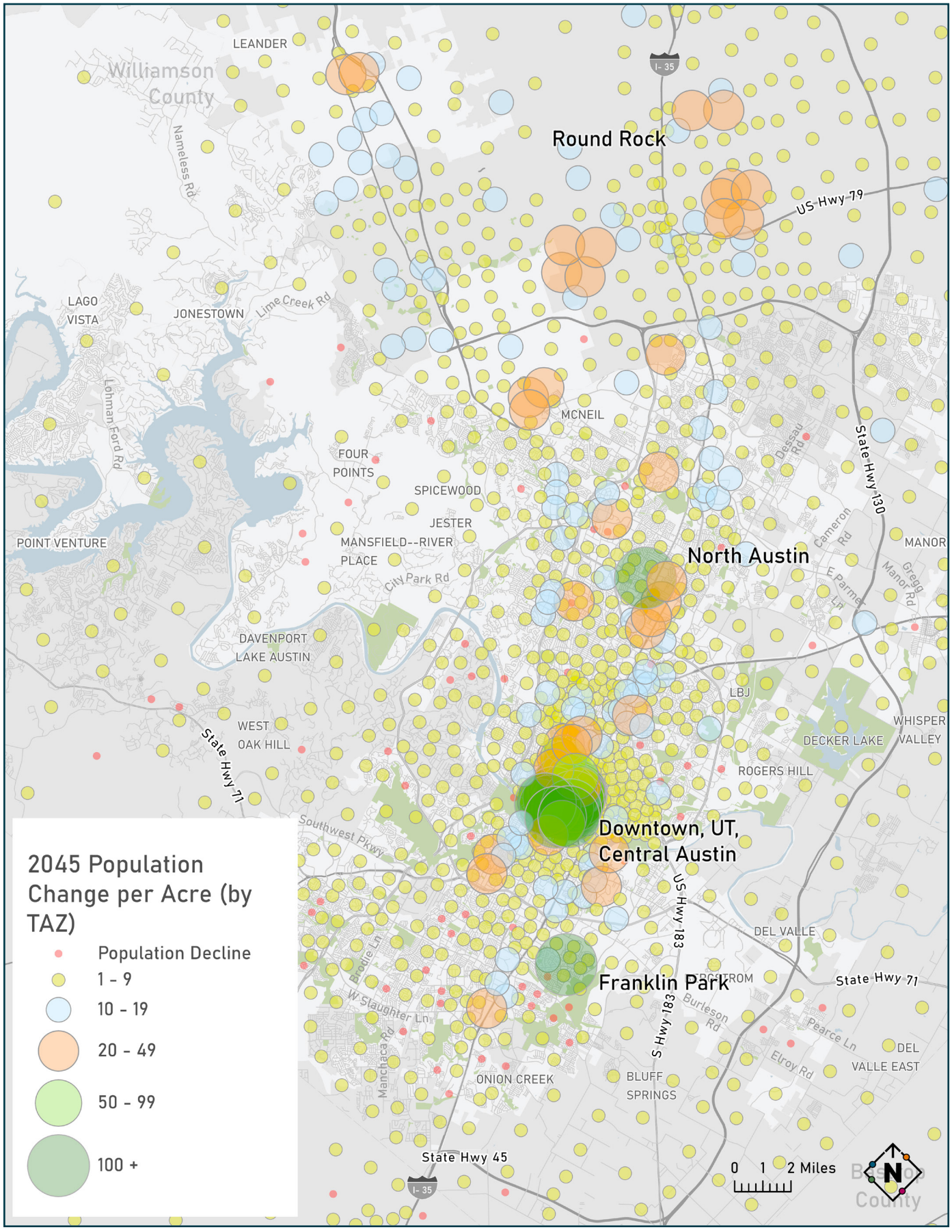
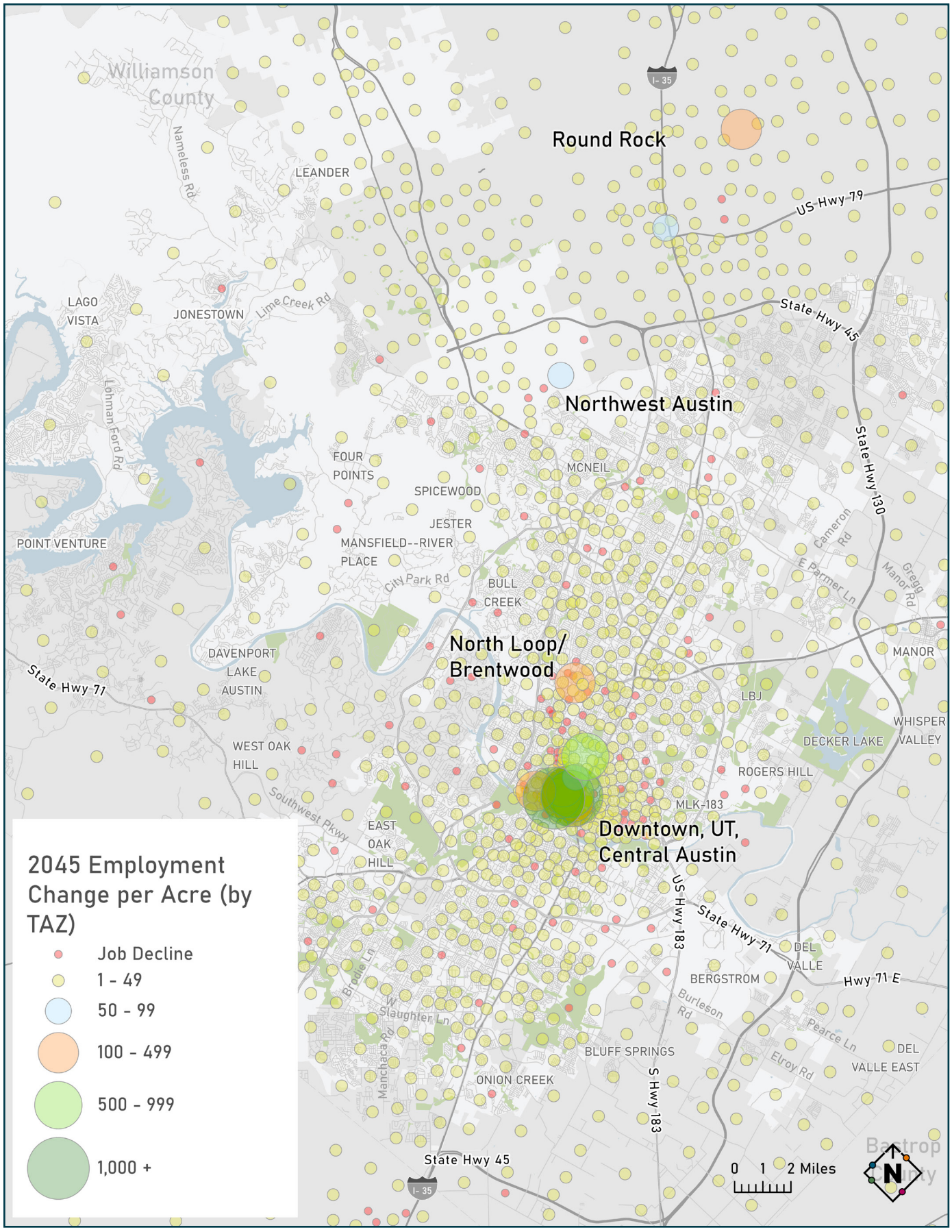


Figure 12: **2015-2045 Employment Change per Acre (CAMPO, by Traffic Analysis Zones)**



Project Connect

Project Connect will expand transit options throughout the Central Texas region. This transit expansion program is funded through property tax revenues allocated to the Austin Transit Partnership with the passage of the City of Austin's Proposition A in November 2020. The expansion includes additional stations to the existing Red Line, the construction of the new Green Line, a new light rail system, and the addition of four new CapMetro Rapid Bus Rapid Transit (BRT) lines to provide frequent bus services throughout Austin (Figure 13).[1]

CapMetro Bikeshare is an important tool to expand first-/last-mile access to Project Connect corridors.

Figure 13: **Light Rail Phase I Map**

1 Project Connect, www.projectconnect.com/.

CAPMETRO RAIL - RED LINE EXPANSION

CapMetro's Red Line is the only existing commuter rail transit line in the Austin region, serving communities from downtown Austin to the City of Leander, located northwest of Austin. Project Connect includes the addition of two stations: McKalla Station and Broadmoor Station.

CAPMETRO RAIL - GREEN LINE

The Rail Green Line is a proposed new commuter rail line running between Downtown Austin and Colony Park, with the potential of a future phase to Elgin. This line is in early development.

LIGHT RAIL

Austin Light Rail Phase I is a 9.8-mile, two-line project that will include 15 stations, 3 park-and-rides, and an operations and maintenance facility (OMF). The lines will run north-south, eventually connecting Central Austin, UT, Downtown, South Austin, and Southeast Austin with frequent rapid transit.

CAPMETRO RAPID - PLEASANT VALLEY AND EXPO LINES

CapMetro has two Rapid lines currently under construction, the Expo Line and Pleasant Valley Line. These services will provide high frequency transit connections to key regional destinations such as Mueller, ACC Eastview, UT Dell Medical School, Travis County Expo Center, and more. The Rapid project team has worked closely with the CapMetro Bikeshare team to incorporate bikeshare, as feasible, into the design and construction of the Expo and Pleasant Valley Rapid stations. Ten of the proposed 80+ Rapid stations will have an area designated for bikeshare installation.

→ Key Finding:

Future population and job densification is forecasted to occur in a few hotspots, including Downtown, Central Austin, North Austin, and Round Rock. Most of these growth areas are also along planned Project Connect corridors. Expansion of bikeshare into Southeast Austin, East Austin, University of Texas area, and Central Austin would connect well to planned or under construction transit lines.

Propensity Analysis

A micromobility propensity analysis was conducted to identify the most promising areas for CapMetro Bikeshare expansion. This propensity analysis aggregates a range of factors related to ridership demand, revenue drivers, and public need for bikeshare in Austin. Two propensity models were examined. The study team examined demand through a variety of lenses to provide a fuller picture of CapMetro Bikeshare's potential.

- ✔ **High Ridership** highlights areas with a high overall demand for bikeshare.
- ✔ **Public Need** highlights areas where bikeshare stations would have a major impact on public need goals like increasing the diversity of users and improving access to public facilities.

Table 8 provides details on the data included in the propensity analysis. This analysis uses data from a number of publicly available sources, including the American Community Survey, the Longitudinal Employer-Household Dynamics survey, City of Austin and State of Texas open data portals, and Replica.[1]

Above: Density of bike commuters and bicycle infrastructure are two measures considered in propensity analysis.

1 Replica, www.replicahq.com/. Replica is a provider of travel demand data collected through location-based services.

Table 7: **Propensity Measures**

MEASURES	HIGH RIDERSHIP	PUBLIC NEED
Population density	✔	✔
Job density	✔	✔
Retail job density	✔	
Low-income population density (excluding undergraduate and graduate students)		✔
Minority population density		✔
Density of bicycle commuters	✔	
Count of public services per area (Social Security Offices, Schools in the City of Austin and Travis County, libraries, recreational facilities)		✔
Bicycle infrastructure (bike lanes, bikeways, trails, bridges)	✔	
Project Connect infrastructure	✔	✔
Origins of trips of all transportation modes, of length 0-3 miles, taken by people of ages 18-45	✔	✔

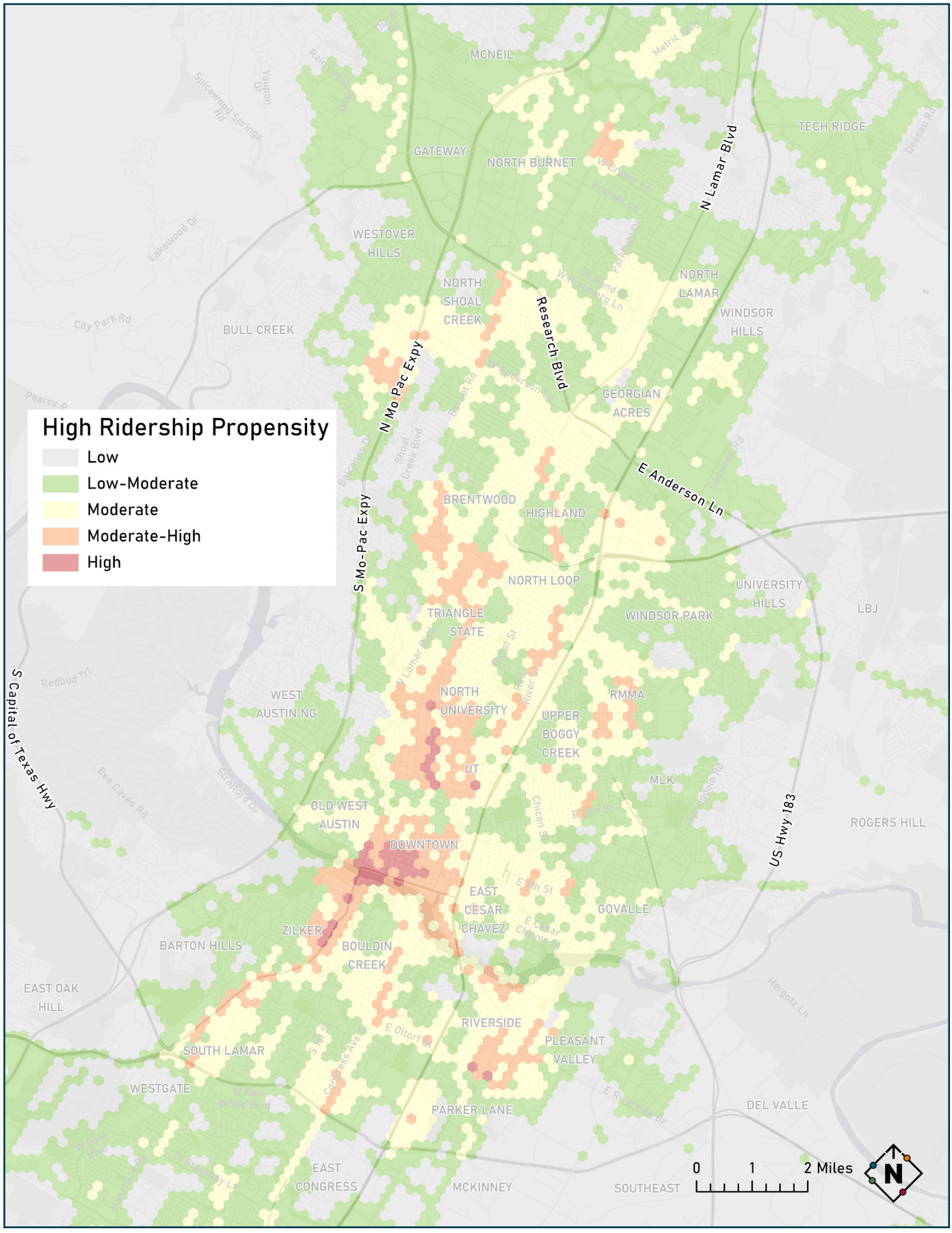
High Ridership

Figure 14 shows high ridership propensity results, which highlights areas within Austin with the greatest ridership demand. This includes areas with high concentrations of people, jobs, and bike commuters. The index also highlights areas with a concentration of travel activity as well as existing bike infrastructure and high-frequency and high-capacity transit services.

The areas of highest ridership propensity generally emanate north and south from Downtown, roughly following the Lamar Boulevard corridor. Portions of East Austin also stand out as having moderate or high ridership propensity. Areas with high propensity that are currently served by CapMetro Bikeshare include West University, UT, Downtown, and Zilker. These areas are some of the highest ridership neighborhoods in the CapMetro Bikeshare service area. In addition, several areas within the City of Austin that are not served by CapMetro Bikeshare score well on this propensity index, including Riverside, South Lamar, North University, and Brentwood. Many of these areas are located within close proximity to existing CapMetro Bikeshare stations.

Above: UT Austin is an area with high existing ridership.

Figure 14: **High Ridership Propensity**



High Public Need

Figure 15 shows the public need propensity results, which highlights areas with the greatest propensity for bikeshare based on policy goals established by CapMetro. The map highlights areas with concentrations of low-income populations, non-white populations (who are underrepresented among bikeshare users), key public services, and strong existing travel demand.

High scoring areas in this index are dispersed across the City of Austin, largely within the Eastern Crescent. **Propensity for bikeshare based on this index outside of the city is more limited.** Outside of Austin, neighborhoods around US-183, Bell Boulevard, and Interstate 35 all show moderate to high propensity for bikeshare. In north and south Austin, neighborhoods such as Wooten, North Lamar Rundberg, East Riverside, St. John's, Parker Lane, Franklin Park, and Sweetbriar, which are not currently served by CapMetro Bikeshare, and have a high propensity for bikeshare based on the public need propensity index. These areas have high concentrations of low-income and non-white populations, but lower concentrations of jobs compared to other parts of the city. Expanding CapMetro Bikeshare into these areas can help CapMetro achieve CapMetro Bikeshare's equity focused goals.

In addition to areas within the City of Austin that are not currently served by CapMetro Bikeshare, the public need propensity highlights areas within central Austin that are currently served by CapMetro Bikeshare. This includes Downtown, Central East Austin, Old West Austin, Holly, Govalle, and West University. Continuing to invest resources in these areas can enhance CapMetro Bikeshare services in equity focus areas.

→ Key Finding:

From a ridership and policy perspective, there are several areas outside the existing CapMetro Bikeshare service area that are good candidates for future expansion, as seen in Figure 16. East Austin, East Congress, Montopolis, parts of North Austin (notably the Lamar Boulevard Corridor), and Mueller stand out as possible growth markets. The existing CapMetro Bikeshare service area covers the highest ridership and public need propensity.

Figure 15: **Public Need Propensity**

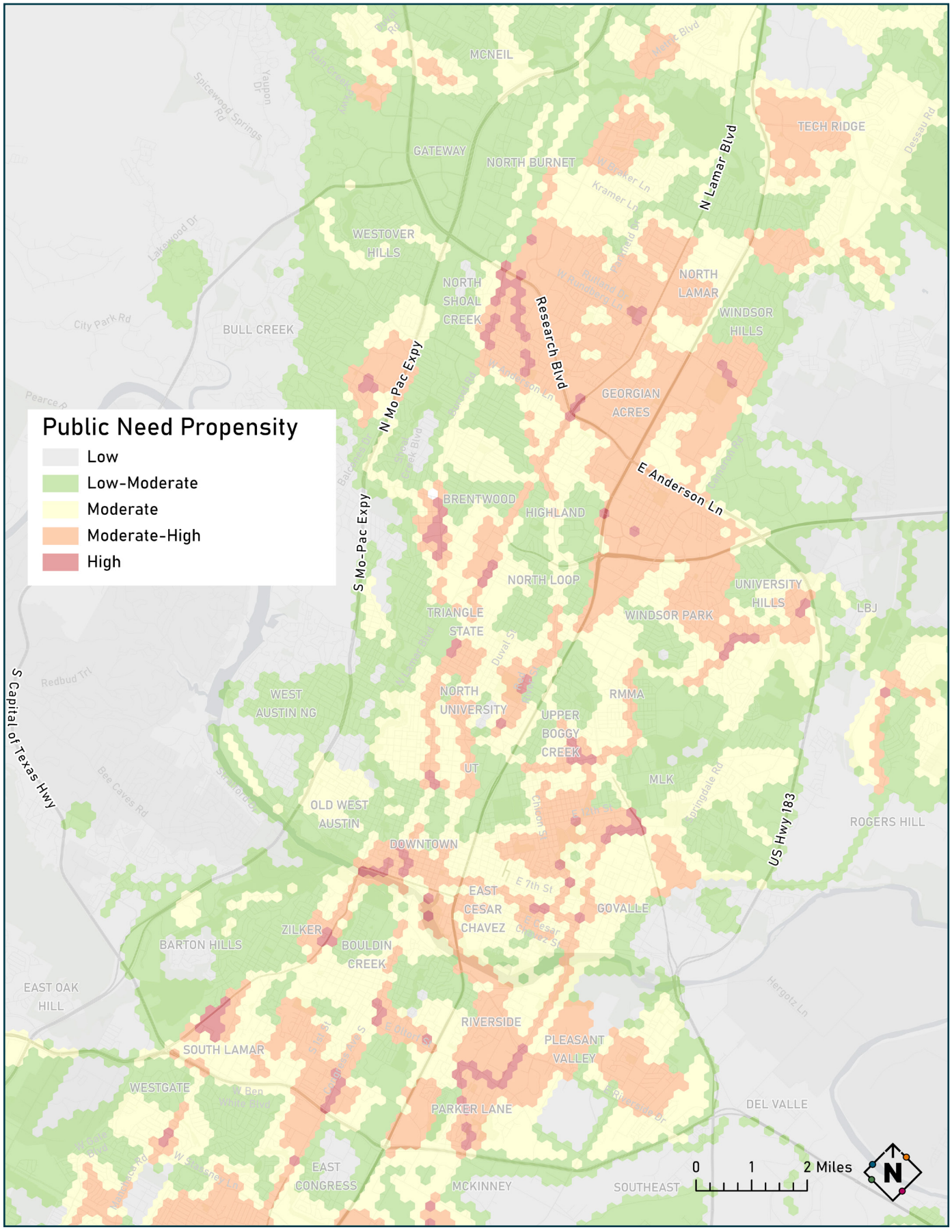
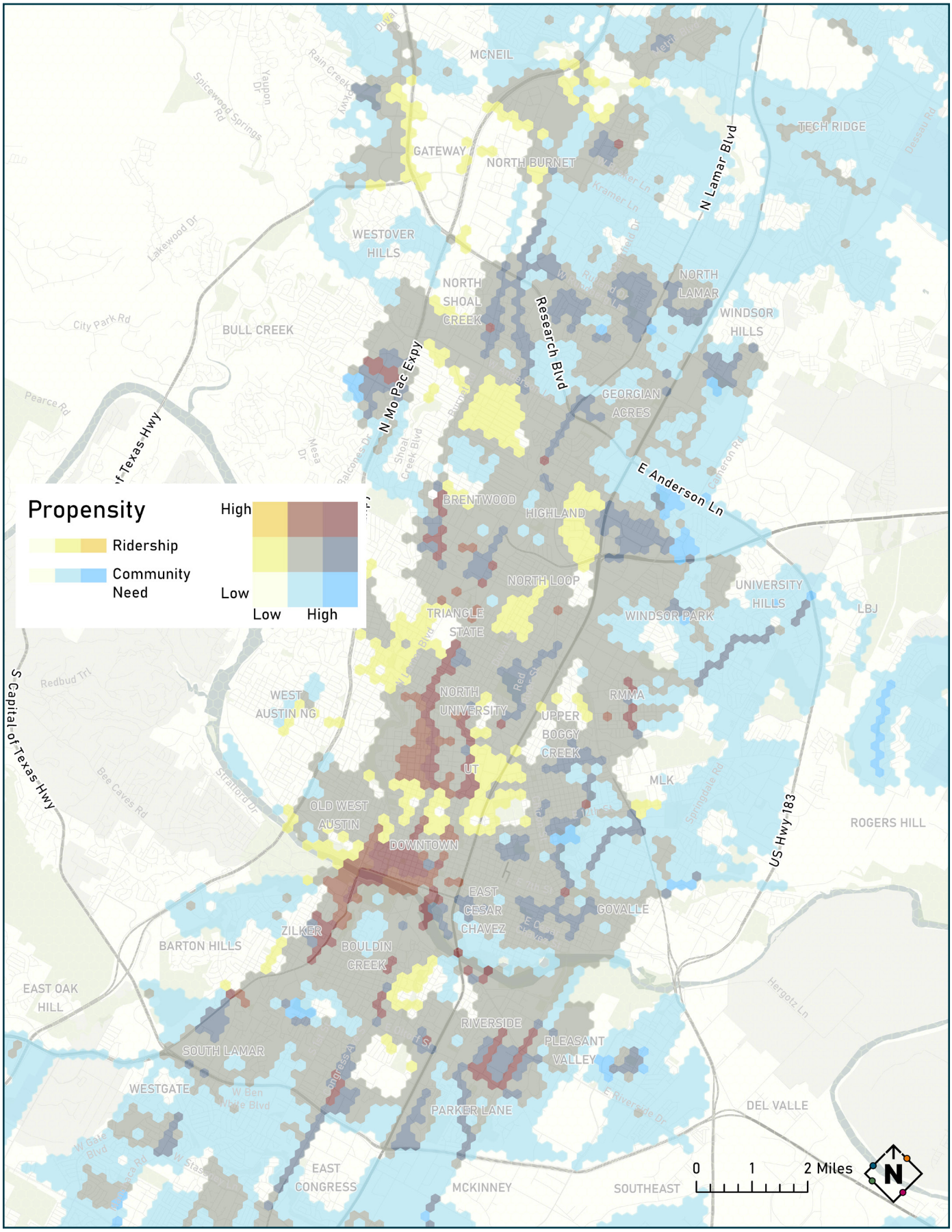


Figure 16: **Combined Ridership and Public Need Propensity**



CapMetro Bikeshare

This page intentionally left blank.

4. Public Engagement

Public engagement for the CapMetro Bikeshare Expansion Plan (CBEP) focused on gathering community input to inform project initiatives. This process was critical for understanding community needs, raising awareness about CapMetro Bikeshare, and refining the expansion plan for CapMetro Bikeshare. Key engagement activities included an online survey, community events, targeted small group discussions, a community group bike ride, and an open house event.

Survey Responses:	**1,268**
Focus Group Attendance:	**42**
Community Bike Ride Attendance:	**43**
Virtual Open House Participation:	**150**
Community Events Canvassed:	**19**

Engagement Process

Phases of Engagement

- **Phase I** of engagement commenced with the project kickoff in November 2023 and extended through April 2024. Outreach activities during this phase focused on understanding community priorities, improving stakeholder awareness, and collecting feedback that would help shape the expansion plan. Activities were structured around community events, surveys, and small group discussions.
- **Phase II** of engagement continued efforts to deepen community involvement and refine project strategies following Phase I's comprehensive outreach activities. The highlight of Phase II was the Community Bike Ride and open house event held in May 2024, where both in-person and virtual formats provided platforms for gathering community feedback on CapMetro Bikeshare's 10-year expansion plan.

Public Outreach Activities

The engagement strategy included a range of activities to connect with the public.

ONLINE SURVEY

The survey ran from January through March 2024 and was aimed at capturing insights on CapMetro Bikeshare usage patterns, barriers to use, and community preferences.

COMMUNITY EVENTS AND POP-UPS

Throughout February and March 2024, CapMetro staff and Community Connectors participated in community events such as the MLK Day Festival, Critical Mass, and Bike Story Night. These events not only promoted CapMetro Bikeshare but also facilitated direct interactions with event attendees to gather feedback on CapMetro Bikeshare and advertise the online survey.

Above: Attendees of the community bike ride and open house in discussion.

SMALL GROUP DISCUSSIONS

Held in April 2024, these discussions provided a more intimate setting for in-depth feedback from members of the public. Participants included representatives from various community segments, ensuring multiple perspectives were considered.

COMMUNITY BIKE RIDE EVENT AND OPEN HOUSE

In May 2024, the project team organized a Community Bike Ride with the support of Ride Bikes Austin, a local social cycling club. The ride culminated at the open house, where attendees could interact with CapMetro Bikeshare staff, test ride the new all electric bikes, and review exhibit boards that displayed CapMetro's Bikeshare expansion plan all while offering real-time feedback on expansion initiatives and improving our understanding of community preferences and needs. The in-person open house coincided with the launch of a month-long virtual open house.

Below: Attendees review public engagement materials.

Community Connectors

The engagement team relied on Community Connectors throughout the engagement process. Community Connectors were members of the public hired by CapMetro at the start of the study to engage their networks and assist the project team in reaching community members. They played an important role in ensuring information about the CBEP was spread across the City of Austin. These Community Connectors supported engagement in several ways.

- **Engagement at Events:** Community Connectors attended various community events and pop-ups throughout Austin to share information about CapMetro Bikeshare expansion and engage directly with community members.
- **Representation in Discussions:** Community Connectors recruited participants for the small group discussions held in April 2024.
- **Event Summaries and Feedback:** Community Connectors provided insights from conversations at events like Bike Story Night and collected feedback about CapMetro's Bikeshare expansion.
- **Community Bike Ride and Open House:** Community Connectors contributed to the staffing of the community bike ride and open house held in May 2024 by actively engaging with attendees at the comment table.

Public Engagement Successes

Public engagement for the CBEP was focused on understanding community priorities around bikeshare and raising awareness about CapMetro Bikeshare in Austin. As a result of the engagement activities, the study team earned valuable insights into community priorities related to bikesharing services and identified barriers to bikeshare usage in Austin. Targeted outreach at events increased stakeholder and community awareness about CapMetro Bikeshare's expansion plans. The feedback gathered from the public and stakeholders provided vital feedback around station placement, service enhancements, and community engagement strategies.

What We Heard

Throughout the engagement process, several recurring themes emerged in the feedback received via the online survey, small group discussions, and in-person events. These themes not only reflect diverse perspectives but also lay out areas of focus for improving CapMetro Bikeshare services and infrastructure beyond the expansion plan. Addressing these community priorities and concerns is essential for shaping CapMetro Bikeshare into a more accessible, safe, and user-friendly transportation option for the community.

INFRASTRUCTURE AND STATION ACCESSIBILITY

There is a clear consensus regarding the need for increased station availability and better distribution across Austin. Specific recommendations for stations in neighborhoods such as Mueller, Central East Austin, and Bouldin Creek; at major transit hubs such as the MLK Jr. CapMetro Rail Station; and near bike trails were highlighted as priorities by community members.

> "A location within the Mueller Neighborhood, preferably at a bus stop (MetroRapid especially)."

SAFETY AND OPERATIONAL CONCERNS

Community members expressed concern about the lack of supportive bike infrastructure in Austin, including protected bike lanes. The feedback indicated that bike lanes and other supportive bike infrastructure are essential for encouraging more widespread use of CapMetro Bikeshare. Operational issues, such as unfamiliarity with the system and vehicular speed in residential areas, also surfaced as barriers that need addressing.

> "[I] Recommend having more flex posts. There [are often] cars in the bike lane. Metro buses pull into the bike lane when they stop, then you have to decide if you want to go on main road with traffic or stop and wait. Bike lanes have a lot of potholes that can be dangerous."

SERVICE ENHANCEMENTS AND USER EXPERIENCE

Feedback from the community emphasized the importance of improving the user experience through enhanced mobile app functionalities and the availability of more electric bikes. Survey respondents and event participants expressed a desire for more diverse transportation options and improvements in overall service quality to better meet their needs.

> "Integrate [CapMetro Bikeshare] with the CapMetro app. It's annoying having to use two different apps for CapMetro services."

DIVERSE USAGE PATTERNS AND PREFERENCES

The survey and feedback from a virtual open house revealed diverse usage patterns, with a significant portion of respondents using CapMetro Bikeshare for exploration and recreational purposes. There was also interest in using the bikes as an alternative to traditional ride-hailing services.

> "Bikes near trains. I used to take the train to the Leander station for work and always had to Uber from the station, it would've been nice to have had an option to grab a bike."

Survey Results

An online survey that ran from January 26, 2024 through March 31, 2024 sought to identify potential expansion areas and address community needs related to CapMetro Bikeshare. The survey aimed to understand user concerns and opportunities regarding future dock locations. Residents were asked to suggest new locations through an interactive "suggest-a-dock" map within the survey.

The survey provided insights into CapMetro Bikeshare usage patterns, trip types, incentives for use, and barriers to usage not related to disabilities.[1] About a quarter of respondents had never used CapMetro Bikeshare, while a quarter used it a few times a year (Figure 17). Half of respondents used the system to explore Austin and one third of respondents used the system for recreational and exercise purposes. Respondents also mentioned using CapMetro Bikeshare in areas with limited parking or as an alternative to services like Uber or Lyft (Figure 18). When asked about factors that could encourage increased CapMetro Bikeshare usage, three quarters of respondents prioritized more stations near desired destinations, and half expressed interest in expanding electric bike options. Additionally, respondents highlighted the importance of safer biking infrastructure and the availability of e-bikes at each station (Figure 19). The survey also revealed significant barriers to use. Half of respondents cited the lack of supportive bike infrastructure such as lanes and trails, and one third found CapMetro Bikeshare not feasible for their regular trips (Figure 20).

1 Over 2,014 responses were collected through the survey. Of these responses, just over half were deemed complete and usable. The remaining responses were deemed incomplete or generated by bots and thus not usable in the survey analysis.

Figure 17: **How often do you use CapMetro Bikeshare?**

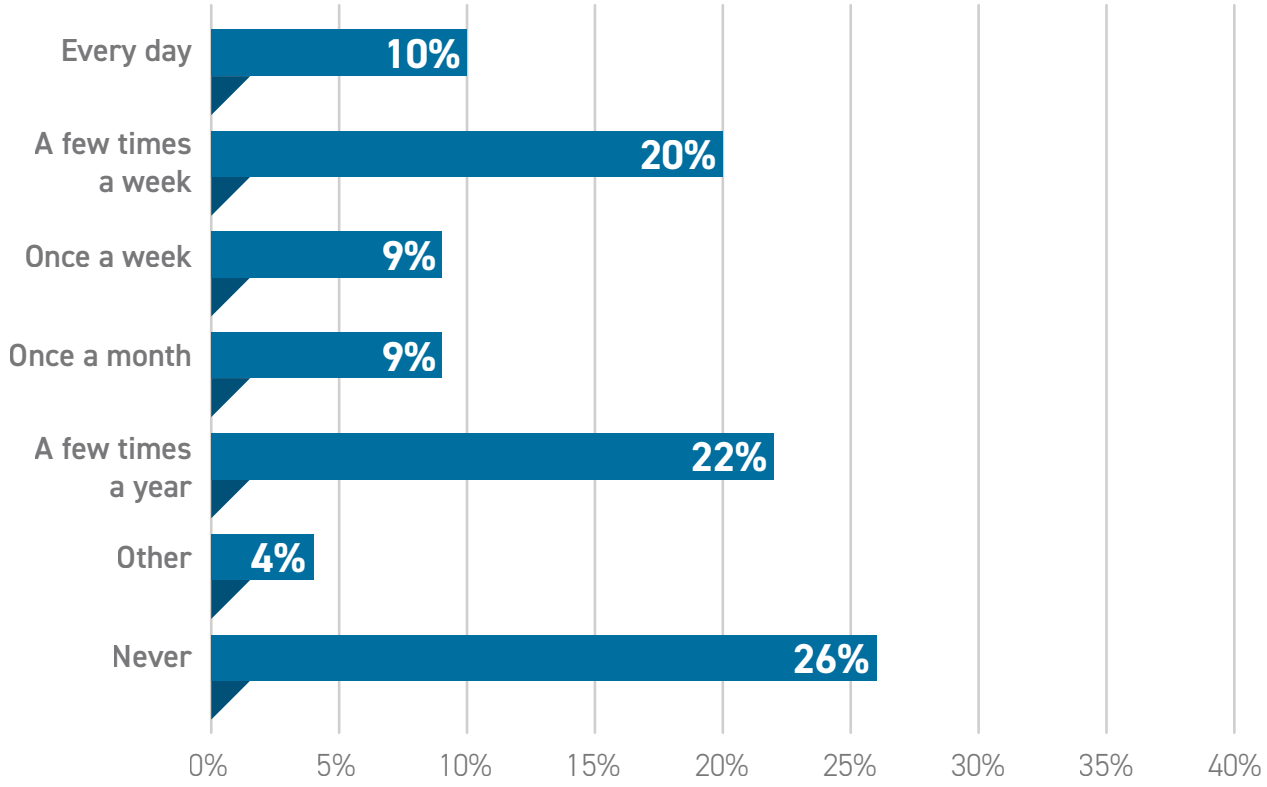


Figure 18: **What types of trips do you use CapMetro Bikeshare for?**

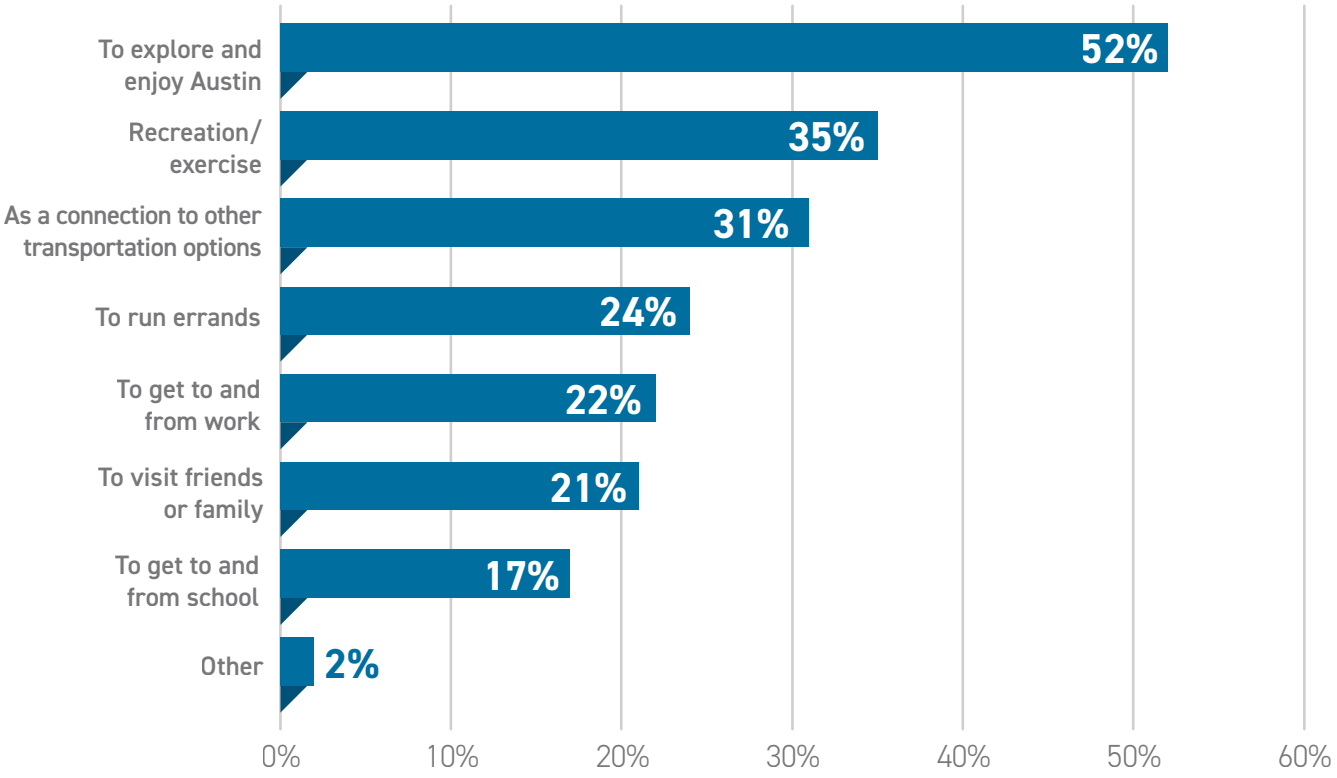


Figure 19: **What would make you use CapMetro Bikeshare more often?**

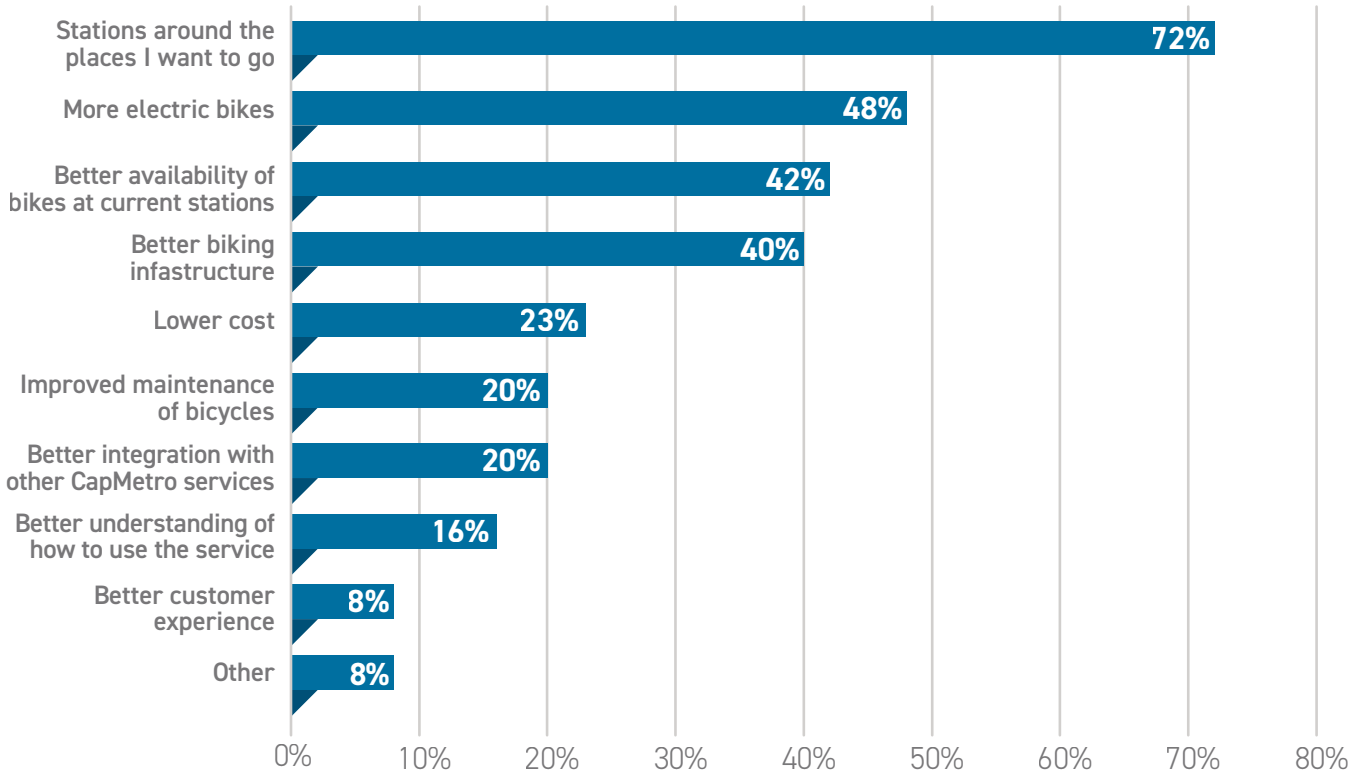
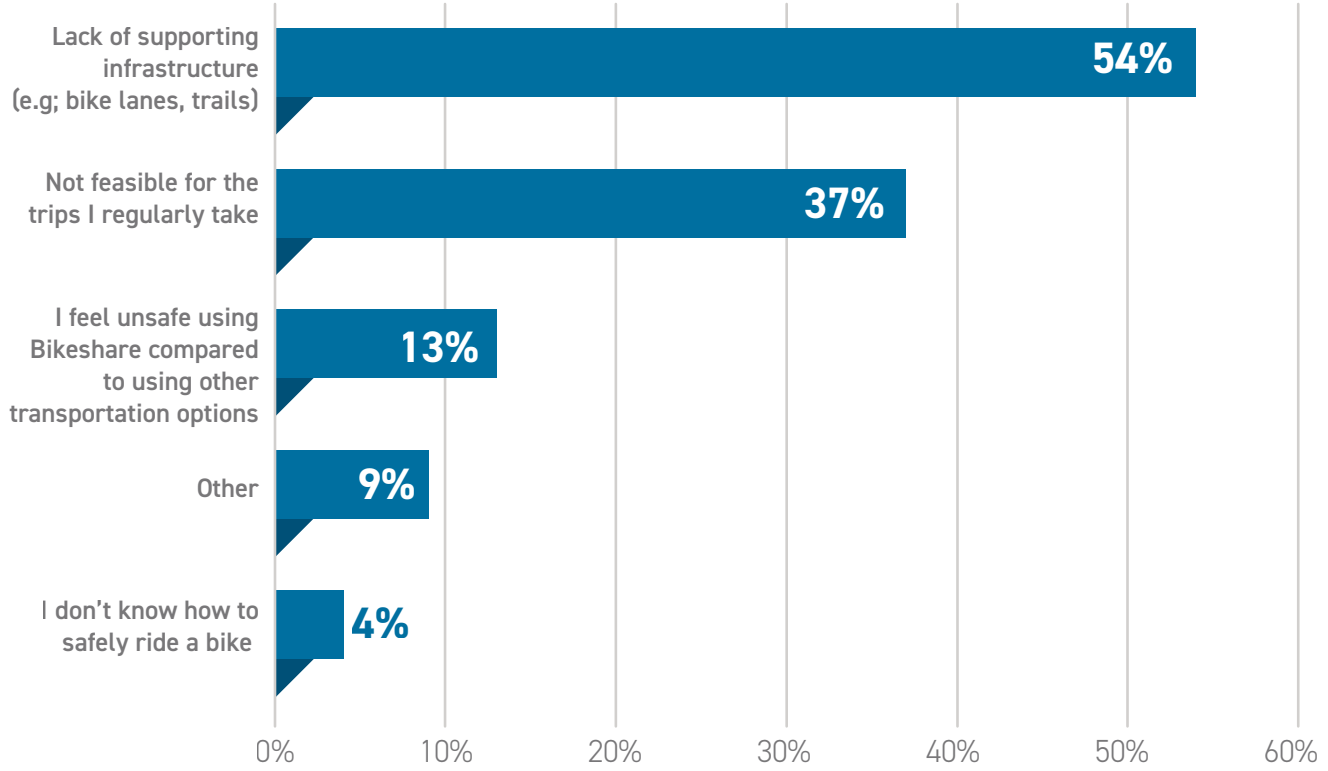


Figure 20: **Are there additional barriers not related to CapMetro Bikeshare that prevent you from using the service (other than a disability)?**



Small Group Discussion Findings

In April 2024, CapMetro conducted three focus group sessions. These sessions provided an opportunity for dialogue between the project team and various stakeholders. Each session involved eight to 10 participants and featured a dedicated facilitator, support facilitator, and note taker. To ensure a diverse representation, CapMetro selected participants from the pool of Community Connector applicants and engaged the Community Connectors to recruit additional community members. Participants were compensated with $40 HEB gift cards as a token of appreciation for their contributions to these discussions. One of the focus groups was held in-person at Santa Rosa Courts, a Housing Authority of the City of Austin (HACA) property. CapMetro engaged HACA leaders on the East Side, some of who joined a Resident's Council meeting to talk about bikeshare expansion.

During the discussions, participants answered questions about several topics related to CapMetro Bikeshare and the CBEP. Specific topics covered included an overview of the current CapMetro Bikeshare system, usage patterns of bikesharing services, criteria for selecting bikeshare station locations, and tradeoffs between convenience, cost, and accessibility in CapMetro Bikeshare's expansion plan.

Participants provided insights into their experience with CapMetro Bikeshare, identified barriers to usage (such as station coverage and safety concerns), and suggested enhancements like mobile app improvements and station expansions. They highlighted preferred station locations and communication preferences for system updates and relaunch efforts. These findings informed CapMetro's strategies for optimizing and expanding its bikeshare service to better meet community needs and preferences.

Small Group Discussion 1:

Tuesday, April 2, 2024
5:30-6:30 p.m.

Location:
Virtual

Participants:
Applicants + Connector Recruitments

Small Group Discussion 2:

Thursday, April 4 2024
5:30-6:30 p.m.

Location:
Virtual

Participants:
Applicants + Connector Recruitments

Small Group Discussion 3:

Thursday, April 4 2024
11:30 a.m.-1:00 p.m.

Location:
2341 Corta St.
Austin, TX 78702

Participants:
Residents of an east Austin HACA (Housing Authority of the City of Austin) site.

Open House Engagement

During Phase II of public engagement, the project team hosted a Community Bike Ride and open house event on May 18, 2024. The in-person event drew 43 attendees. Alongside the in-person option, a virtual open house accommodated those unable to attend in-person. The virtual open house ran from May 18, 2024 through June 16, 2024. Both formats provided platforms for community feedback on CapMetro's Bikeshare 10-year expansion plan. CapMetro had Spanish speaking staff at the open house event and virtual open house content was available in Spanish as well as English.

The virtual open house session had significant engagement with:

1,297 views

150 active participants

602 responses to survey questions, and

351 open-ended comments.

In a short survey shared at the in-person open house and uploaded to the virtual open house, participants were asked about their bicycling habits and recommendations for expansion. The survey first asked participants about types of destinations they would like bikeshare to serve. Some recurring interests that arose were **parks and recreation centers, grocery stores, trails**, and **improved access to public transportation** (Figure 21). The second question explored which types of destinations would entice users to ride bikeshare more often. The most common answers mirrored the first questions: **Parks and recreation**, **improvements to bike and station availability**, and **improved public transit access** were common responses (Figure 22). Lastly, participants provided general feedback to the CapMetro Bikeshare team, emphasizing **station recommendations**, **support for service improvements**, and **suggestions for more reliable app functionality** (Figure 23).

> "There should definitely be bike docks near major bus or transit stops. I also think there should be more near parks, swimming pools, and major shopping areas or grocery stores."

> "I love [CapMetro Bikeshare] and have used it for years. Thanks for your service to the community!"

> "Everyone would love to see charging implemented at the stations; there's nothing worse than a (all too often) dead bike."

> "I would use [CapMetro Bikeshare] every day if there was a stop at my high school and at MLK Jr. Station"

> "I would use [CapMetro Bikeshare] to go to the park, shopping, pool, library, coffee shops, etc."

Figure 21: **This is a ten-year growth plan for CapMetro Bikeshare. What category of Community Amenities/Destinations should we consider for connections as we expand?**

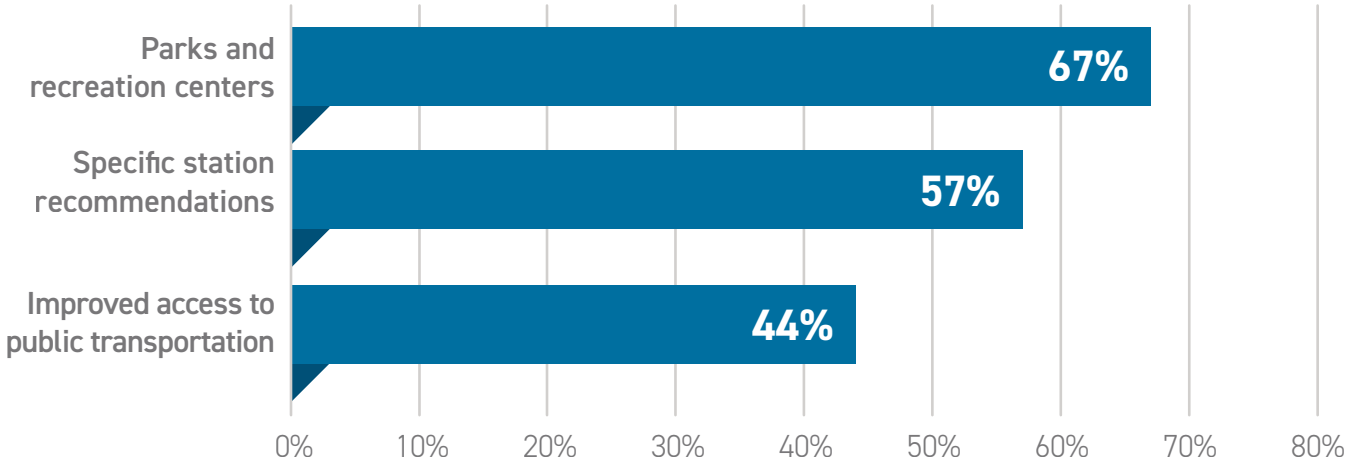


Figure 22: **If the expansion would provide you a better connection, what category of Community Amenities/Destinations would get you to use CapMetro Bikeshare more?**

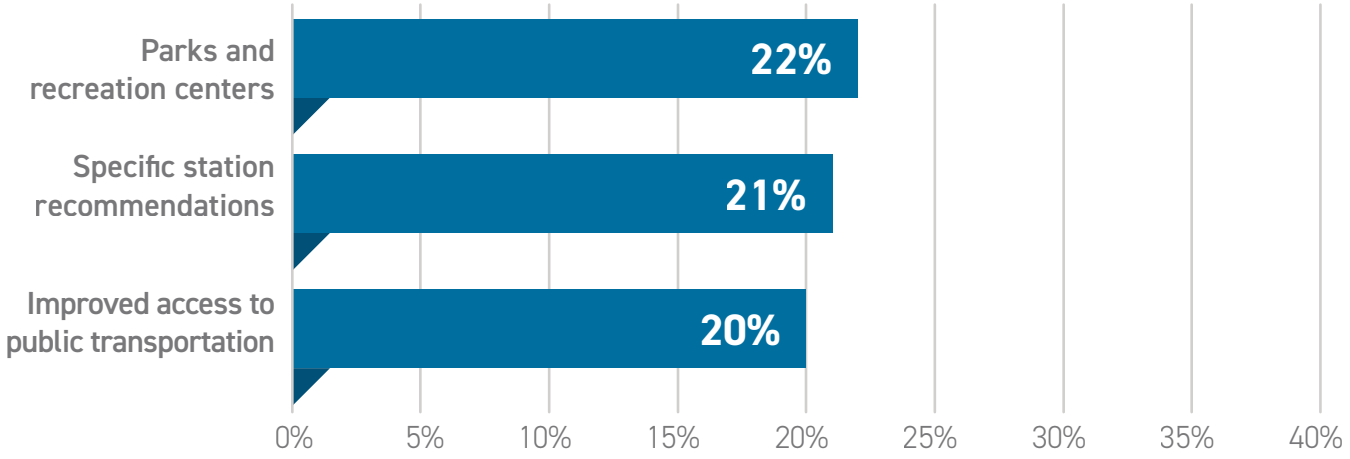
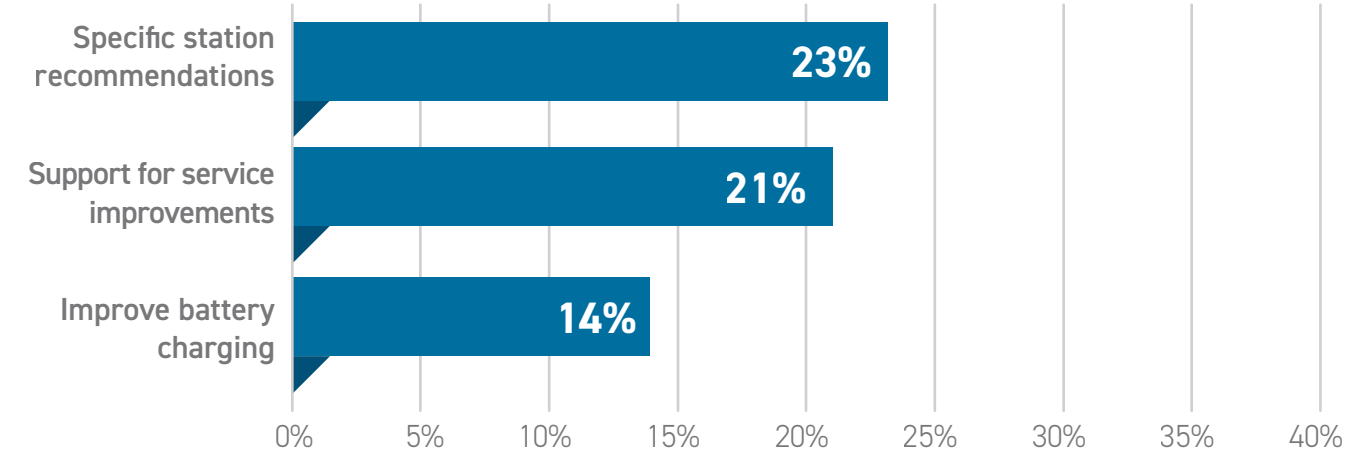


Figure 23: **What general feedback do you have for the CapMetro Bikeshare team?**



5. System Design Guidelines

CapMetro has an existing set of system design guidelines for the design and modification of fixed-route service. This chapter provides a similar set of guidelines for the design of the CapMetro Bikeshare system, outlining general standards and strategies for how the system should expand over time. These guidelines help shape the 10-year expansion plan for the program and allow it to effectively respond to changing needs and future station requests.

The guidelines are composed of two different components:

- **Market Typologies:** Different parts of the region have different demand and ridership characteristics for Bikeshare based on factors such as population density, public need, job density, socio-demographic characteristics, underlying travel demand, and availability of infrastructure. CapMetro Bikeshare has grouped the region into market typology zones – groupings of areas with similar ridership and revenue potential.

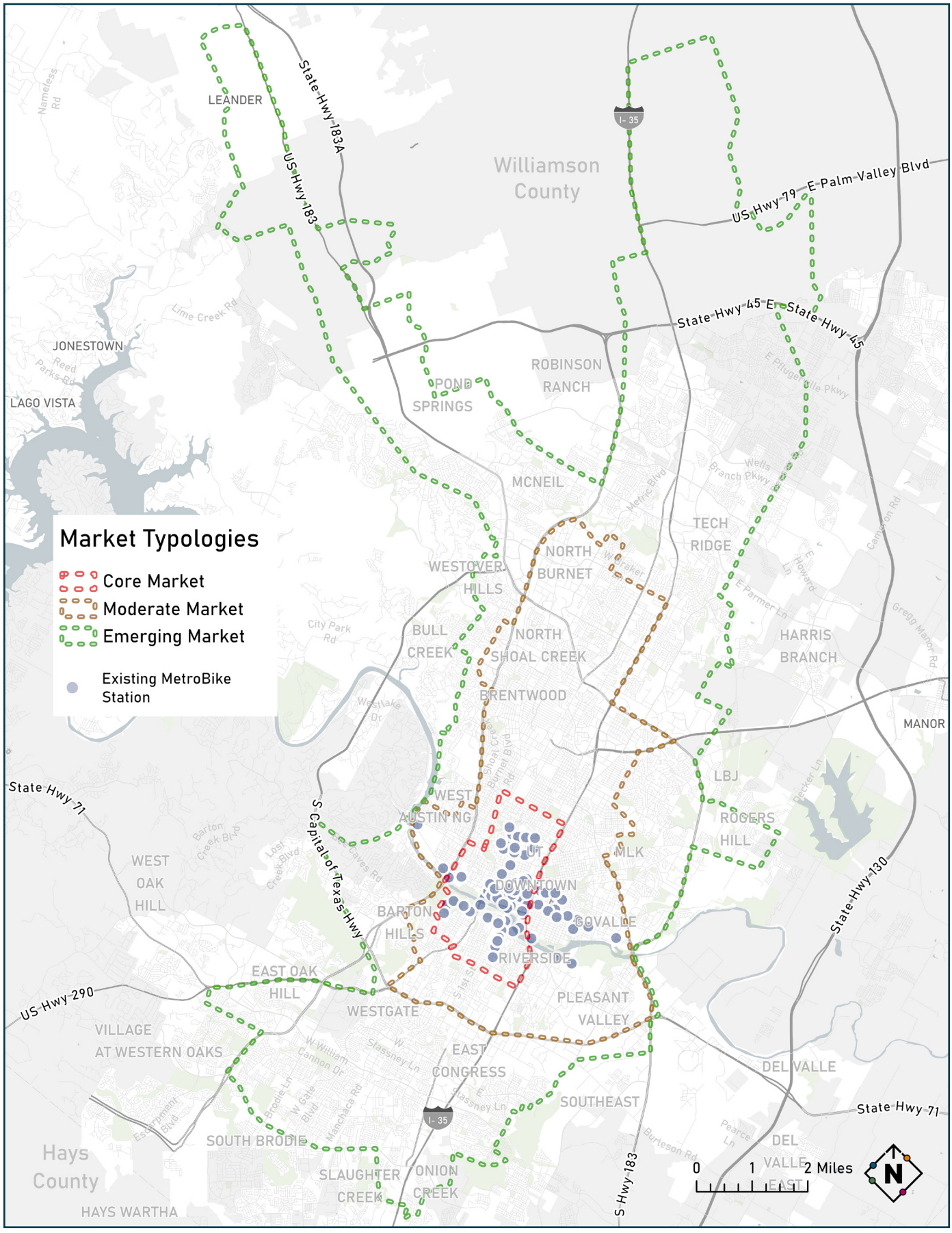
- **Expansion Standards:** CapMetro Bikeshare has defined a set of expansion standards to help guide future program growth. Many of these policies are based around the market typologies. The policies are designed to achieve both the program and CapMetro Bikeshare Expansion Plan vision and goals.

Market Typologies

The CapMetro service area was divided into three market typologies for bikeshare: the **core market, moderate market,** and **emerging market.** Each typology represents areas with different bikeshare demand and usage profiles. As CapMetro Bikeshare expands across Austin, the system will face unique challenges and opportunities in each typology. The market typologies are a helpful tool for modeling future system performance, and because of their different characteristics, have different system design guidelines.

These typologies were defined based on the market analysis and existing CapMetro Bikeshare ridership, as presented in Chapter 3. Market Study. Several key criteria were combined to categorize CapMetro's service area into typologies, including existing mode share, population and job density, public need, land use, and bicycle infrastructure. These criteria and characteristics of each typology are described in Table 9. The three typologies are illustrated in Figure 24. Note that the boundaries of these markets are simplified to create contiguous zone boundaries; as such, there are census tracts within each zone that do not adhere strictly to the criteria outlined below. Finally, a portion of the CapMetro service area falls outside any of the typologies; these locations have insufficient development densities to support bikeshare.

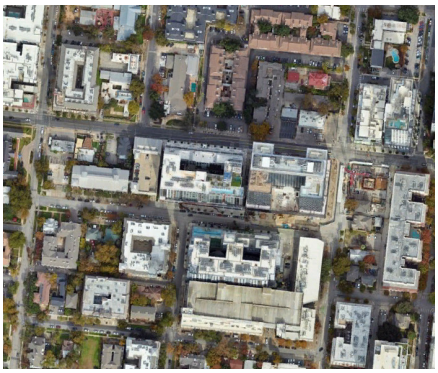
Figure 24: **Market Typologies**

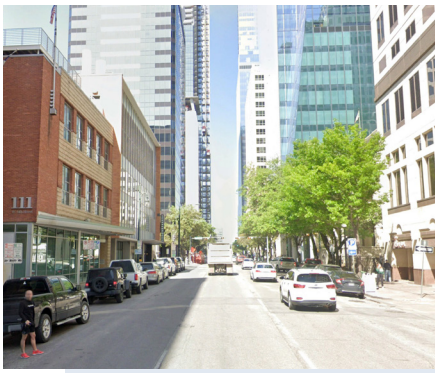


CapMetro Bikeshare

Core Market

Core market areas are places within Austin that have high walkability, moderate- to high-density land uses, and good access to transit. These places are largely served by CapMetro Bikeshare today but could benefit from additional or expanded stations. Key areas of opportunity in the core market include **Downtown**, and the **University of Texas**. Core market areas have a higher intensity of use than other typologies and destinations within the zone are expected to be a net attractor of trips from other parts of Austin. This market is expected to generate ridership that exceeds CapMetro Bikeshare's existing systemwide average and features a high share of registered user trips due to a high proportion of UT students among users.

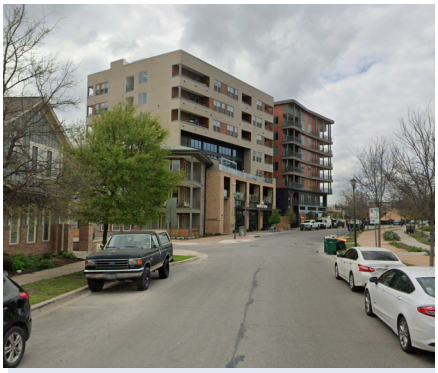




Above: examples of core market

Moderate Market

Moderate market areas are places within Austin that have high walkability, moderate- to high-density land uses or are experiencing development, and have good access to transit but fall outside the City's downtown. Most of the moderate market zone is beyond the current CapMetro Bikeshare system and represent new markets for the program. **Areas of opportunity in the moderate market area include Mueller, North Lamar, The Domain, and East Riverside.** This market is expected to generate fewer trips per bike than the core but will also likely see a larger share of casual users among trips.



Above: examples of moderate market

→ Each typology represents areas with different CapMetro Bikeshare demand and usage profiles.

Emerging market areas are places within Austin and its suburbs that are located both inside and outside city limits, but feature some demand potential for bikeshare based on underlying land-use and demographics. These areas include large suburban business centers and clusters of high density single-family or moderate density multi-family housing. Many of the areas within this typology are hampered by infrastructure or geographic barriers that could pose accessibility or operational challenges for CapMetro Bikeshare. For example, in suburban areas the lack of street connectivity means that areas that are close to one another lack a safe and convenient bicycle connection. As bicycle infrastructure improves and these areas continue to see development, they will become more promising locations for bikeshare. Areas of opportunity within this typology zone include **South Congress, Tech Ridge, Leander, and Round Rock.** This market is expected to generate the lowest trips per bike within the system, along with the smallest share of trips by program registered users. Expansion into areas outside of Austin would require new agreements between municipalities.

Above: examples of emerging market

Table 8: **Market Typology Criteria**

Typology	Criteria				Bikeshare Characteristics[1]
	Bike Usage	Density	Propensity	Land Use	
Core	**High** existing bike usage (areas with top 20 percent of existing bicycle trip origins)	High population density (7,500 or more people per square mile) High job density (12 or more jobs per acre)	Areas with **high** or **moderate-high** propensity in either the ridership or public need propensity indices *and* within or adjacent to the existing CapMetro Bikeshare service area.	Dense and mixed land uses, presence of **bike lanes, sidewalks,** and **high-capacity transit** Interconnected road network with multiple travel paths for cyclists	✓ Average trips per bike per day: 2.0 ✓ Average registered user share of trips: 70%
Moderate	**Moderate** existing bike usage (areas with top 60 percent of existing bicycle trip origins)	Moderate to moderate-high population density (greater than 5,000 people per square mile) Moderate to moderate-high job density (2 to 12 jobs per acre, located outside the core)	Areas with **moderate** or **moderate-high** propensity in either the ridership or public need propensity indices Zone located outside existing CapMetro Bikeshare service area	Presence of **bike lanes, sidewalks,** and **high-capacity transit** Some moderate or dense clusters of development with lower-density residential or commercial areas in-between. Grid of major arterials but local streets often lack connectivity	✓ Average trips per bike per day: 1.0 ✓ Average registered user share of trips: 60%
Emerging	**Low** to **moderate** existing bike usage (areas with the bottom 40 percent of existing bicycle trip origins)	**Low** to **moderate** population density (minimum density of 2,500 people per square mile) **Low** to **moderate** job density (below 10 jobs per acre)	Areas with **low** or **moderate** propensity in either the ridership or public need propensity indices	**Auto-oriented land uses** with limited street connectivity Bicycle access dependent on availability **of bicycle lanes** or **off-road trails**.	✓ Average trips per bike per day: 0.5 ✓ Average registered user share of trips: 50%

1 Statistics based on average ridership for existing stations located in each zone, rounded to the nearest 0.25 TPB or 10 percent. As no stations today are within the emerging market, estimates for that market based on default assumptions.

Expansion Guidelines

Expansion guidelines help shape the future growth of the CapMetro Bikeshare program. These guidelines fall into three categories: **station placement, minimum distance and clustering,** and **station expansion**. The policies are designed to achieve both the program and CBEP's vision and goals. These guidelines provide a broad framework for system expansion and can vary depending on the market typology.

Station Placement Standards

Station placement standards dictate how stations are placed in relation to nearby destinations. For example, to ensure CapMetro Bikeshare stations are easily accessible to CapMetro fixed-route service, stations should be no further than 300 feet from the entrance of a transit station or stop. Station placement standards may vary for each market typology but should consider:

- **Accessibility and convenience:** Stations should be easily accessible for customers to access and return bikes in all seasons and weather conditions. Stations should also be accessible to CapMetro Bikeshare staff to ensure routine maintenance and rebalancing.
- **Safety:** The safety of each station location should be considered in terms of adjacent traffic, lighting, surrounding land uses, bicycle infrastructure, and the ages and abilities of CapMetro Bikeshare customers. Stations should only be placed in the roadway right-of-way on local streets with low traffic speeds. Stations should be located near crosswalks and intersections.
- **Operational appropriateness:** Stations should ideally be located adjacent to a loading zone, where bikes can be rolled to and from a rebalancing van easily. This ensures staff can safely perform their basic job functions.
- **Technically sound:** Station locations should meet CapMetro Bikeshare's technical requirements for drainage, service access, and lighting/utility connections.
- **Consideration of urban context:** When possible, stations should be located near bike infrastructure or along streets that are reasonably appropriate for biking. Station siting should also consider the location of entrances to buildings and other popular destinations like parks and trails.
- **Paired with transit:** Because bikeshare functions as a first and last mile solution, stations should be located within 300 feet of a transit station or stop and clearly visible to people walking and biking. Bikeshare stations should be located near high-frequency train stations and bus stops and connected to another bikeshare station no more than one-half mile away. Stations should be highly visible, and riders should be guided by wayfinding where possible.
- **Predictable and consistent:** For ease of use, stations should be placed in consistent locations and at predictable intervals that are appropriate for the typology.

Minimum Distance and Clustering Standards

Minimum distance and clustering standards refer to the space between bikeshare stations. CapMetro Bikeshare is most effective when users can reach many destinations from a single location. In systems with significant downtime (time a station is completely full or empty), clustering stations can also help limit lost trips (trips that could not be started or ended because a station was empty or completely full). Establishing standards for the maximum distance between stations as well as the size of a minimally viable station cluster will help ensure that stations are set up for success. Minimum distance and clustering standards vary for each market typology. In dense areas, stations should not be more than a three-to-five-minute walk from one to the next; because of strong network effects the higher density of stations will in turn generate greater demand for bikeshare. In moderate and emerging markets, the system can be less dense; in these markets land-uses and availability of bicycle infrastructure may limit how dense CapMetro Bikeshare can cluster stations.

- → **Core Market Expansion Area:** Stations should be within a three-to-five-minute walk from one another, or approximately every 1,500 feet. Ideally, stations along a continuous corridor should be consistently spaced to provide the user predictability.
- → **Moderate Market Expansion Area:** While stations should be placed as closely as possible, stations can be spaced up to 2,500 feet apart, with greater densities encouraged at activity centers.
- → **Emerging Market Expansion Area:** Stations will likely be spaced further apart than Core and Moderate stations, around 2,500 feet apart but in some cases gaps of up to a mile may be permitted. Stations should be linked to the broader service area through at least one consistent corridor of stations.

Station Capacity Adjustment Guidelines

Bikeshare stations have the flexibility to grow or shrink based on ridership demand. Station adjustment guidelines help define the criteria for when bikeshare stations should be resized to ensure infrastructure is well-utilized. Station adjustment is warranted based on three factors:

- ✓ **Adjustment to Meet Anticipated Demand:** As the system grows, existing stations will need to be expanded in popular locations to ensure there is suitable capacity to absorb the additional trips that come from program growth.
- ✓ **Adjustment to Meet Current Demand:** Expansion of high ridership stations will allow these locations to better meet demand by reducing downtime.
- ✓ **Adjustments to Address Operational Issues:** Hard to reach stations may warrant added capacity to reduce the frequency CapMetro staff need to service these locations.

EXPANSION TO MEET ANTICIPATED DEMAND

The market analysis identified two parts of the system – the University of Texas (UT) campus, and Downtown Austin – which experience a net gain of trips in the morning and net loss of trips in the afternoon. These areas act as trip attractors, drawing in riders from other parts of the system. As CapMetro Bikeshare expands, that growth will need to be balanced with additional capacity in the system's core. Based on existing travel flow patterns, CapMetro should add one dock at UT or Downtown Austin for every 10 docks added elsewhere in the system. This ratio is based on the net inflow and outflow of trips from across the system to these areas during peak periods. CapMetro should continue to monitor any imbalances in travel flow and adjust this ratio as the system expands.

CAPACITY ADJUSTMENT TO MEET CURRENT DEMAND

Existing stations should be routinely assessed to determine if docks need to be added or removed. The study team recommends evaluating stations for expansion if they report greater than six trips per dock per day averaged on an annualized basis (approximately the 10 percent highest ridership stations in the system) and reduction if they report less than 0.10 trips per dock per day and the location of the station is such that it is not operationally advantageous to maintain an underutilized station. The final decision on whether to expand should be balanced with whether the station triggers regular rebalancing events.

To evaluate how rebalancing events impact ridership, calculate a **station's estimated lost trip factor, defined as:**

> *(Average daily ridership at station ÷ average percent of daily uptime) – Average daily ridership*

CapMetro Bikeshare should strive to maintain a lost trip factor below 3, which equates approximately to the systemwide average dock utilization rate.

CAPACITY TO ADDRESS OPERATIONAL ISSUES

In some instances, it may be appropriate to have a larger station than the ridership and downtime data suggest is appropriate. For example, stations located in the Emerging Markets expansion area, which are further out from CapMetro Bikeshare's operating facilities compared to stations located within the Core Market and Moderate Market expansion areas, may require a larger overall number of docks as CapMetro Bikeshare staff will be unable to rebalance bicycles in outlying stations as often as core stations. Additional docks provide overflow capacity at these stations and reduce the servicing burden for staff and better availability for users who may have a long trip to the next nearest station.

This page intentionally left blank.

6. Expansion Plan

CapMetro envisions a greatly expanded CapMetro Bikeshare program that will closely integrate with Project Connect and provide access to many of the top destinations in the region. The following expansion plan is fiscally unconstrained and illustrates how far CapMetro envisions to expand over the next decade if funding is available.

This plan does not present specific station locations – CapMetro will have to site stations on an annual basis based on a site survey that considers operational constraints, location of available space for stations, property restrictions, and community input. Instead, the team has outlined eleven expansion zones based on an inventory of approximate station locations. The full expansion plan envisions approximately 360 stations spread across 11 zones in the City of Austin. Expansion would be phased concentrically outward from the existing system. Note that the actual final system size may differ for a variety of reasons and, as such, the number of stations presented in this plan are intended to be an approximate guide for system growth.

Expansion Plan Methodology

The expansion plan was developed by first creating an inventory of potential station locations across the CapMetro service area. These locations were selected based on a systematic survey of the CapMetro service area that incorporated the existing conditions analysis, feedback from the public, the existing bicycle infrastructure network, and an in-depth desktop survey of land-use and key destinations in Austin. The study team narrowed the inventory to approximately 290 possible bikeshare station locations spread across all three expansion typologies. These locations, when combined with the system's 76 existing stations, would yield a full build-out of approximately 360 stations over ten years. These general station locations were then used to define 11 expansion areas, representing zones that can be phased-in over time.

Expansion Plan Overview

The proposed system is designed around the guiding principles of the plan:

A. Bikeshare, as part of Austin's public transit network, connects people to where they want to go: The expansion plan is intended to complement CapMetro's existing service as well as service added in the future through Project Connect, providing first and last mile connections to Rapid, Light Rail, and Rail stations. The proposed CapMetro Bikeshare stations provide access to key regional destinations like The Domain, Mueller, and St. Edwards University, while expanding bikeshare coverage in places already served by CapMetro Bikeshare like Downtown and the University of Texas.

B. Bikeshare is a tool to reduce inequalities in transportation: Much of the proposed expansion focuses on providing more equitable transportation access for Austinites. Expansion proposed for places like Southeast Austin and North Austin serve communities that are disproportionately low-income and minority, where many residents today lack access to a car.

C. Bikeshare provides an accessible and affordable transportation option: The proposed network considers existing bicycle infrastructure, placing stations near or adjacent to bicycle lanes and trails. The density of stations is intended to improve accessibility by reducing walking times to and from stations.

D. Bikeshare supports community wellbeing: The expansion includes stations at public parks, recreation centers, pools, schools, and other community assets.

E. Bikeshare is a good steward of public funds: The expansion plan balances the desire to grow the footprint of CapMetro Bikeshare with the need to build density in places with already strong bikeshare ridership like Downtown and UT. This balanced approach to growth will be critical to maintaining the program's cost recovery rate and assures quality service by planning for a measured, deliberate growth of operations and maintenance resources.

The study team identified a fiscally unconstrained expansion plan based upon the guiding principles, and then grouped proposed future stations into eleven geographic zones based on neighborhood and relationship to the existing network. The eleven zones more than quadruple the current system's size to cover an area extending from The Domain and Gateway area to the north all the way to William Cannon in the south (Figure 25).

Expansion Zone Description

Figure 25 provides a detailed overview of the unconstrained expansion plan across the City of Austin and the CapMetro Service area. Each expansion zone is grouped based on geography and relationship to the existing system. The proposed expansion stations shown on the map represent approximate locations of stations; actual station siting is dependent on several factors outlined in the Expansion Guidelines section and will require additional evaluation.

Core Capacity is centered on Downtown and illustrates expansion within the highest demand part of the current CapMetro Bikeshare service area. Many of the proposed stations provide infill, adding more stations around Downtown and the University of Texas campus. The proposed new stations in the Core Capacity zone extend south to provide additional service along the city's riverfront, and north to provide connectivity throughout the proposed Light Rail's core segment.

University of Texas provides density in the largely residential neighborhoods around UT that generate much of CapMetro Bikeshare's existing ridership. These stations add increased service to the West Campus, North University, and destinations like St. David's Medical Center.

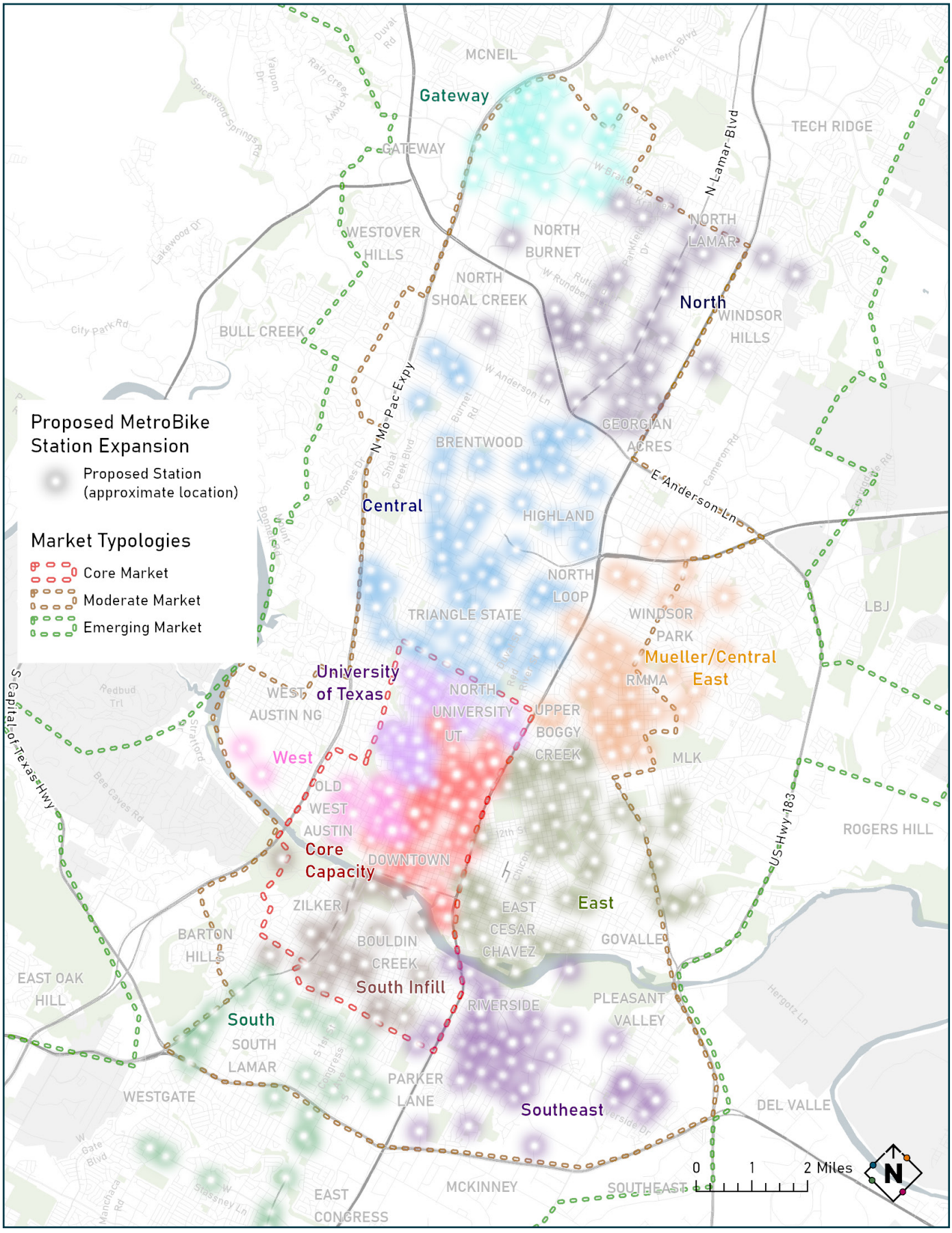
West adds new service to the primarily residential neighborhoods west of Downtown Austin, including Old West Austin. These new stations also provide infill, adding connectivity to stations that are currently outside of the core CapMetro Bikeshare system along the more commercial W 5th St. The proposed stations would provide service to destinations like Pease District Park, Shoal Creek, and Austin Recreation Center.

South Infill stations add density around existing CapMetro Bikeshare stations south of the river, while expanding service further south into the largely residential neighborhoods of Bouldin Creek, Travis Heights, and Zilker. The proposed South Infill stations would also add service along South Lamar, a major commercial artery.

Central illustrates expansion north of the existing service area focused on Central Austin. Expansion in this zone will extend the existing CapMetro Bikeshare service area to the north connecting to the core Rapid routes and the Red Line, as well as to planned Project Connect investments. Bikeshare would serve destinations like Crestview, Seton Medical Center, Austin Community College – Highland campus, and UT Intramural Fields, to name a few.

East illustrates proposed expansion throughout East Austin, where bikeshare would serve the Red Line and two under-construction Rapid lines. Key destinations to be served by CapMetro Bikeshare include Rosewood Neighborhood Park and the Millennium Youth Entertainment Complex, Festival Beach, and various businesses along MLK Jr. Blvd and Manor Rd.

Figure 25: **Expansion Zones**



CapMetro Bikeshare

Mueller/Central East focuses on the rapidly developing areas of Mueller and the more established Windsor Park. The Mueller area consists of mix of residential, commercial, and recreational destinations that will be linked to the larger Austin area by CapMetro Bikeshare. Key destinations served in this zone include The Thinkery and Mueller Lake Park, Dell Children's Medical Center, and the Austin Creative Reuse Center.

North illustrates expansion into North Austin, focused on the Moderate Market typology to the north of the Central zone and U.S. Route 183. This zone largely centers on the North Lamar corridor, adding access to a part of Austin with a high concentration of low- and moderate-income households.

Gateway is bound by the Mopac Expressway to the north and located just above the North Austin zone. Expansion in this area would serve several regional activity centers like the Q2 Stadium, The Domain, and UT's Pickle Research Center. Stations in Gateway would extend CapMetro Bikeshare service along the Red Line and Rapid Route 803.

South focuses on areas south of the Core Market typology that are currently beyond the existing CapMetro Bikeshare service area. This zone extends CapMetro Bikeshare further into neighborhoods in southern Austin. Expansion here is proposed to follow existing high-capacity transit corridors along Lamar Boulevard and Congress Avenue. New stations in the area would serve destinations like St. Edwards University and the growing South Lamar Boulevard corridor. Expansion would serve areas with significant community need.

Southeast extends service to areas southeast of the Core Market. Expansion here is proposed to follow high-capacity transit corridors along Riverside Drive and Pleasant Valley Rd, connecting the service with the proposed Light Rail and Pleasant Valley Rapid Route. New stations in the area would add CapMetro Bikeshare access to Austin Community College-Riverside and Krieg Fields, and would serve areas with high community needs.

The study team identified additional areas, both inside and outside of Austin's city limits, that could be included in future expansion such as Leander, Round Rock, Tech Ridge, and Manchaca. These areas are too far from the present service area to be feasibly served by bikeshare over the next ten years. However, growth models predict that these areas will see significant change over the next decade and as such should be considered in the future. Additionally, some of these areas are outside of the city of Austin. Expansion into jurisdictions outside of Austin would require additional agreements with the local governments. These areas are not shown in Figure 25.

This page intentionally left blank.

7. Performance Monitoring

The following section proposes a performance monitoring program for CapMetro Bikeshare. The tracking of Key Performance Indicators (KPIs) will allow CapMetro to better align bikeshare with its other modes, more quickly identify operational issues, and measure the overall return on program investments. The performance monitoring recommendations are broken down into the following three categories:

- **System performance:** Metrics developed to monitor overall system health. These are metrics that would be monitored on a frequent and ongoing basis by the CapMetro Bikeshare operations team.
- **Station performance:** Metrics developed to identify issues at stations regarding ridership and reliability.
- **Goal Attainment:** Metrics evaluating the long-term attainment of CapMetro Bikeshare's guiding principles. These KPIs do not need to be tracked at the same frequency as station and system performance metrics.

Each metric is described in detail and includes information such as the metric's purpose, data sources, how the metric is calculated, data ownership, and the frequency of data reporting.

System Performance Metrics

Table 19 outlines the performance metrics designed to monitor the overall system performance and health of CapMetro Bikeshare. These metrics are general in nature and are intended to be tracked on a daily or monthly basis.

Table 9: **System Performance Metrics**

METRIC	PURPOSE	DATA SOURCES	CALCULATION	OWNER	FREQUENCY
Overall Trips	Measure of system productivity and reach	Raw trip data	Sum of all trips for reporting period	Bikeshare Operations	Daily
Trips per Bicycle per Day (TpB)	Measure of system productivity	Raw trip data	Sum of all trips for reporting period / (sum of dock days for reporting period x 0.5)	Bikeshare Operations	Daily
System Downtime	Measure of system productivity	Station capacity data	Aggregate minutes of downtime broken down into two categories – rebalancing event (station full or empty) and hardware failure	Bikeshare Operations	Daily
Operating Costs	Track budget adherence	Financial data	Tracking percent of operating expenditures to budget	Bikeshare Operations	Monthly
Direct Revenue	Measure of system sustainability	Financial data	Sum of all revenue sources including user fees, advertising, and sponsorship	Finance	Monthly
Unique Users	Measure change in membership base	Financial data	Number of active users each month	Bikeshare Operations	Monthly

Station Performance Metrics

Table 20 describes performance metrics to assess bikeshare station performance. By analyzing and comparing stations using these metrics, CapMetro Bikeshare can determine whether stations are underperforming or need increased capacity. Metrics such as a station's lost trip factor and station revenue offer detailed insights into the financial health of individual stations. Station performance metrics are intended to be tracked on a monthly basis to ensure overall system health.

Table 10: **Station Performance Metrics**

METRIC	PURPOSE	DATA SOURCES	CALCULATION	OWNER	FREQUENCY
Total station ridership	Measure of station productivity	Raw trip data	Total station trips per month	Bikeshare Operations	Monthly
Station Trips per Bicycle Per Day	Measure of station productivity	Raw trip data	Average daily ridership at station divided by number of active bicycles	Bikeshare Operations	Monthly
Station downtime	Measure of station productivity	Station downtime reports	Average daily time a station experiences a downtime event during reporting period	Bikeshare Operations	Monthly
Station lost trip factor	Approximates the number of riders effected by station downtime	Station downtime report and ridership data	(Average daily ridership at station ÷ average percent of daily uptime) – Average daily ridership	Bikeshare Operations	Monthly
Station revenue	Measure of station sustainability	Financial data	Total monthly revenue generated at each station	Finance	Monthly
Unique Users	Measure change in membership base	Financial data	Number of active users each month	Bikeshare Operations	Monthly

Attainment Metrics

Table 21 describes performance metrics which aim to assess the attainment of CapMetro Bikeshare's five guiding principles:

A. CapMetro Bikeshare, as part of Austin's public transit network, connects people to where they want to go.

B. CapMetro Bikeshare is a tool to reduce inequalities in transportation.

C. CapMetro Bikeshare provides an accessible and affordable transportation option.

D. CapMetro Bikeshare supports community wellbeing.

E. CapMetro Bikeshare is a good steward of public funds.

Attainment metrics are intended to be calculated annually, although some of the KPIs listed below are on the list of system performance metrics as well. The purpose of attainment metrics is to better quantify how bikeshare strategically is meeting CapMetro's goals. Note that not all these metrics can currently be calculated. The study team recommends adding a brief demographic survey as part of the sign-up process to better understand the program's rider base.

Table 11: **Attainment Metrics**

METRIC	PURPOSE	DATA SOURCES	CALCULATION	OWNER	FREQUENCY
A. CapMetro Bikeshare connects people where they want to go					
Access to transit	Measure of access to transit connections	CapMetro transit stop and station data	Percent of CapMetro Bikeshare stations within a quarter mile of a transit stop or station	Planning	Annual
Access to jobs	Measure of connectivity to destinations of interest	Longitudinal Employer-Household Dynamics (LEHD) Data	Number of jobs within a quarter mile of a CapMetro Bikeshare station	Planning (publicly available source)	Annual
Access to households	Measure of a system and station accessibility	American Community Survey (ACS) Data	Number of households within a quarter mile of a CapMetro Bikeshare station	Planning (publicly available source)	Annual
B. CapMetro Bikeshare is a tool to reduce inequities in transportation					
Rider demographics	Measure of system equity	Sign-up survey (currently source does not exist)	Percent of users that are minority or low-income based on sign-up survey	Planning (survey data)	Annual
Trips in equity focused areas	Measure of system equity	American Community Survey (ACS) Data	Trips originating or ending in block groups that are majority minority populations or have a poverty rate greater than 30 percent (30%)	Planning	Annual
Discount pass holders	Measure of system equity	User data	Percentage of riders under discounted pass programs (Student passes)	Bikeshare Operations	Annual
C. CapMetro Bikeshare provides an accessible and affordable transportation option					
Average cost per trip	Measure of system affordability	Raw trip data	Annual revenue generated from trips divided by annual rides.	Bikeshare Operations	Annual
Ridership among older adults	Measure of system accessibility	Sign-up survey (currently source does not exist)	Percentage of users that are over 55 years of age.	Planning (survey data)	Annual
Crash Incidents	Measure of system safety	Incident reports	Crashes per 10,000 rides per year	Bikeshare Operations	Annual
Membership Turnover	Measure of system sustainability and reach	Membership records	Percentage of existing registered users who fail to renew once their membership expires	Bikeshare Operations	Annual
D. CapMetro Bikeshare supports Community Wellbeing					
Annual miles biked using CapMetro Bikeshare	Measure of system's effect on environmental sustainability	Raw trip data	Sum of total miles biked across the entire system.	Bikeshare Operations	Annual
User satisfaction and wellbeing	Measure of user and community health and wellbeing.	Annual survey conducted on the CapMetro Bikeshare app	Percent of CapMetro Bikeshare users who report an increase in physical activity due to CapMetro Bikeshare	Planning (survey data)	Annual
E. CapMetro Bikeshare is a good steward of Public Funds					
Trips per Bicycle per Day (TpB)	Measure of system productivity	Raw trip data	Sum of all trips for reporting period / (sum of dock days * 0.5)	Bikeshare Operations	Annual
Cost recovery ratio	Measure of system sustainability	Financial data	Annual revenue / annual costs	Bikeshare Operations	Annual
Average annual operating costs per dock & per bike	Measure of system sustainability	Financial data	Total costs / total docks or total bicycles in operation	Bikeshare Operations	Annual

This page intentionally left blank.

8. Conclusion

The CapMetro Bikeshare Expansion Plan presents a comprehensive roadmap for the future of bikeshare in Austin, aiming to address mobility, equity, and climate goals. The plan builds on the foundation laid by SEP I, offering detailed insights into existing market conditions, the public engagement process, system design and expansion guidelines, and financial projections. The CBEP outlines a vision for expanding CapMetro Bikeshare over the next decade, focusing on enhancing accessibility, promoting sustainability, and integrating with public transportation. The study is guided by a goal to expand access to bikeshare in Austin, especially in areas with high ridership potential and public need, with a special focus on ensuring more equitable access. The growth of CapMetro Bikeshare will include the replacement of aging equipment and the expansion of the service area to meet increasing demand and further integrate with public transit services as they grow. A significant portion of this expansion is funded by the TASA grant, awarded to the City of Austin in October 2023. This $12.4 million, a combination of the TASA grant, city match, and state contribution, will enable the procurement of new equipment and support the addition of new bikeshare stations, ensuring that CapMetro Bikeshare can grow to serve a broader range of communities.

CBEP is the result of a collaborative effort involving extensive market analysis, public engagement, and strategic planning. A thorough existing conditions analysis was conducted to identify the areas that would best served by CapMetro Bikeshare expansion. That analysis was incorporated into extensive feedback from surveys, focus groups, and open houses to ensure community voices were included. Based on that analysis and community feedback, guidelines for station placement, expansion, and performance monitoring were designed to create a resilient and adaptable bikeshare system that will grow and changed with Austin. This plan seeks to make CapMetro Bikeshare a ubiquitous part of Austin's transportation network, transforming the city into a model for sustainable urban mobility. By integrating bikeshare with public transit, CapMetro Bikeshare seeks to create a seamless and complete transportation system that caters to all residents, prioritizing the needs of the most vulnerable communities.

Market typologies and expansion zones were created to provide a structured framework for CapMetro Bikeshare's CBEP. The proposed expanded service area was divided into three market typologies to encompass high-density areas like Downtown Austin and the University of Texas, which have high existing bike usage and connectivity, developing neighborhoods that are characterized by moderate density and growing transit accessibility, and Emerging Markets that include more suburban and peripheral areas with potential for future bikeshare demand. These typologies guide the phased expansion plan, ensuring that new stations are strategically placed to maximize ridership and meet community needs. The plan's 11 geographic expansion zones, defined based on these typologies, outline a detailed roadmap for extending bikeshare coverage, enhancing connectivity, and supporting sustainable growth.

CapMetro Bikeshare has embarked on a major transformation. The immediate focus has been procuring new equipment and relaunching the system. As the expansion plan implementation continues, the CapMetro Bikeshare team will continually assess and adjust strategies based on the performance metrics outlined in this document. The next decade will see the integration of new bikeshare stations with Project Connect's transit infrastructure, enhancing connectivity and accessibility across Austin. CapMetro will continue to monitor the system's performance and make data-driven decisions to optimize operations and ensure long-term sustainability.

CapMetro Bikeshare

Expansion Plan

September 2024

Prepared with support from:
Foursquare ITP
Rifeline
Halff