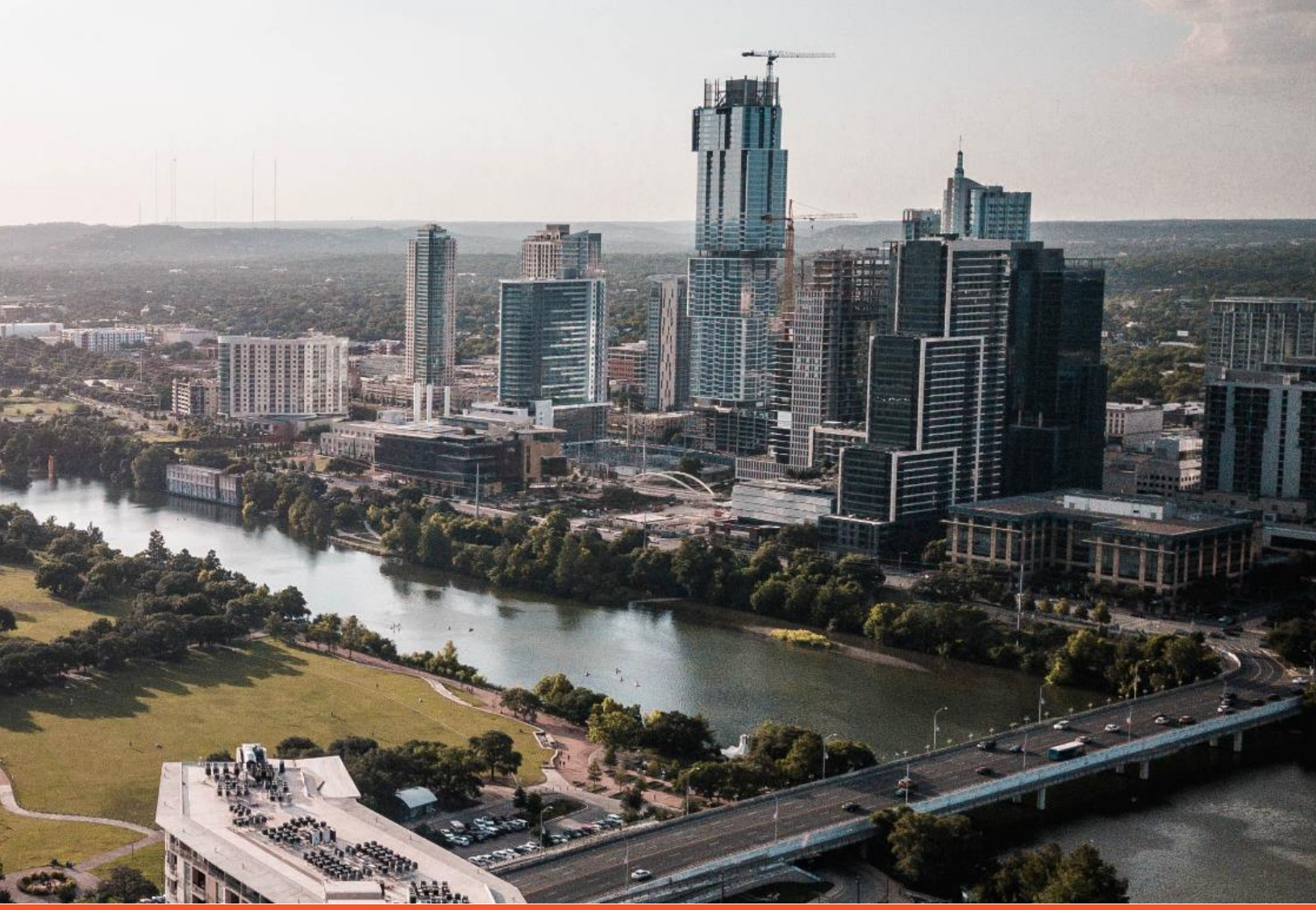

DOWNTOWN CIRCULATOR STUDY

Existing and Emerging Conditions

June 2020

DOWN AUSTIN TOWN ALLIANCE

NELSON NYGAARD

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Cover photo by Jeremy Banks

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1 INTRODUCTION

PROJECT OVERVIEW

The Downtown Austin Alliance (DAA), in partnership with the City of Austin and Capital Metro, initiated the Downtown Circulator Study to evaluate the market demand for a downtown transit circulator or other near-term solutions to address mobility challenges within downtown.

As the first deliverable of the study, this report summarizes existing conditions, highlights planned growth, and provides cases studies of circulators in other cities to help inform the best path forward for a potential circulator route(s) in downtown Austin.

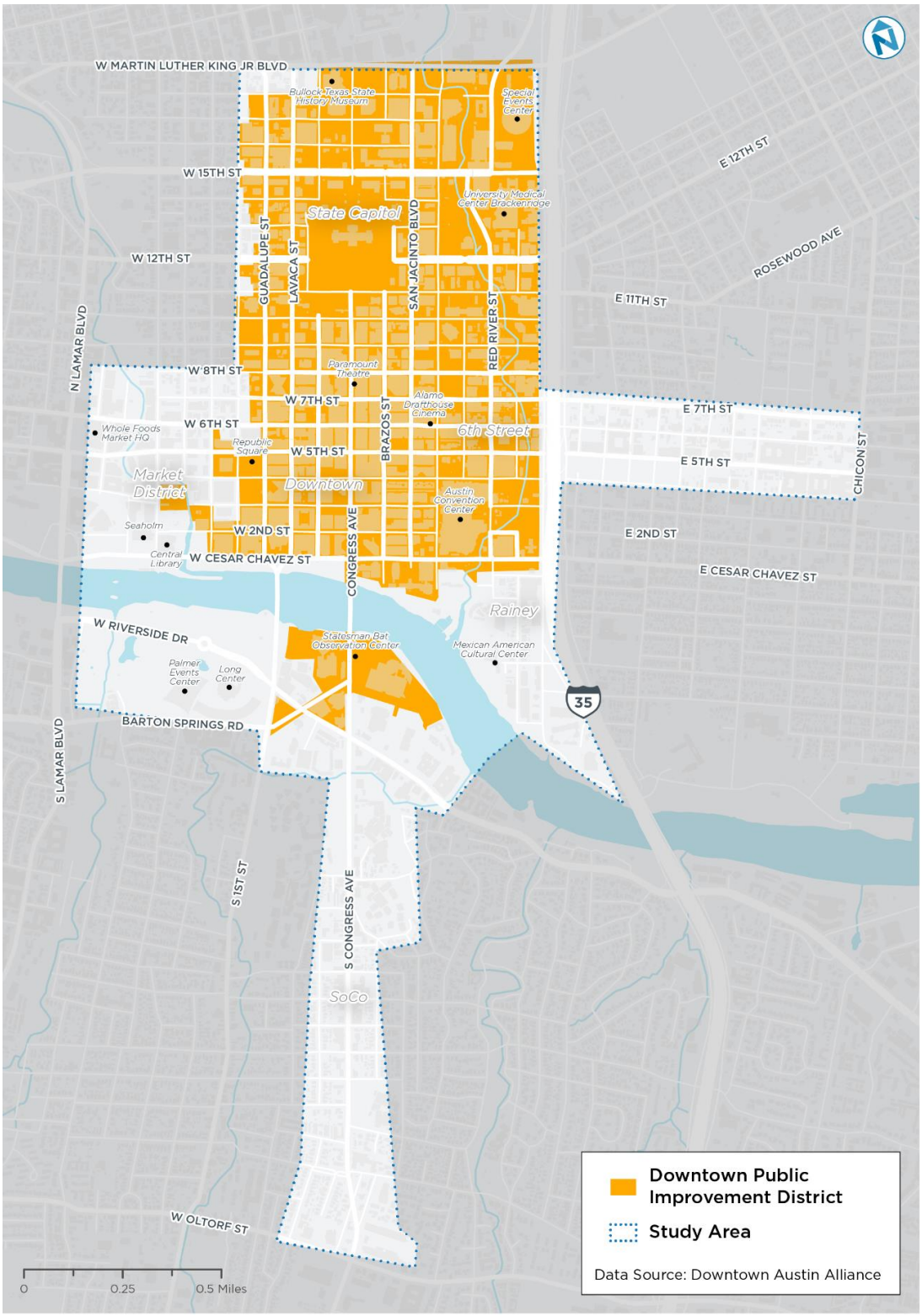
This report was authored between March and May 2020 during the start of the COVID-19 outbreak. As such, components of this report reference conditions that existed prior to the city's stay-at-home order and economic slowdown. Nevertheless, it is important to document downtown market, transportation, and infrastructure conditions prior to the pandemic so that the Downtown Austin Alliance (DAA) and its stakeholders can forecast and plan for future mobility needs during and post recovery.

Figure 1-1 Project Timeline

STUDY AREA

The study area extends beyond the boundaries of the Downtown Public Improvement District (PID) to also include portions of East Austin and South Congress, as well as Auditorium Shores.

Figure 1-2 Study Area



2 DOWNTOWN TODAY

URBAN FORM

Downtown Austin is comprised of several districts that have unique characteristics. Downtown Austin is typically defined as the area east of I-35, north of Cesar Chavez Street, west of Lamar Boulevard, and south of 11th Street or Martin Luther King Jr Boulevard. Additional districts included in this study include Uptown, Capitol, University, Hospital, East End, Rainey, South Central Waterfront, and SoCo.

Martin Luther King, Jr. Boulevard to 11th Street

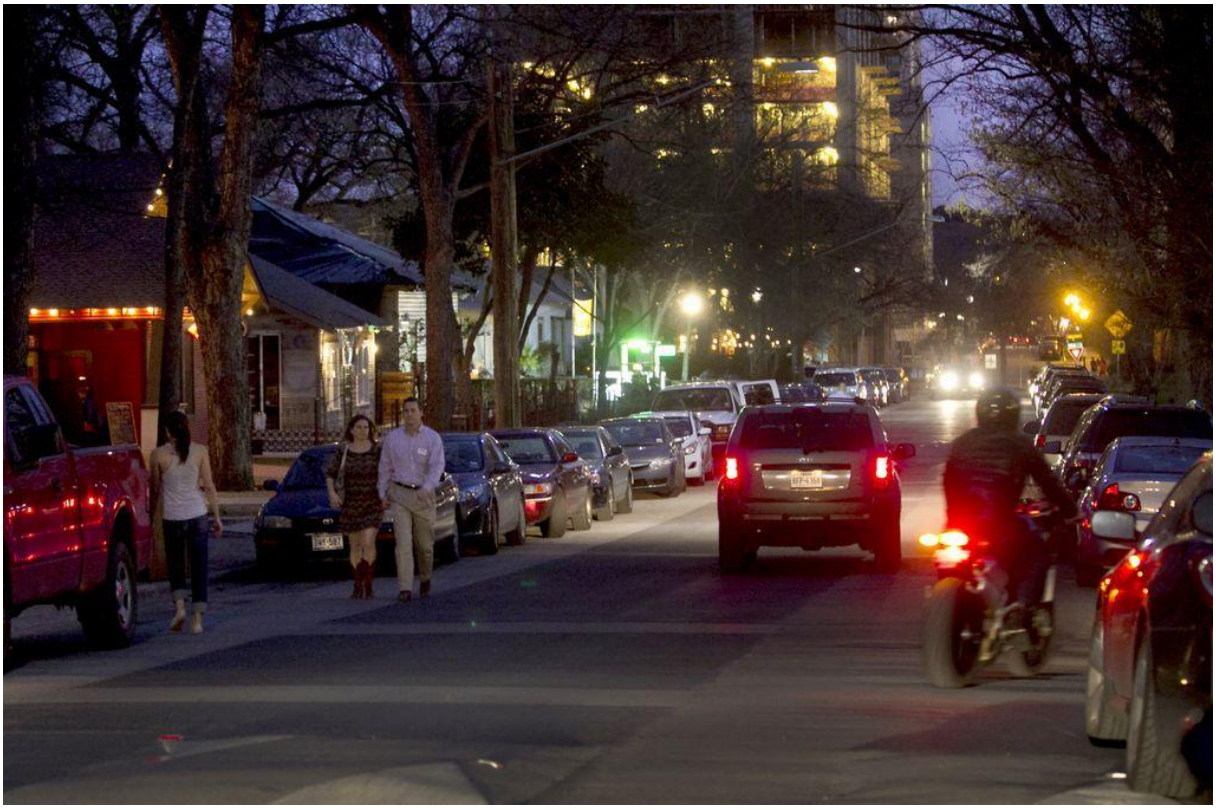
The northern end of the study area is dominated the Texas State Capitol and several state office buildings situated between 15th Street and Martin Luther King, Jr. Boulevard. Development east of the State Capitol Complex includes the Dell Seton Medical Center and University of Texas athletic and special event spaces, and the redesigned Waterloo Park (currently under construction), each of which occupy multiple blocks.

11th Street to Lady Bird Lake

Downtown Austin has a traditional grid design with most block lengths ranging from 272'-450'. Shoal Creek and Waller Creek break up the downtown street pattern near its eastern and western edges. Several major streets, such as 5th Street, 6th Street, 7th Street, Guadalupe Street, Lavaca Street, San Jacinto Boulevard, and Trinity Street, are limited to one-way travel. Alleyways divide several blocks along Congress Avenue, 5th Street, and 6th Street. The Austin Convention Center spans six city blocks in the southeast corner of downtown.

South of Cesar Chavez Street, the Rainey District consists of long, narrow blocks with limited public right-of-way. Blocks east of I-35 typically have short lengths, narrow streets, and alleyways.

Figure 2-1 Rainey Street District



Source: Austin360

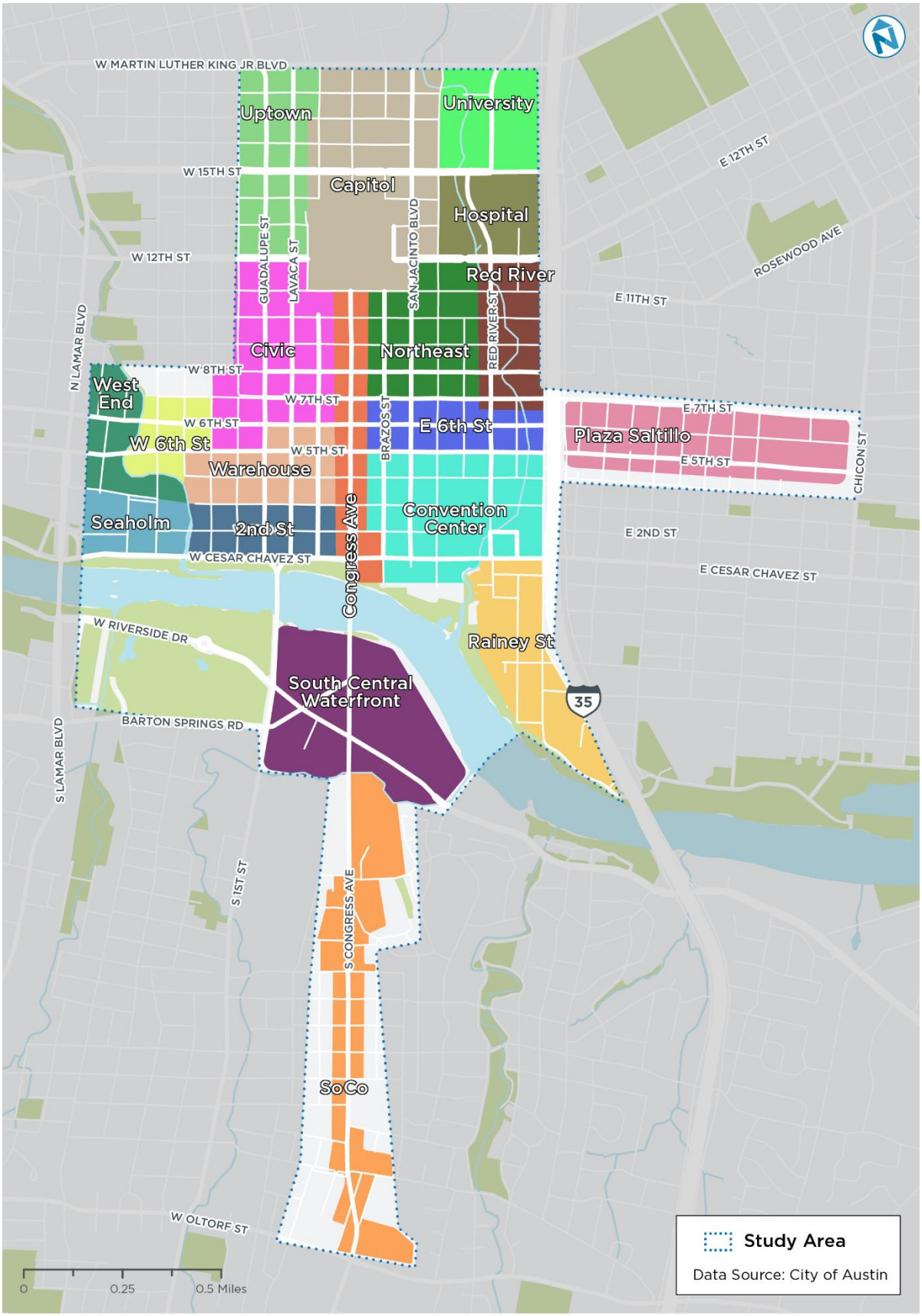
South of Lady Bird Lake

The South Central Waterfront District is comprised of large tracts bounded by Lady Bird Lake to the north, Bouldin Creek to the south, and South First Street to the west. The Austin American Statesman complex contains several large surface parking lots and a sprawling office block.

West of the South Central Waterfront District, Auditorium Shores and Butler Park consist of open space, Palmer Events Center, Long Center, and the Dougherty Arts Center.

The majority of SoCo matches downtown in terms of block length and orientation. Additionally, most SoCo blocks between Annie Street and Academy Drive are very wide (120') and have back-in angled parking. Development on South Congress north of Live Oak Street have height restrictions associated with the South Congress Capitol View Corridor.

Figure 2-2 Study Area Districts



LAND USE

Downtown Austin features a mix of land uses that serves to support a healthy urban ecosystem conducive to transit and walking. The most prevalent land uses in the study area are Downtown Central Business District (CBD), Public/Institutional/Governmental, General Commercial, and Transit Oriented Development (TOD). Land use mix varies significantly south of Lady Bird Lake.

Central Business District

The predominant land use between Cesar Chavez Street and 11th Street is Downtown Central Business District. North of 11th Street, land uses are largely public space, institutional, and governmental, with the exception of mixed-use along Guadalupe Street and Lavaca Street.

State Capital Complex

The State Capitol complex located north of 11th Street and south of Martin Luther King, Jr. Boulevard between Lavaca Street and San Jacinto Boulevard is predominately zoned as Public/Institutional/Governmental.

East End/Saltillo

Blocks between I-35, 4th Street, 7th Street, and Chicon Street are designated as Transit-Oriented Development (TOD). The Plaza Saltillo mixed-use development recently opened and includes big retailers such as Target and Whole Foods. Plaza Saltillo Station is served by Capital Metro's Red Line commuter rail and numerous bus lines is located in the center of the East End District at the intersection of 4th Street and Comal Street.

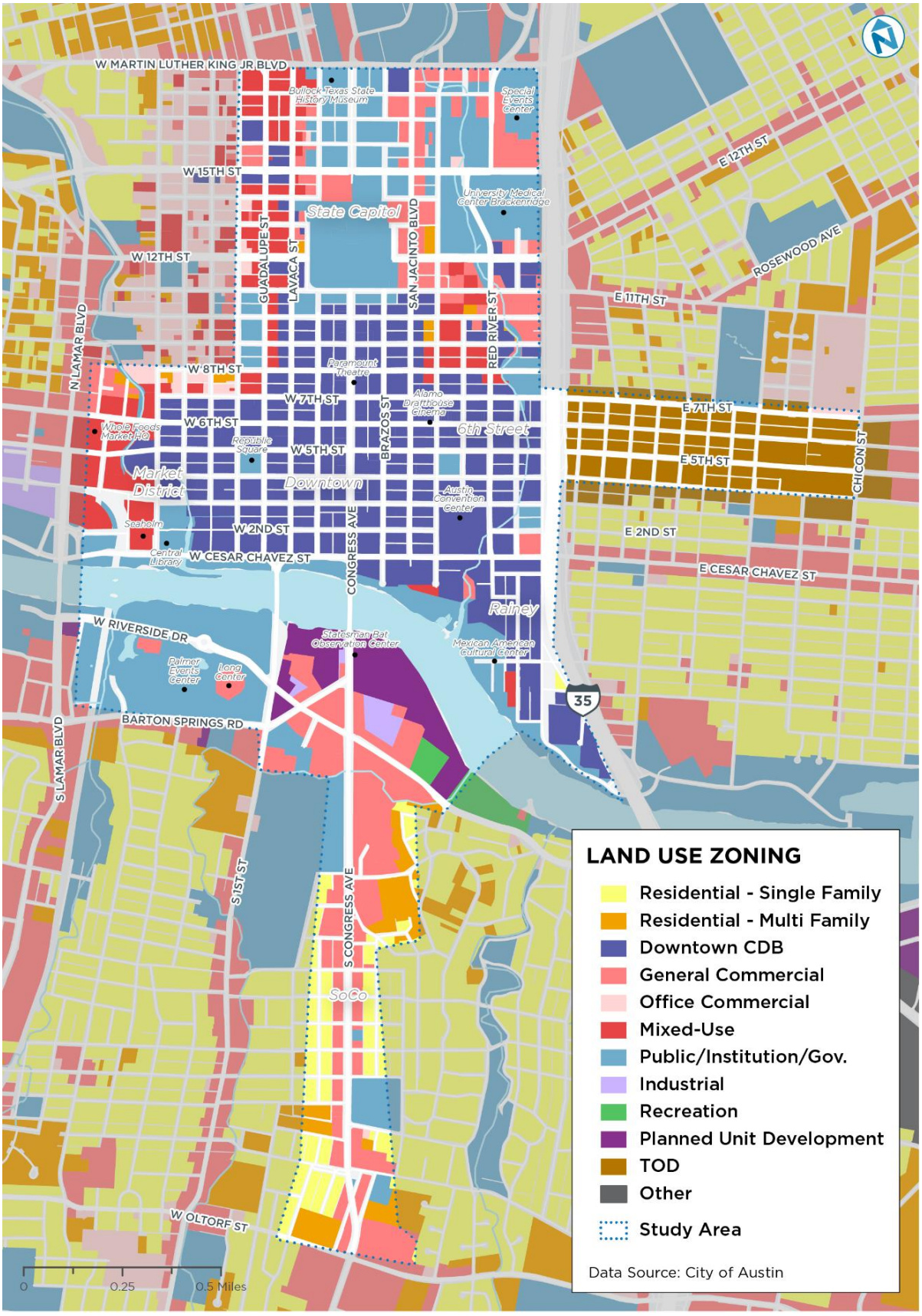
South Central Waterfront

Within the South Central Waterfront, land uses include general commercial, public space, and planned unit development (PUD). A major redevelopment is being planned at the current site of the Austin American Statesman east of Congress Avenue between Lady Bird Lake and Riverside Drive.

SoCo

The SoCo district is famous for its restaurants, retail, and hotels and features institutional uses, including the Texas School for the Deaf campus and Lively Middle School. The SoCo district is surrounded by Travis Heights and Bouldin neighborhoods which are predominantly single-family homes.

Figure 2-3 Land Use Zoning



MARKET GROUPS

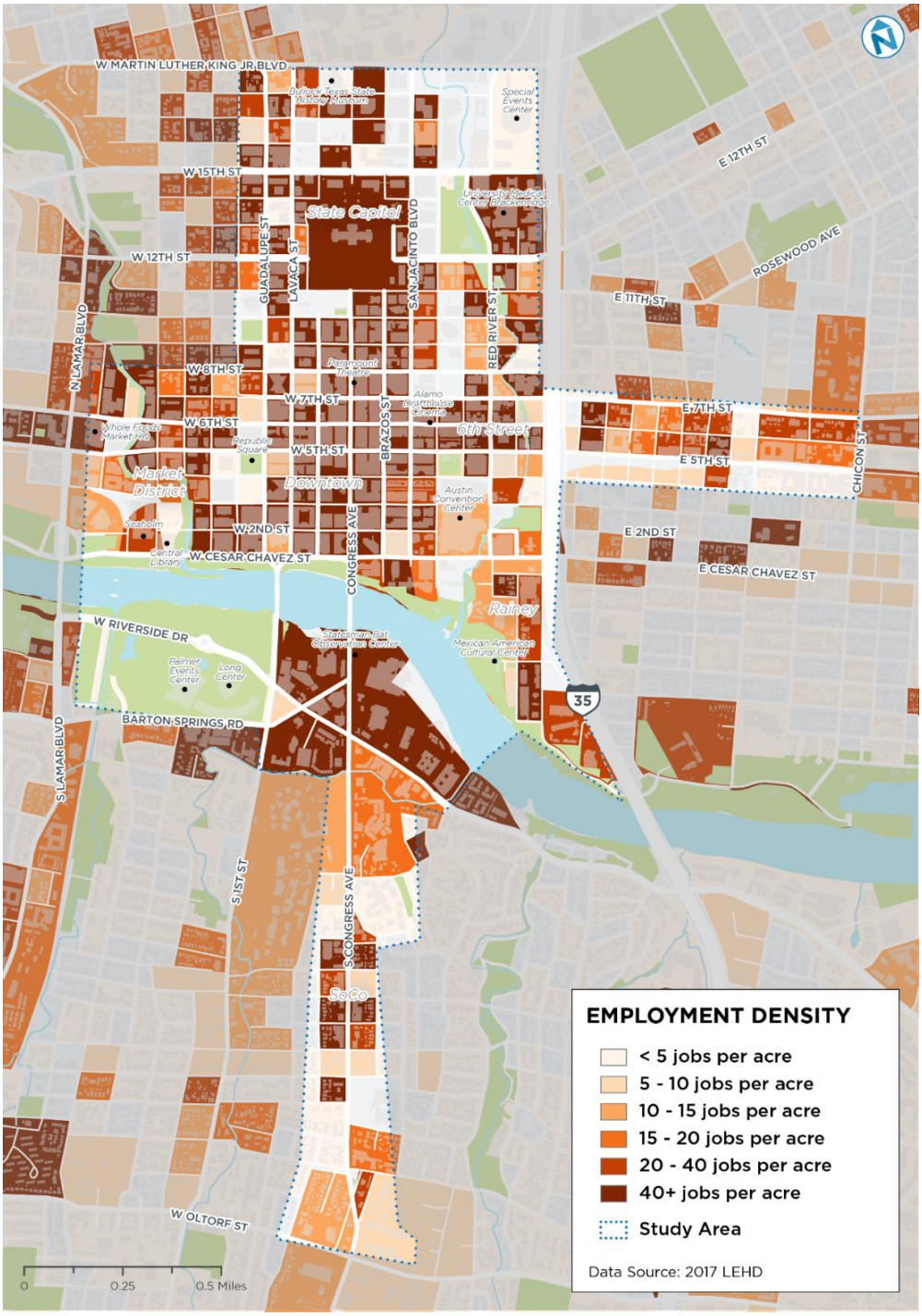
Downtown Austin and its neighboring districts join to create multiple activity centers. This section of the report examines the distribution, destinations, and travel patterns of Downtown Austin's three primary market groups – residents, visitors, and employees.

By analyzing market groups and activity centers, the Downtown Austin Alliance will be able to better understand demand for future potential circulator routes.

Downtown Employees

The study area is host to over 110,000 employees with the highest densities along Congress Avenue between Cesar Chavez Street and 11th Street. North of 15th Street, the State Capitol complex also feature high employment densities. Major employers within the study area include the State of Texas, City of Austin, Travis County, Dell Seton Medical Center, Whole Foods, Facebook, Google, and Indeed. South of Lady Bird Lake and east of I-35, the SoCo and East End Districts feature moderate to low employment densities.

Figure 2-4 Employment Density



Employment by Industry

Downtown Austin hosts a strong mix of employment sectors, led by business services, public administration, and tech (professional, scientific, and technical) industries.

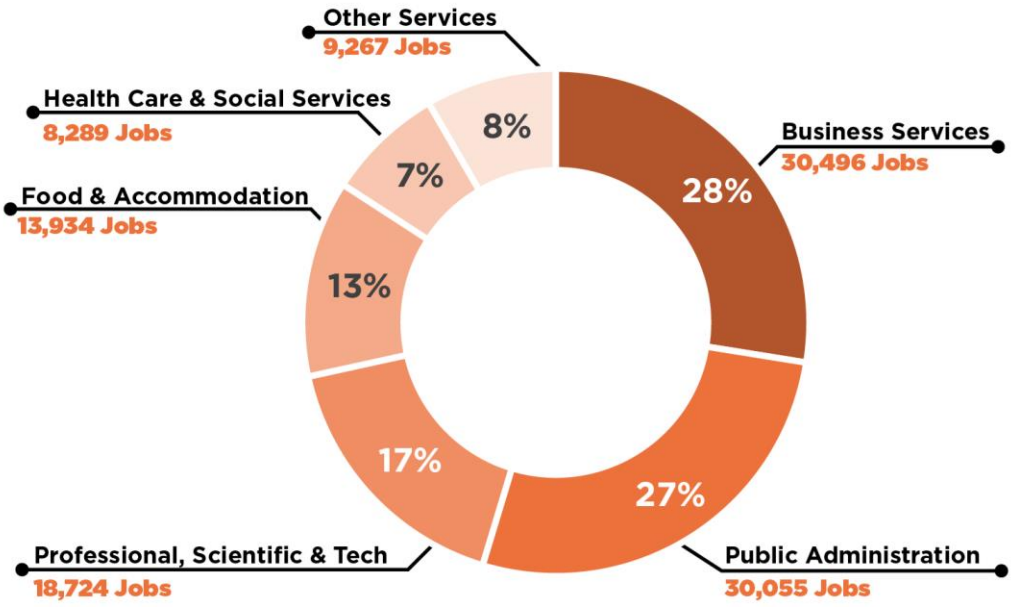
Business services jobs are largely concentrated along Congress Avenue between Cesar Chavez Street and 11th Street. Public administration jobs dominate the northern portion of the study area with multiple state office buildings north of the State Capitol. Additional public administration employment clusters include City of Austin, Travis County, and Federal office buildings along Guadalupe Street, Lavaca Street, Red River Street, and Barton Springs Road.

East of the Capitol there is a dense concentration of healthcare jobs at the Dell Seton Medical Center. The west side of the Capitol features a mix of tech, hospitality, and public administration jobs. Tech industry employment is largely concentrated in buildings along Congress Avenue, Colorado Street, and Brazos Street. Tech industry workers tend to live more locally to their place of work and are more likely to commute using alternative modes such as transit, walking, bicycle, or scooter.

The food and accommodations sector are spread throughout downtown, with the highest concentrations of food services located north of the Convention Center and near tech jobs. East of Congress Avenue and south of 8th Avenue, there is a high concentration of hotels to serve the Convention Center, 6th Street, Red River District, and the Rainey District.

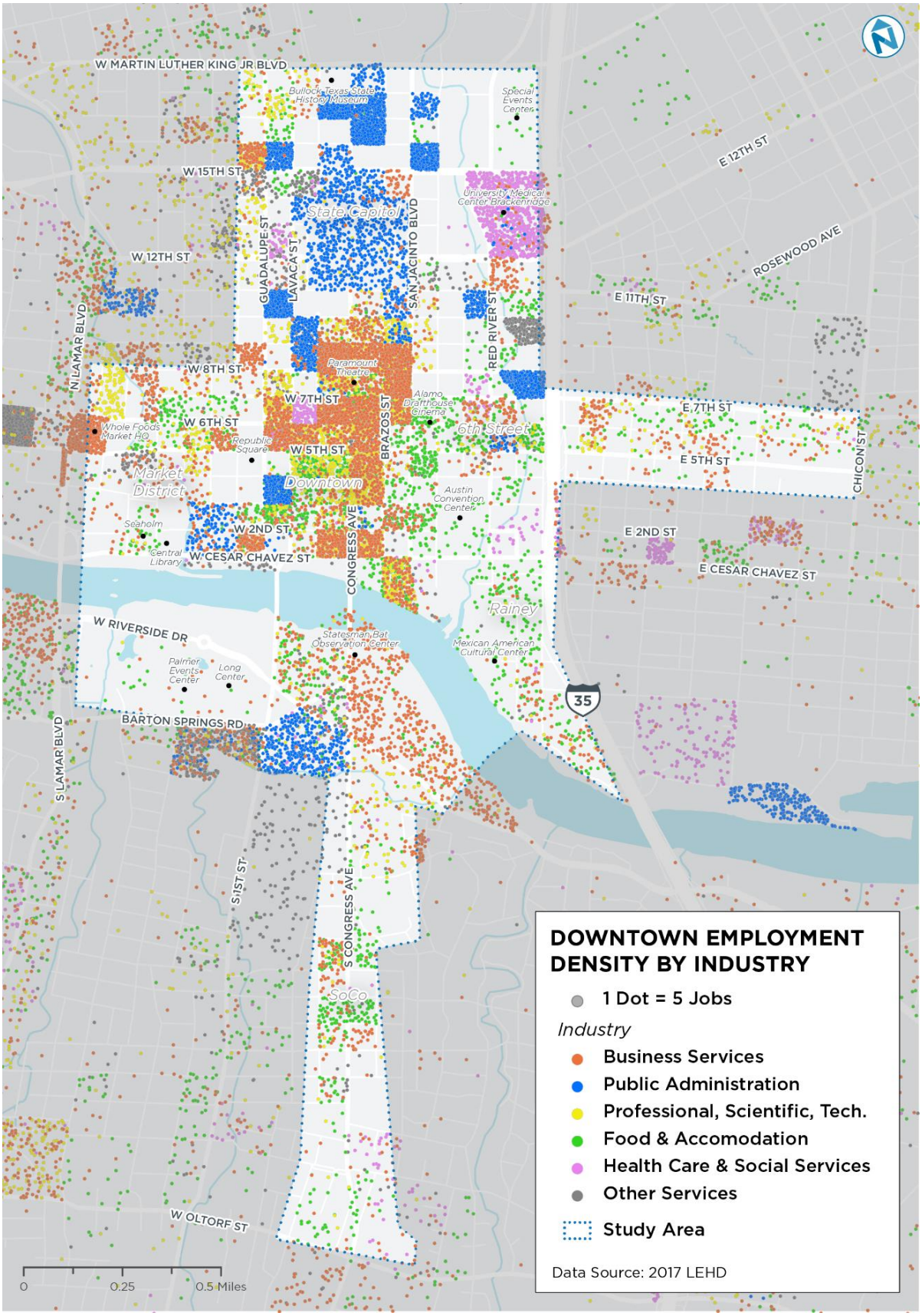
While employment density south of Lady Bird Lake and east of I-35 is more sparse, both areas host a variety of industries. Both SoCo and the East End districts have a mix of retail and restaurants.

Figure 2-5 Downtown Total Employment by Industry



Data Source: 2017 LEHD

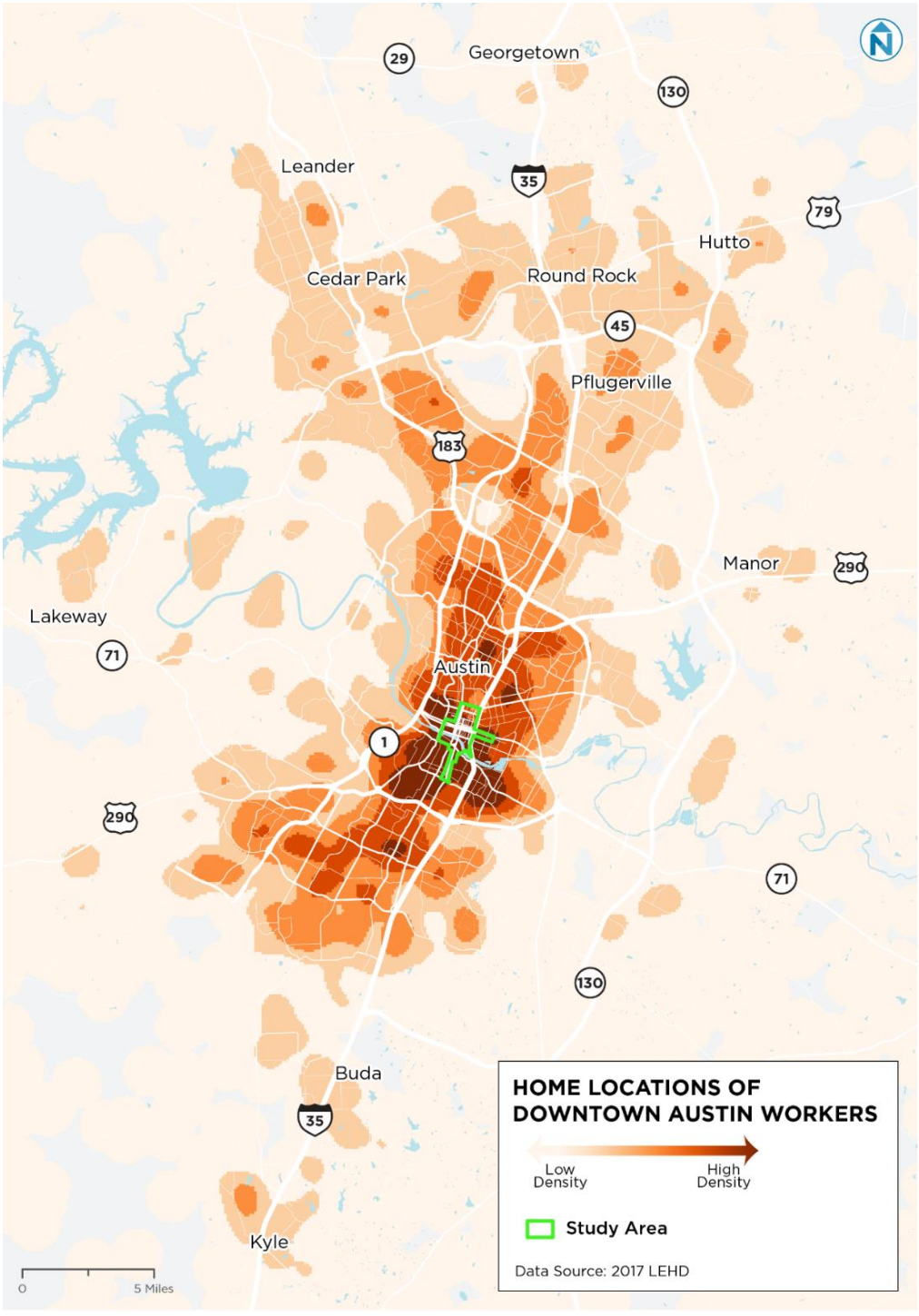
Figure 2-6 Employment Density by Industry



Employee Home Locations

Although downtown employees commute from all over the region, areas with the highest concentration of downtown employees include Central Austin south of 51st Street, East Austin west of Airport Boulevard, Southeast Austin north of Oltorf Street, and South Central Austin north of Ben White Boulevard. Areas farther from the city center with moderate concentrations of downtown workers include the Crestview/Brentwood and Windsor Park neighborhoods, as well as South Austin between Ben White Boulevard and William Cannon Drive.

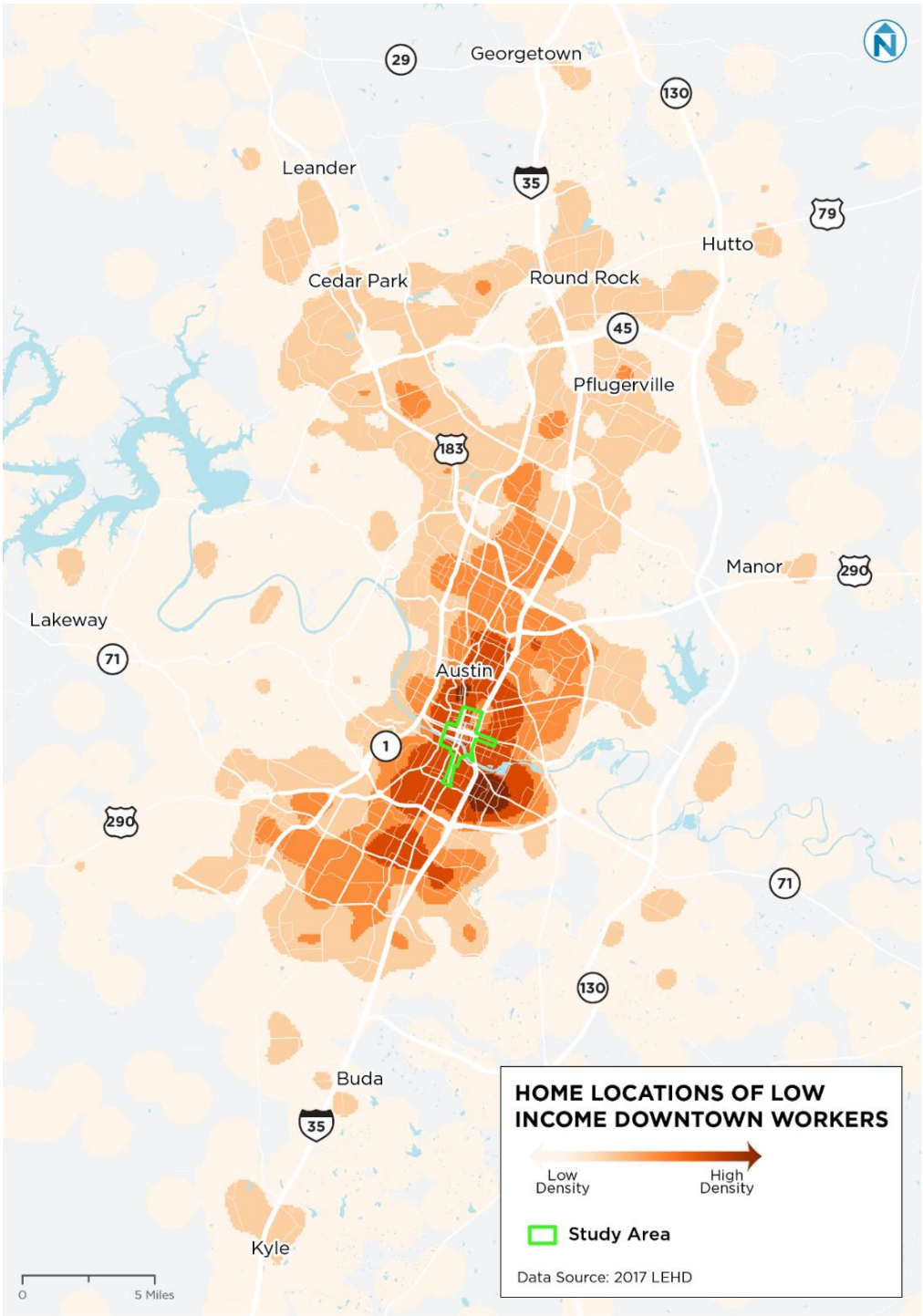
Figure 2-7 Home Locations of Low Income Downtown Workers



Low-Income Employee Home Locations

The highest concentration of low-income downtown workers is in Southeast Austin between Lakeshore Boulevard and Oltorf Street. Other areas with a high concentration of low-income downtown employees include West Campus, Hyde Park, North University, Central East Austin, and South Central Austin. Regionally, most low-income downtown workers who commute from outside of Austin reside cities to the north and northwest, including Pflugerville, Round Rock, Cedar Park, and Leander.

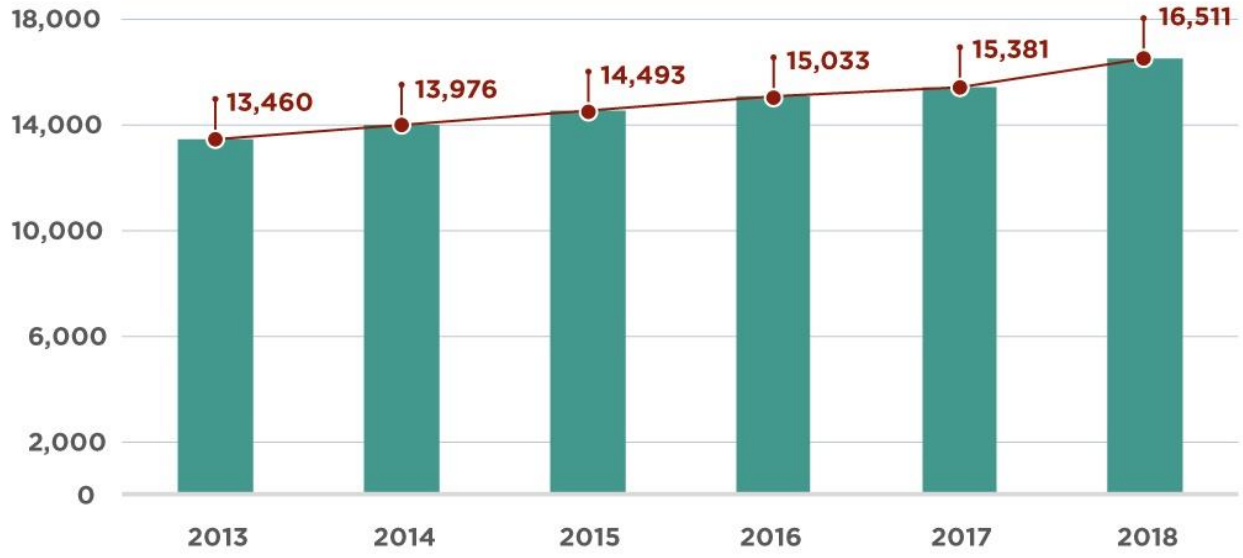
Figure 2-8 Low-Income Home Locations



Downtown Residents

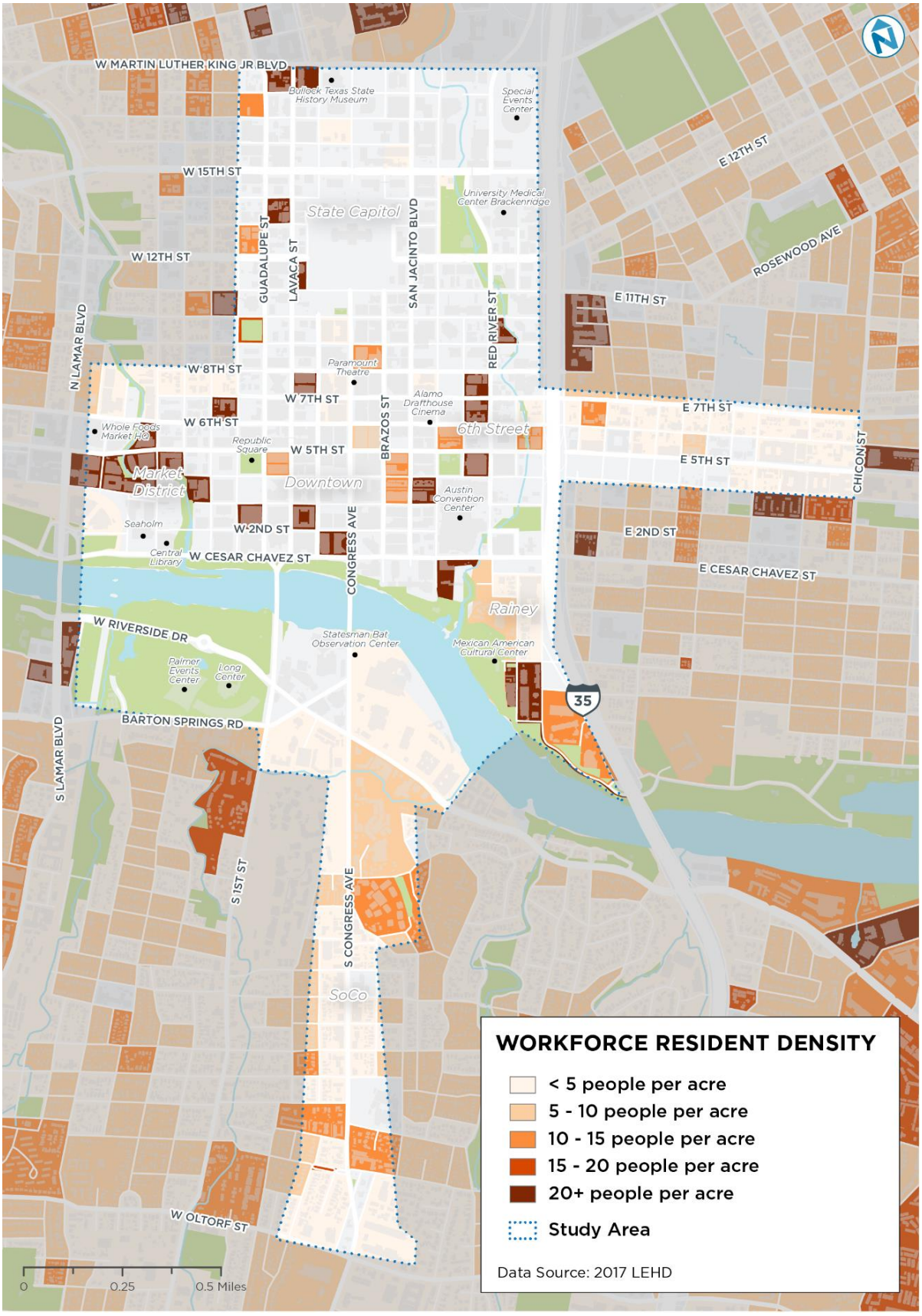
From 2013 to 2019, according to the US Census, Downtown grew by approximately 3,000 residents, an increase of nearly 23 percent. US Census American Community Survey (ACS) population estimates represent data at a large (block group) geographic level, so US Census Longitudinal Employer-Household Dynamics data was used to analyze the home locations of employees residing in Downtown Austin. Therefore, downtown residents not employed are not included in the following population density map.

Figure 2-9 Downtown Population Growth



Source: US Census

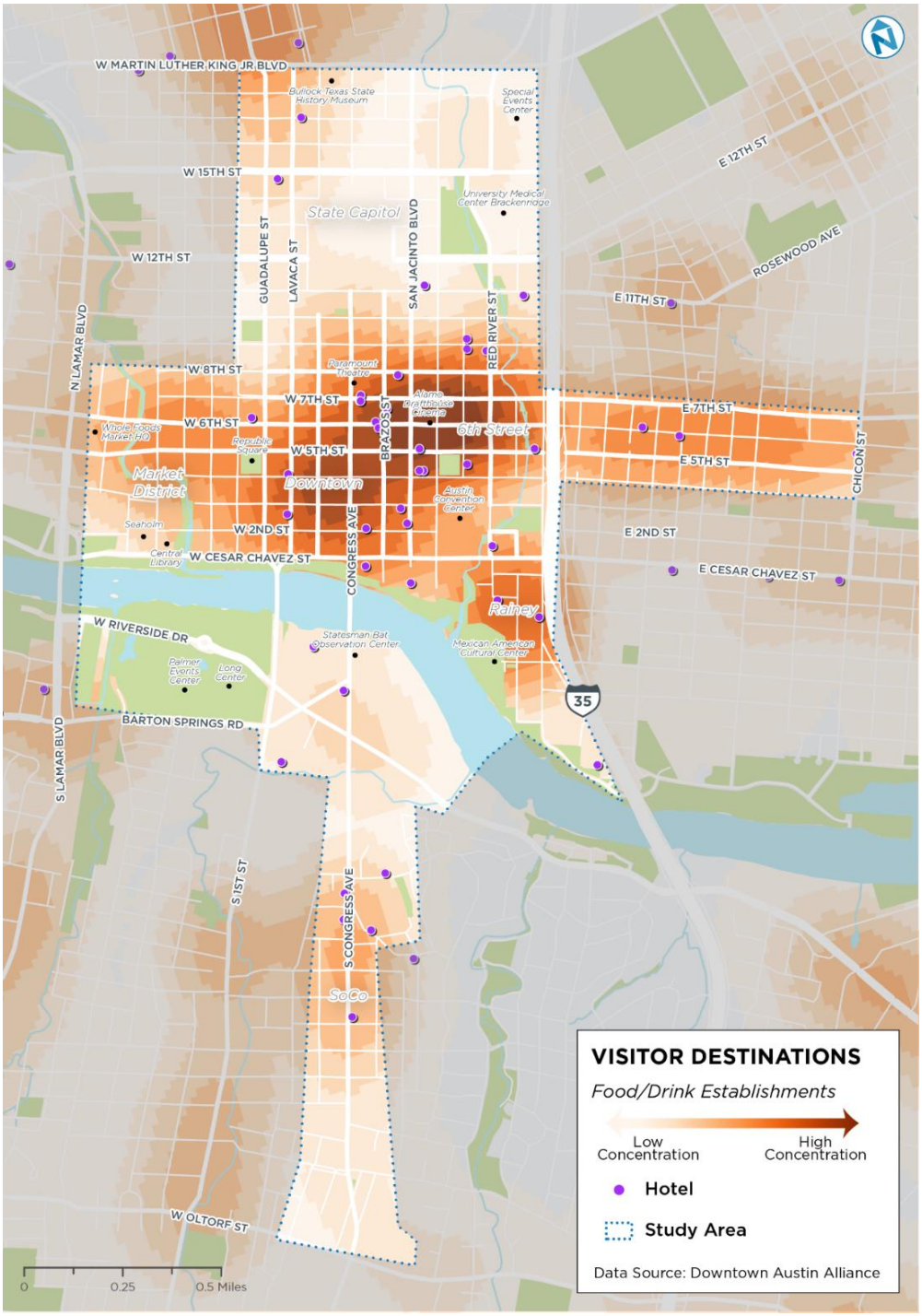
Figure 2-10 Density of Employed Residents



Downtown Visitors

As one of the country's top travel destinations, downtown Austin's bustling tourism and hospitality industry reached an all-time high in 2019. Events such as South by Southwest (SXSW) and Austin City Limits draw several hundred thousand visitors every year. The Convention Center is also a large draw for visitors throughout the year. Notably, the largest concentration of hotels is within a few blocks of the Convention Center. Downtown Austin is also a major destination for local visitors with established nightlife districts, including Sixth Street, Red River, Warehouse, Rainey, East End, SoCo.

Figure 2-11 Visitor Destinations



TRANSPORTATION OPTIONS

Downtown Austin's mode split- or percentage of travelers using a particular type of transportation or number of trips by type- is not precisely known. Most mode split data focuses on commute to work patterns to spotlight on the vast majority of trip patterns. Some cities use the U.S. Census American Commuter Survey (ACS) data as an approximation for mode split. In the case of Austin, ACS data indicates that roughly ¾ of the city commutes by car. However, a recent survey by Movablity Austin suggests that fewer downtown workers commute by car than ACS data may indicate.

The Austin Transportation Department is currently embarking on the Austin Core Transportation (ACT) plan (described in Chapter 3) which seeks to gather precise data on downtown's mode split. In the interim, this section highlights general trends by mode.

Drive-Alone

While downtown Austin has a significantly lower drive alone mode share than most other areas of the City, private automobiles remain the primary mode of transportation among downtown employees and visitors. ACS data points to roughly 75% drive-alone rates city-wide. Auto traffic within downtown peaks during morning and afternoon commute periods with congestion along several corridors, particularly those providing ingress or egress to or from the Central Business District.

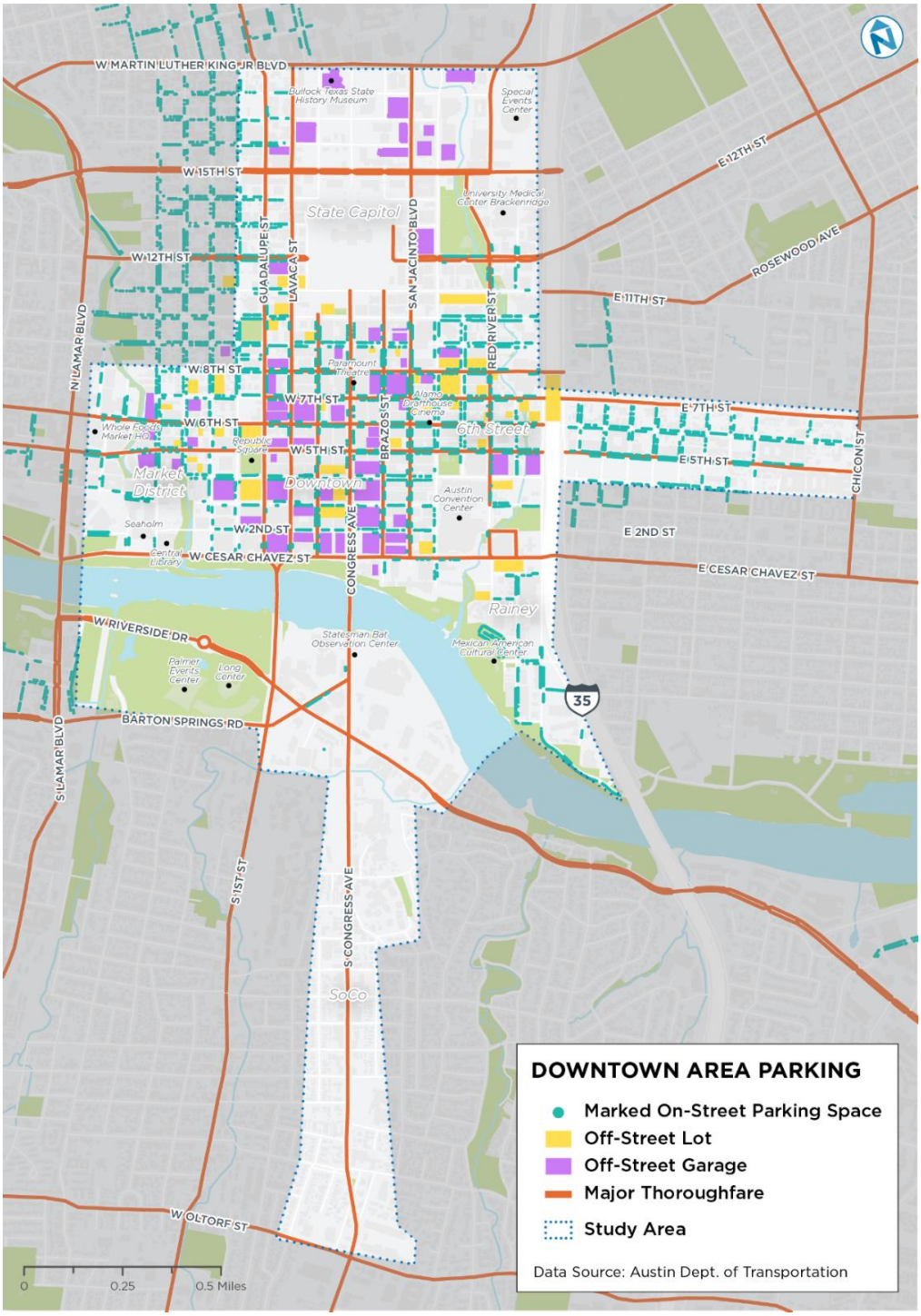
Figure 2-12 Traffic congestion on Congress Avenue during morning peak period

Source: Austin Culture Map

Parking

One of the key drivers behind the high-drive alone rate is the large supply of parking downtown, compared to other cities with higher multimodal mode use. The Downtown Parking Study Parking inventoried parking within downtown in September 2016, estimating over 65,000 off-street spaces in garages and lots and 6,400 on-street spaces. Downtown parking was classified as public, restricted, or varied. All public on-street parking within downtown and the East End districts is metered. Parking within the Capitol Complex is enforced by the State of Texas.

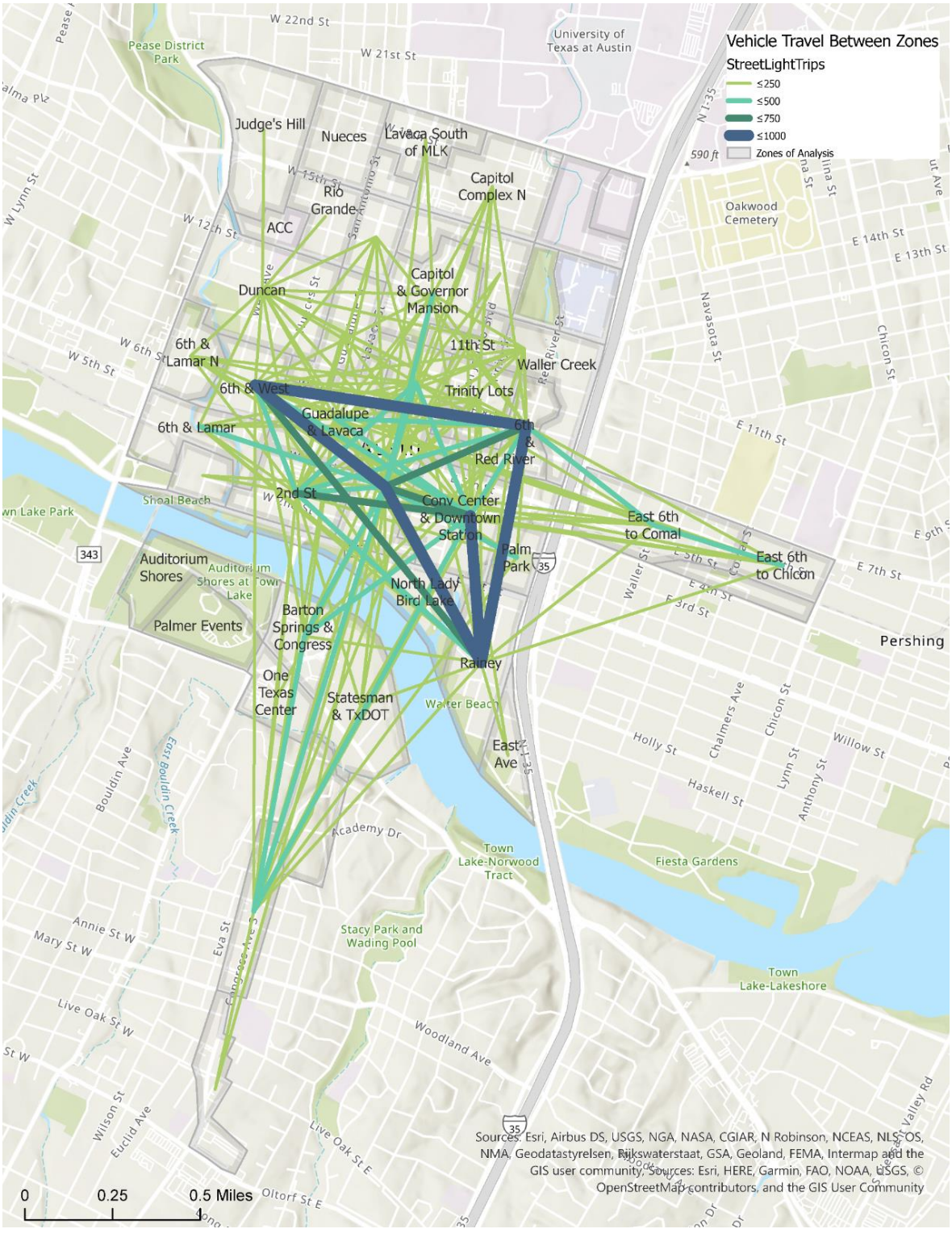
Figure 2-13 Downtown Area Parking



2019 Vehicular Travel Patterns within Downtown Zones

To understand travel patterns before, during, and after the COVID-19 outbreak and associated stay-at-home order, the Downtown Austin Alliance obtained anonymized data from a traffic analytics company that processes mobile data collected from mobile devices. Data obtained for this study only includes trips taken by automobiles, not walking, biking, transit or other modes.

Figure 2-14 2019 Vehicular Travel Patterns Between Zones



Transit

Downtown Austin is served by a combination of local (MetroBus), rapid bus (MetroRapid), express bus (MetroExpress), and commuter rail (MetroRail).

Most downtown ridership can be attributed to the bus network. As the primary transit corridors in downtown, Guadalupe Street and Lavaca Street have several high ridership stops due to passengers transferring between routes or traveling to/from downtown. Secondary transit corridors downtown include San Jacinto Boulevard, Trinity Street, Cesar Chavez Street, 7th Street, and 8th Street.

MetroRail provides connectivity from Leander (approximately 30 miles northwest of downtown) to the eastern edge of downtown Austin. MetroRail runs daily, with more frequent service during the weekday morning and afternoon peak periods. Capital Metro is currently in the process of constructing a permanent Downtown Station that will replace the current temporary station and include connections to local bus (Route 17 on Cesar Chavez and Route 4 on 7th Street), electric cab, carshare, B-cycle bikeshare, dockless scooters and bikes, and the Lance Armstrong Bikeway. Construction on the new station started in March 2019 and is anticipated to last into Spring 2021.

Capital Metro experienced a 11.5% increase in system ridership after launching its redesigned bus network in June 2018 with an 8% increase the year after. The COVID-19 pandemic resulted in a 60% decline in bus ridership and a 85% decline in rail ridership in April 2020 as compared to April 2019.

Capital Metro is currently planning for future regional needs and currently finalizing Project Connect, a high-capacity transit plan that would bring light rail to downtown by 2030. The Project Connect plan envisions reducing travel time by dedicating transitways with high-frequency service.

Figure 2-15 Project Connect Rendering

Source: Project Connect

Figure 2-16 Current Capital Metro Downtown Transit Network

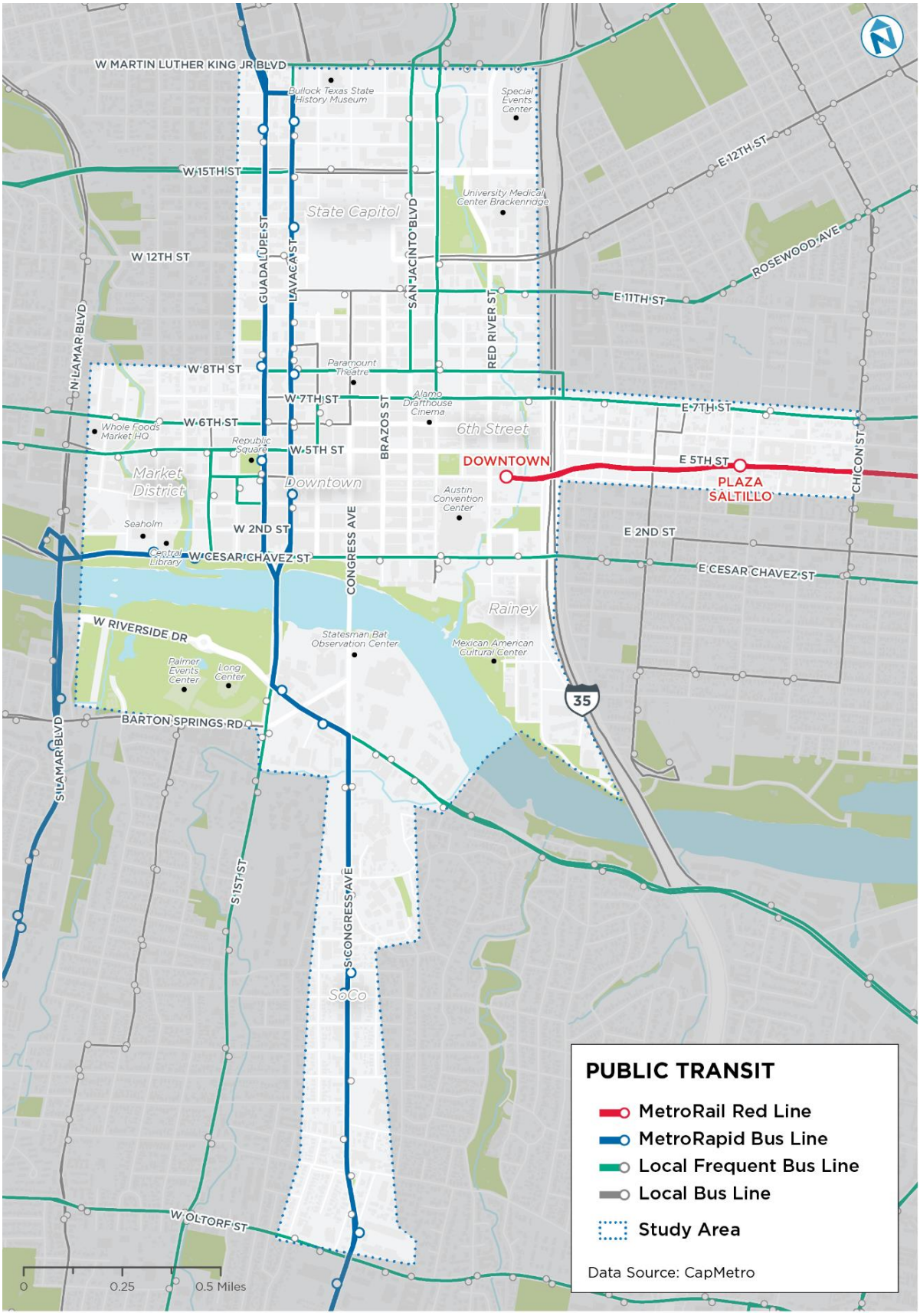
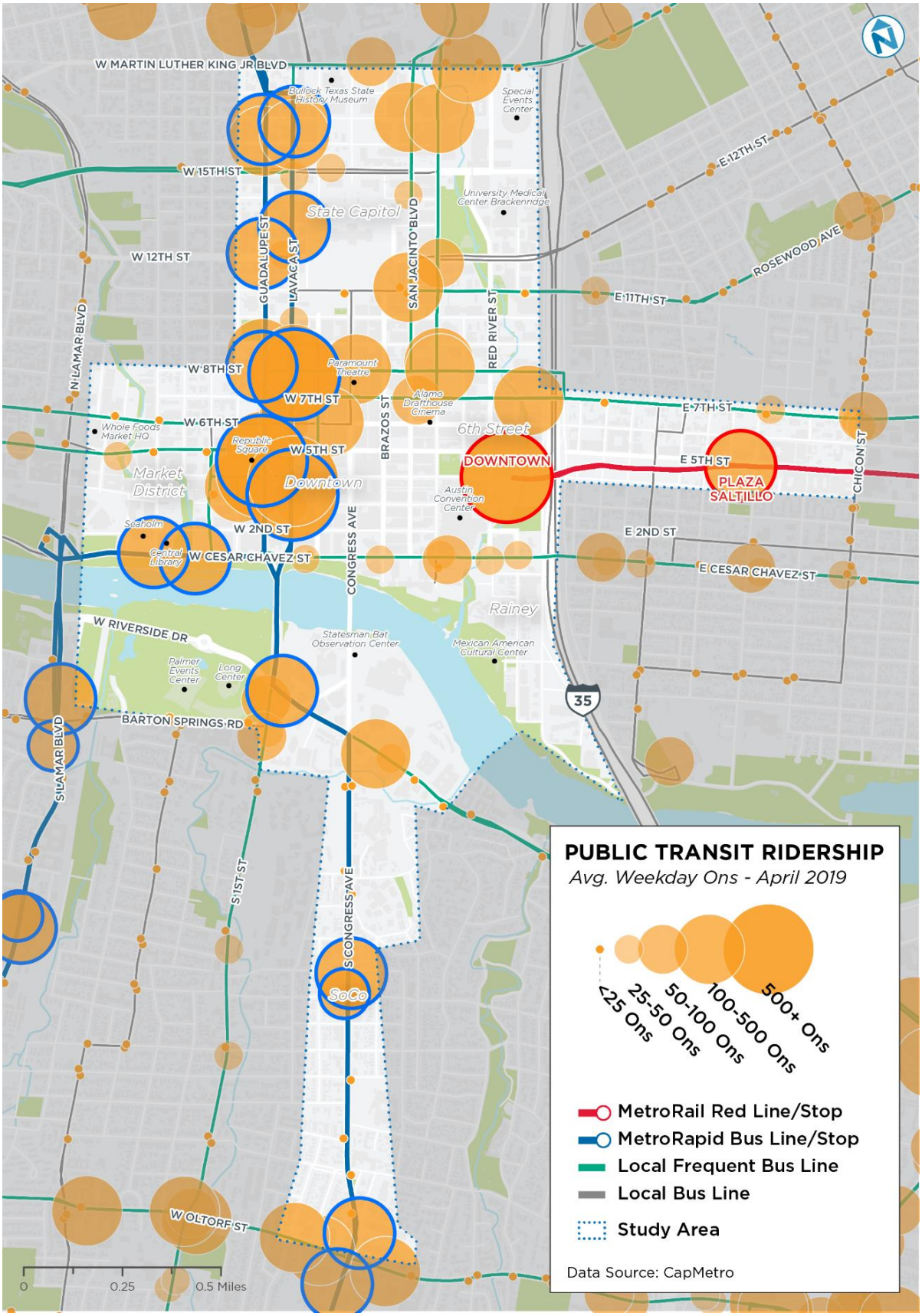


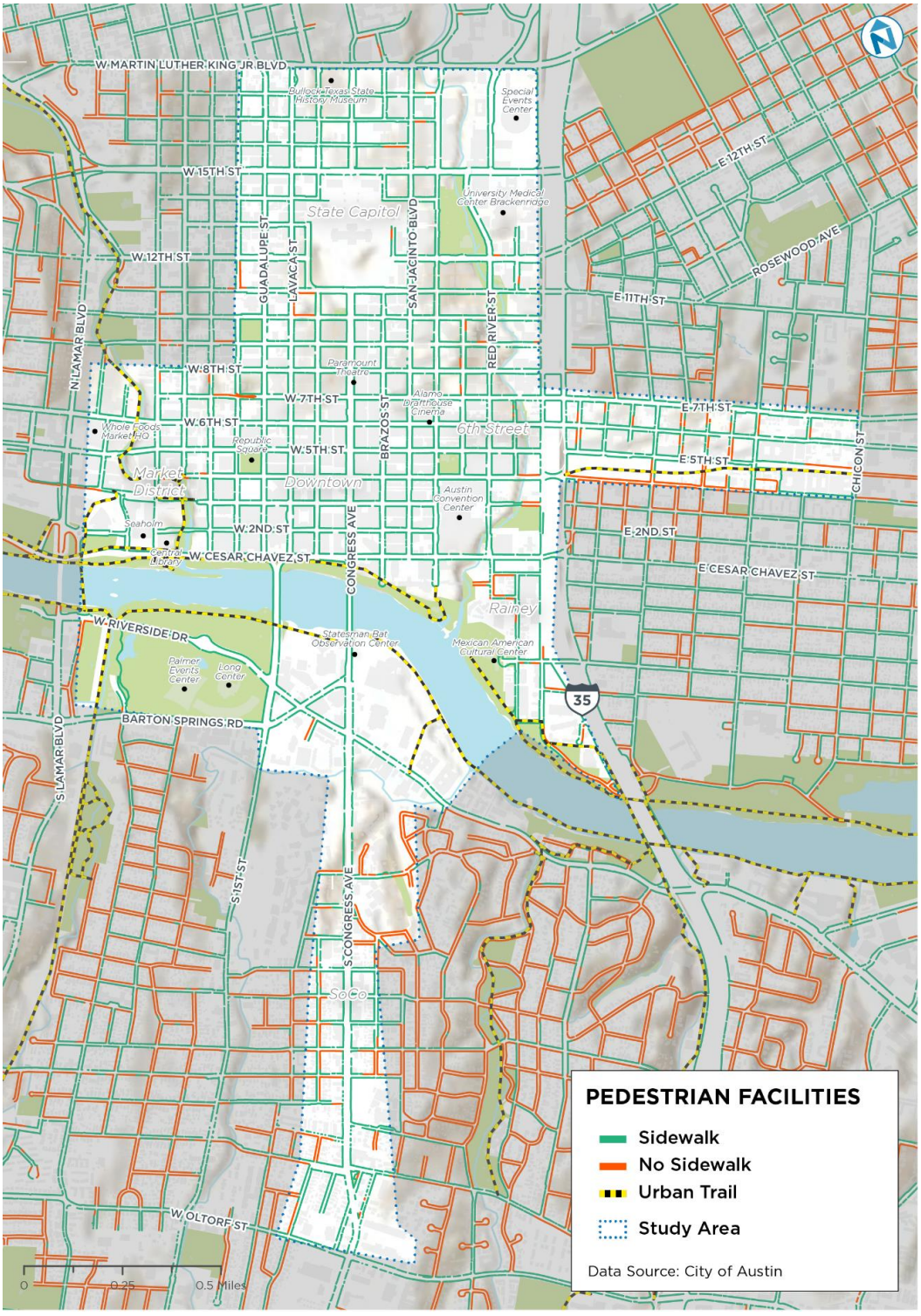
Figure 2-17 Capital Metro Transit Network and Weekday Ridership



Walking

Downtown has a lively pedestrian street scene. The study area has a nearly complete sidewalk network with few gaps. Downtown is further connected by urban trails such as the Butler Hike and Bike Trail which runs along both sides of Lady Bird Lake and the Shoal Creek Trail which extend from Lady Bird Lake through downtown.

Figure 2-18 Pedestrian Facilities



Topography

Elevations within the study area increase gradually from Lady Bird Lake north to the State Capitol and south to Oltorf Street. Major topographical boundaries are at 7th Street Downtown heading north, and Riverside Drive heading south, where there are notable elevation changes. Generally, the whole of the study area is walkable, despite spotted sidewalk gaps and hills.

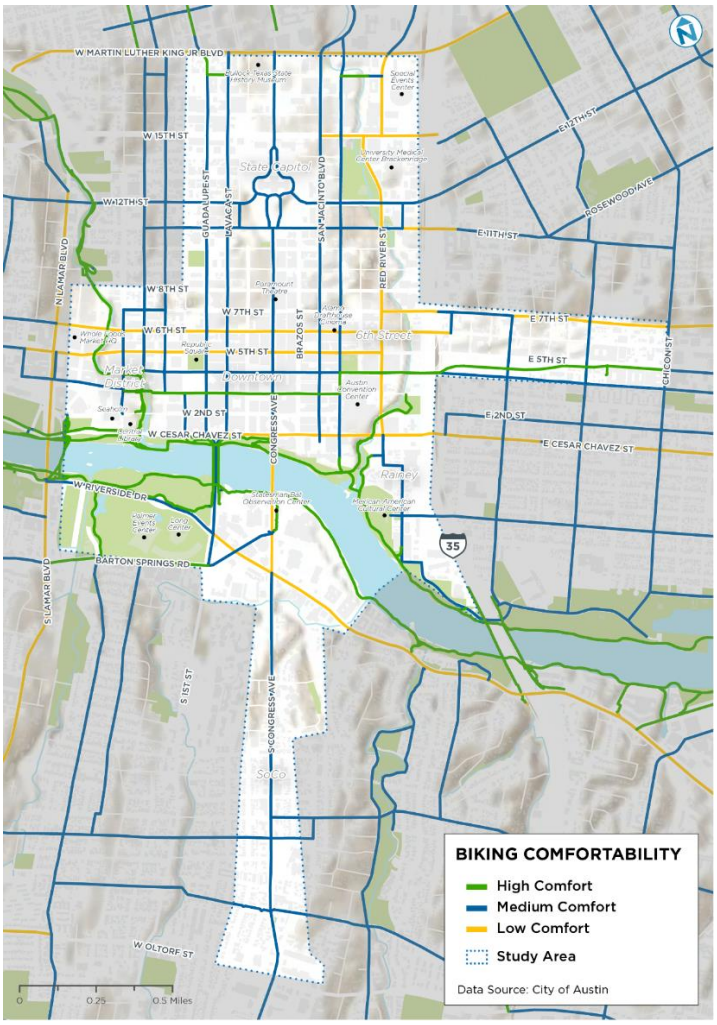
Average Monthly Temperatures

Temperatures in Austin can be prohibitive of walking as a long-distance transportation option in the Summer months. As the midday temperature is typically above 90 degrees Fahrenheit with high humidity from late May through late September.

Biking

Biking downtown is inviting to some and deemed dangerous to others. Cyclists report the safest feature of downtown's bike network is the Lance Armstrong Bikeway, a crosstown cycle track that runs from Shoal Creek Trail through downtown to East Austin. The Butler Hike and Bike Trails along both sides of Lady Bird Lake provide continuous east-west connectivity but are mostly used for recreational purposes. North-south bike travel in downtown is more challenging than east-west travel due to topography and need for cyclists to mix with auto traffic.

Figure 2-19 Bike Facilities



Micromobility

Over the past half-decade, shared mobility options have rapidly expanded in Downtown Austin. In 2013, the city rolled out Austin BCycle, a docked bike share program. In more recent years, dockless scooter has emerged as the most popular option, constituting 95% of all micromobility trips.

Micromobility trip pairs can help serve as an indicator for desired short-trip patterns within the study area.

Trips within downtown (primarily south of 11th Street) make up a high percentage of micromobility trips in the study area. A very limited number of micromobility trips are are to/from the northwest and northeast corners of the study area. The vast majority of trips occur within CBD (origin and destination are within the CBD). The epicenter of dockless trips is in the area between Shoal Creek, 7th Street, I-35, and Cesar Chavez Street. The average trip time for micromobility is 10 minutes.

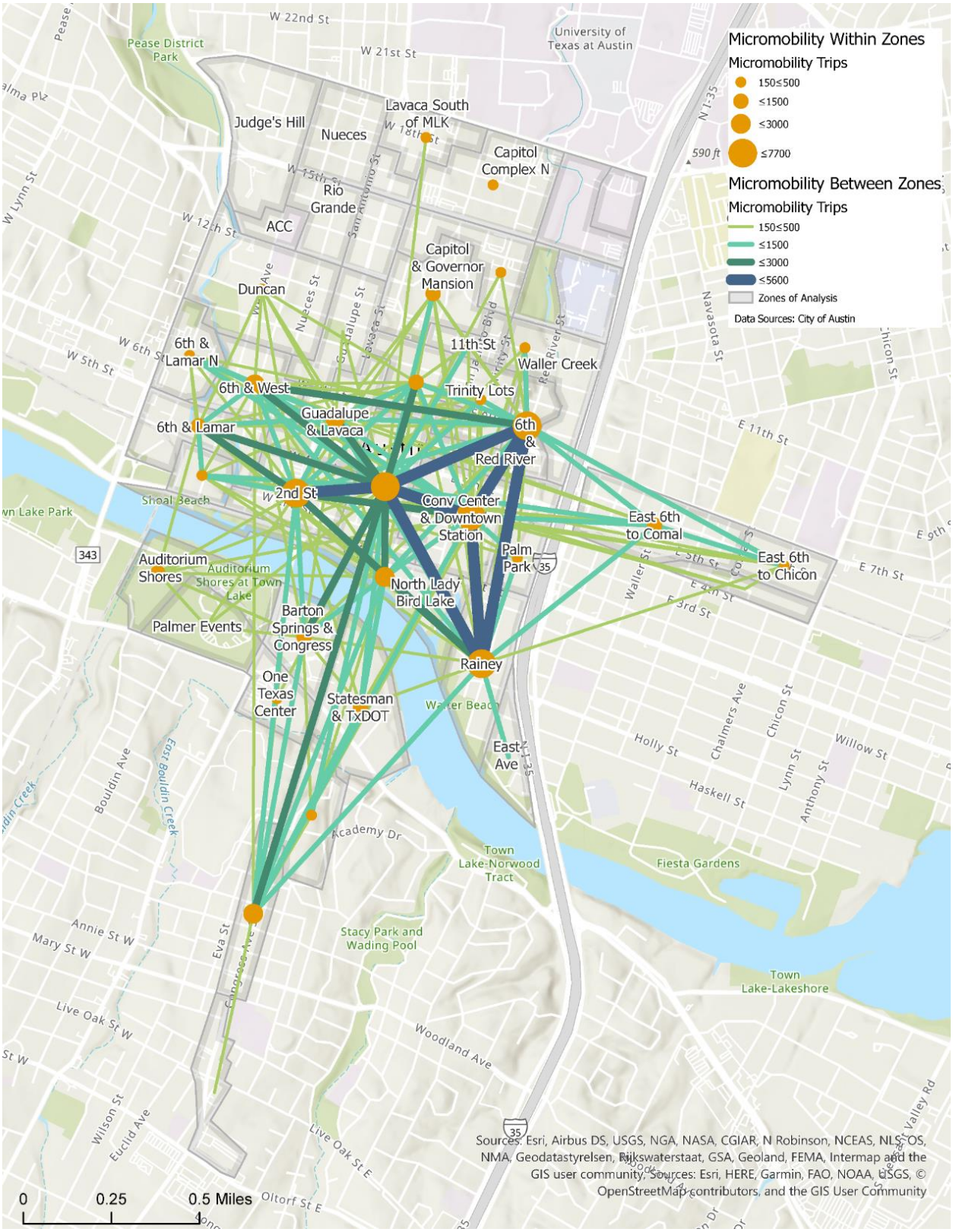
The following is a list of major trip pairs:

- SoCo and CBD
- CBD and Rainey Neighborhood
- Rainey Neighborhood and Red River District
- 6th Street and Rainey Neighborhood
- West CBD and 6th Street
- Republic Square and CBD

Figure 2-20 Scooter riders on 3rd Street

Source: The Verge

Figure 2-21 Micromobility Within and Between Zones



3 DOWNTOWN TOMORROW

PANDEMIC RECOVERY PLANNING

This report was produced during the COVID-19 pandemic and more specifically, in the midst of Austin's stay-at home/shelter in place order. As more and more businesses begin to open in June 2020, the question remains: what will downtown Austin look like in a post-pandemic world?

To shed light on what mobility needs will be most pressing, this study includes an analysis of travel patterns before, during, and after the stay at home order. Also, by working with stakeholders to understand changes to downtown activity and future needs, the project team will seek to understand how a circulator can potentially be a catalyst for recovery.

Though Austin will be changed by COVID-19, some of the groundwork of previous planning efforts sheds light on key planning goals and provides momentum for upcoming projects.

ADOPTED AND ONGOING PLANNING

Downtown Austin Plan

Adopted in 2012, the Downtown Austin Plan (DAP) charts a comprehensive course for Downtown's growth over several decades. The plan acknowledges the varied contexts that exist within the downtown boundary and provides direction on future land use, density, transportation framework, and public space that are grounded in the character of each district identified in the plan. Several elements of the DAP have been codified in development regulations and that affect travel patterns within the Downtown area, including:

- Recommendations for re-zoning within downtown to increase density, particularly in targeted locations within Northwest Downtown
- Establishment of a transportation framework plan that identifies modal priorities on major streets, incorporating recommendations from the Great Streets Master Plan
- Establishment of a downtown density program that includes an urban design review process for development to ensure compliance with DAP goals

The data used to analyze trends for development within downtown are nearing ten years old, and in many cases recent trends in new construction, particularly office and hotel uses, have far outpaced the rate of growth anticipated in the original ten-year scenario.

Downtown Austin Parking Strategy

The Downtown Austin Parking Strategy represents Austin's first attempt at quantifying both the supply of and demand for parking within the downtown area. The Strategy relied on a rigorous data collection effort to capture parking utilization for on-street and off-street parking, finding that the primary problem with parking availability downtown lies in its lack of accessibility rather than a lack of supply. The Strategy makes several recommendations for improving the accessibility and management of downtown parking, several of which have been enacted by responsible agencies, including:

- Adjusting parking meter prices to encourage on-street availability
- Expanding existing Affordable Parking Program
- Coordinating Mobility Services for employees
- Introducing Transportation Demand Management strategies for new developments

One of the recommendations from the Strategy is to evaluate a circulator shuttle and park-and-ride system for downtown. The most under-utilized on- and off-street parking supply exists at the fringes of downtown, and utilization could be improved if a last-mile connection tailored to downtown employees existed.

Austin Strategic Mobility Plan (ASMP)

The Austin Strategic Mobility Plan – adopted in 2019 - represents the City of Austin's first comprehensive review of citywide transportation policy since the 1990s. The plan is driven by a citywide goal to achieve a 50% non-single occupant vehicle (SOV) commute mode split by 2039 (the horizon year for the Imagine Austin Comprehensive Plan), which would accommodate Austin's anticipated 20-year growth while maintaining current levels of traffic congestion. Citywide, Austin's mode split today is about 74% SOV and 25% for all other modes of travel, but downtown Austin sees a much higher share of non-SOV commuters than the city at large.

The ASMP updated the street network table to reflect best practices in multi-modal street design while establishing priority networks for automobiles, transit, bicycles, and pedestrians based on a comprehensive consolidation of existing mode-specific planning efforts. One of the signature recommendations of the ASMP is the establishment of a Transit Priority Network, which includes the Capital Metro Project Connect Vision Plan (as adopted by the Capital Metro Board of Directors in Dec. 2018) and other high-frequency routes operated by the transit agency. The most aggressive increase in citywide mode-share is anticipated for transit (from a current share of 4% to a 16% goal by 2039), and investment in high-capacity transit operating in dedicated transitways is a critical element of increasing the usefulness and attractiveness of transit as a way to get to work. As downtown continues to add jobs and housing density, the ability for transit to maximize efficient access to downtown will only grow.

The ASMP also outlines a host of policy recommendations that support the overall mode-split target, including reducing traffic fatalities, increasing the use of Transportation Demand Management principles, right-sizing and managing parking supply, and developing shared mobility options by leveraging data and emerging technology.

Austin Core Transportation Plan

While the ASMP applied to the entire City of Austin transportation network, there was an acknowledgement through the planning process that the downtown street grid and transportation landscape justified a more detailed process for incorporating the goals of the ASMP into the downtown context. The City of Austin embarked on the Austin Core Transportation Plan shortly after adoption of the ASMP and is currently wrapping up the existing conditions analysis and initial outreach phase.

The ACT Plan acknowledges the amount of change that has occurred downtown since the last effort at establishing a mobility framework for the area – not only with an increase in private development, but through adoption of and advancement of other planning efforts such as the ASMP, the Parking Strategy, and Project Connect. The ACT Plan also acknowledges the outsized role that downtown will play in achieving the ASMP's citywide 50% non-SOV mode split given its role as the largest employment center (by far) in the region. It will provide a framework for incorporating transformational regional projects – such as Project Connect and the rebuilding of I-35 through downtown – into the overall downtown mobility landscape.

Project Connect

Project Connect is the ongoing long-range planning effort led by Capital Metro to improve the regional system of high-capacity transit through 2045. The Long Range Vision Plan – adopted by the Capital Metro Board of Directors in 2018 – envisions a series of improvements to many modes of transit, many of which serve downtown, including commuter express bus routes and regional park & ride facilities, commuter rail enhancements, addition of MetroRapid routes similar to today's 801 and 803, and construction of dedicated transitways along the Orange, Gold, and Blue Line corridors (see Recommended System Plan, next page).

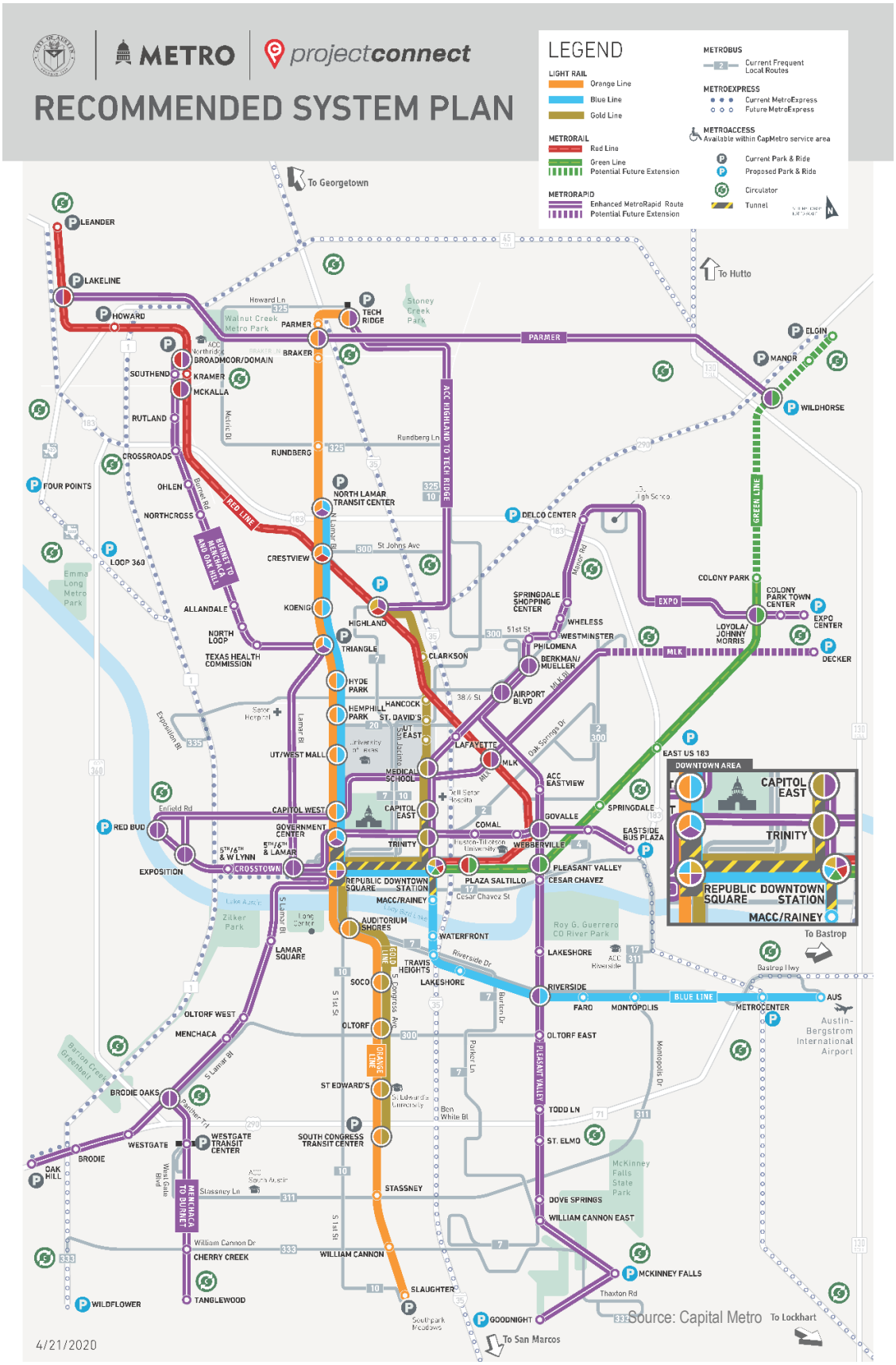
Proposed Orange, Gold, and Blue Line corridors would provide transit service in dedicated transitways that serve downtown Austin and connect to major regional destinations including the University of Texas and Austin-Bergstrom International Airport. Since adoption of the Vision Plan in 2018, Capital Metro has been conducting a more detailed Alternatives Analysis process, which will result in a recommendation for a Locally Preferred Alternative (LPA) later in 2020 that defines the mode, alignment, and type of transitway (street level, above ground, or below ground) recommended for each corridors, including within the downtown area.

I-35 Cap & Stitch

As TxDOT considers dedicating funding for a full re-build of I-35 through Central Austin, the Downtown Austin Alliance has engaged with the Urban Land Institute (ULI) and a diverse group of community partners to develop a holistic vision for how the I-35 project can enhance downtown. The key goal driving the planning effort is to leverage the lowered freeway and redesigned crossings to "stitch" together parts of Downtown and East Austin that have long been disconnected by the current freeway's design, and doing so in a way that enhances multimodal connectivity while providing opportunities for affordable housing. Additionally, opportunities for providing public space on top of the lowered freeway have been front and center in many community conversations since TxDOT began design work for I-35.

The ULI advisory panel visited Austin in February 2020 to meet with community leaders, visit the site, and develop preliminary recommendations for the corridor. A full picture of the community's vision for I-35 will be developed based on these recommendations and released later this year.

Figure 3-1 Project Connect Recommended Metro System Plan



EMERGING DEVELOPMENT

Much of the new development that is currently under construction or planned for downtown is concentrated in a few key districts within the overall downtown core:

Republic Square

Some of Downtown's largest ongoing or planned developments are within a few blocks of the recently revamped Republic Square park, including 6X Guadalupe – which will be Austin's tallest building when complete in 2021. Other prominent development proposals include The Republic, BBVA Tower, and Hanover Republic Square. Additionally, the State of Texas has recently authorized the sale of the Hobby State Office Building at 3rd and Guadalupe, which could result in a significant public/private partnership development opportunity.

Convention Center

The City Council provided preliminary guidance for a massive expansion and renovation of the Austin Convention Center in 2019, directing city staff to pursue a redevelopment plan that includes opportunities for private development and better urban design to re-stitch the street grid in the southeast quadrant of downtown. Capital Metro is also reconstructing the Downtown MetroRail station to better accommodate demand, which could further influence the development trajectory in this part of downtown.

Rainey Street

While initiation development in the Rainey Street district was modest after adoption of CBD zoning in 2005, recent development proposals have involved increasing density and intensity as land available for redevelopment in the district diminishes. Within the last two years, proposals for several high-rise towers have been received and, in many cases, approved for the district.

Dell Seton Medical School

While redevelopment near the Dell Seton Medical School has also been slower to take off then initially anticipated, recent announcements have put a renewed spotlight on this quadrant of downtown. In addition to the school and hospital, new medical-adjacent office space is on the way on the site of the former Brackenridge Hospital site, adjacent to the almost-complete redesign of Waterloo Park. New residential development has started to blossom in this area, with two large multifamily developments under construction at I-35 and 12th Street.

South Central Waterfront District

South of the river, the Austin-American Statesman campus is planned to be transformed into a mixed-use waterfront development and will likely feature a comparable density of jobs while also adding substantial population density as well as visitor attractions. Additional redevelopment is in progress or being planned between Lady Bird Lake, Congress Avenue, Riverside Drive, and South 1st Street.

Capitol Complex Master Plan

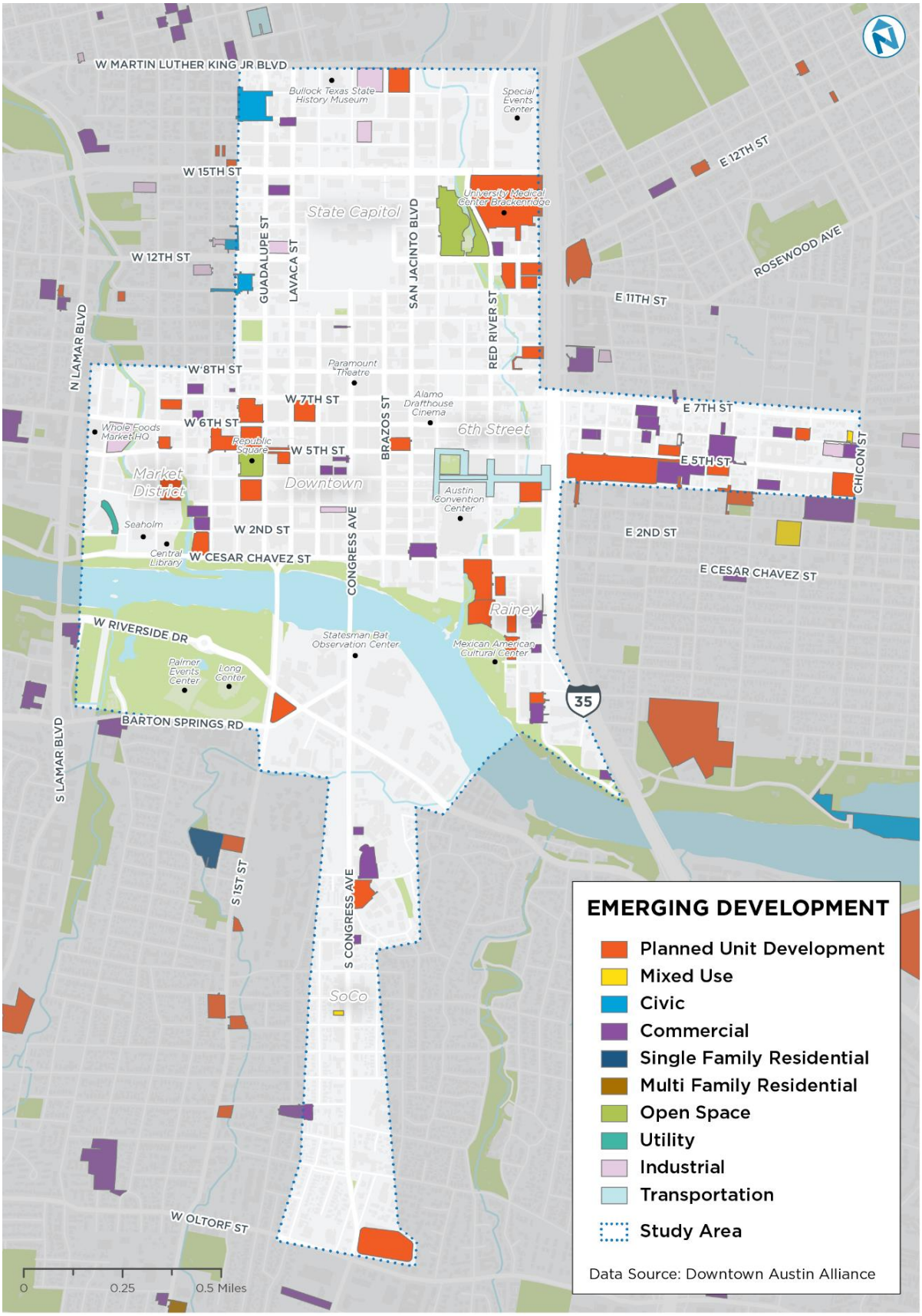
Many of the cranes present in downtown today are constructing one of the largest public works projects that the State of Texas has undertaken. Several new State office buildings will be replacing parking lots just north of the State Capitol and allowing departments with employees scattered in leased space around the metro area to be in one central location. The legislature has funded the two first phases and additional phases of development could be authorized in future legislative sessions.

Source: Texas Facilities Commission

The 84th Texas Legislature has funded Phase 1 of the master plan, which includes:

- A 14-story, 603,000-square-foot office building at 1801 Congress Ave., the site of a former surface parking lot, to be named after George H. W. Bush.
- A 12-story, 420,00-square-foot office building at 1601 Congress Ave.
- 3,800 parking spaces between underground and above-ground garages.
- A pedestrian mall along Congress Avenue from Martin Luther King Jr. Boulevard to 16th Street.

Figure 3-2 Emerging Downtown Development



4 AUSTIN CASE STUDIES

THE 'DILLO

Between 1984 and 1987, Austin experienced its first downtown construction boom in over 70 years. The addition of several prominent office towers increased doubled downtown employment and created its first parking pinch.

Figure 4-1 Austin Skyline, 1987

Source: Austin History Center

In response to the sudden growth, Capital Metro introduced Austin's first downtown shuttle, the Armadillo Express, or more affectionately known as the 'Dillo, in 1984. The free shuttle service consisted of replica trolley buses that traversed downtown and served over a thousand employees, students, jurors, and visitors daily.

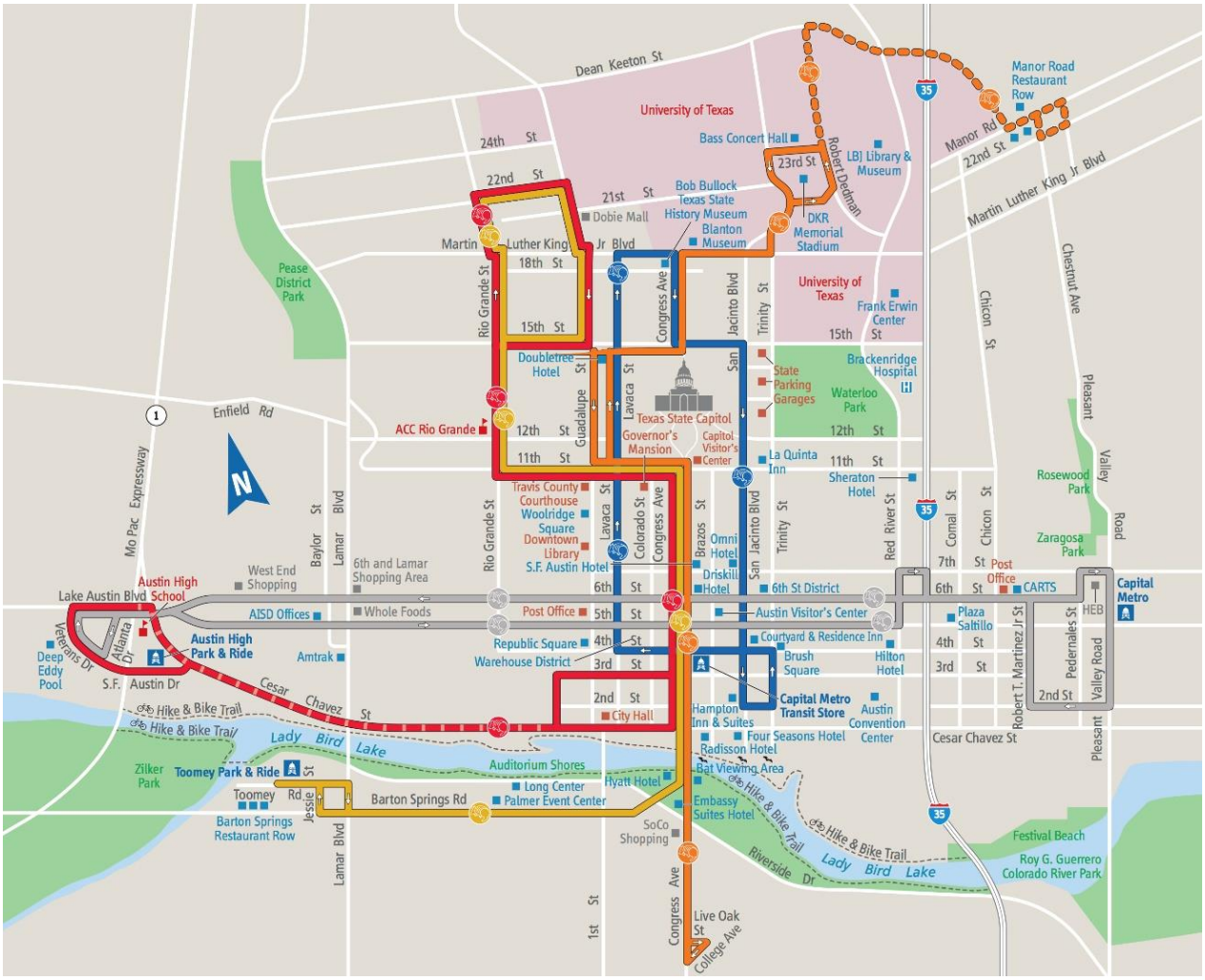
Figure 4-2 'Dillo Replica Trolley Bus

Source: LoneStarMike

Over the next two decades, the 'Dillo expanded to a network of five routes that provided connectivity throughout downtown and beyond. 'Dillo routes varied in terms of alignment, hours and frequency of service, target market(s), and ridership.

The Red and Yellow 'Dillo routes primarily functioned as shuttles from free park-and-rides southwest of downtown to Congress Avenue, the State Capitol, Travis County Courthouse, Austin Community College Rio Grande Campus, and the University of Texas. The Red 'Dillo served the parking lot west of Austin High School and the Yellow 'Dillo served the parking lot south of Butler Shores Park. The Orange 'Dillo mostly ran along Congress Avenue, connecting downtown with the University of Texas and SoCo. The Blue 'Dillo featured a clockwise loop alignment, primarily along Lavaca Street, Martin Luther King, Jr. Boulevard, San Jacinto Boulevard, and 4th Street. The Silver 'Dillo operated in a fairly direct alignment along 5th and 6th Streets between Deep Eddy Pool and Capital Metro's headquarters along Pleasant Valley Road in East Austin.

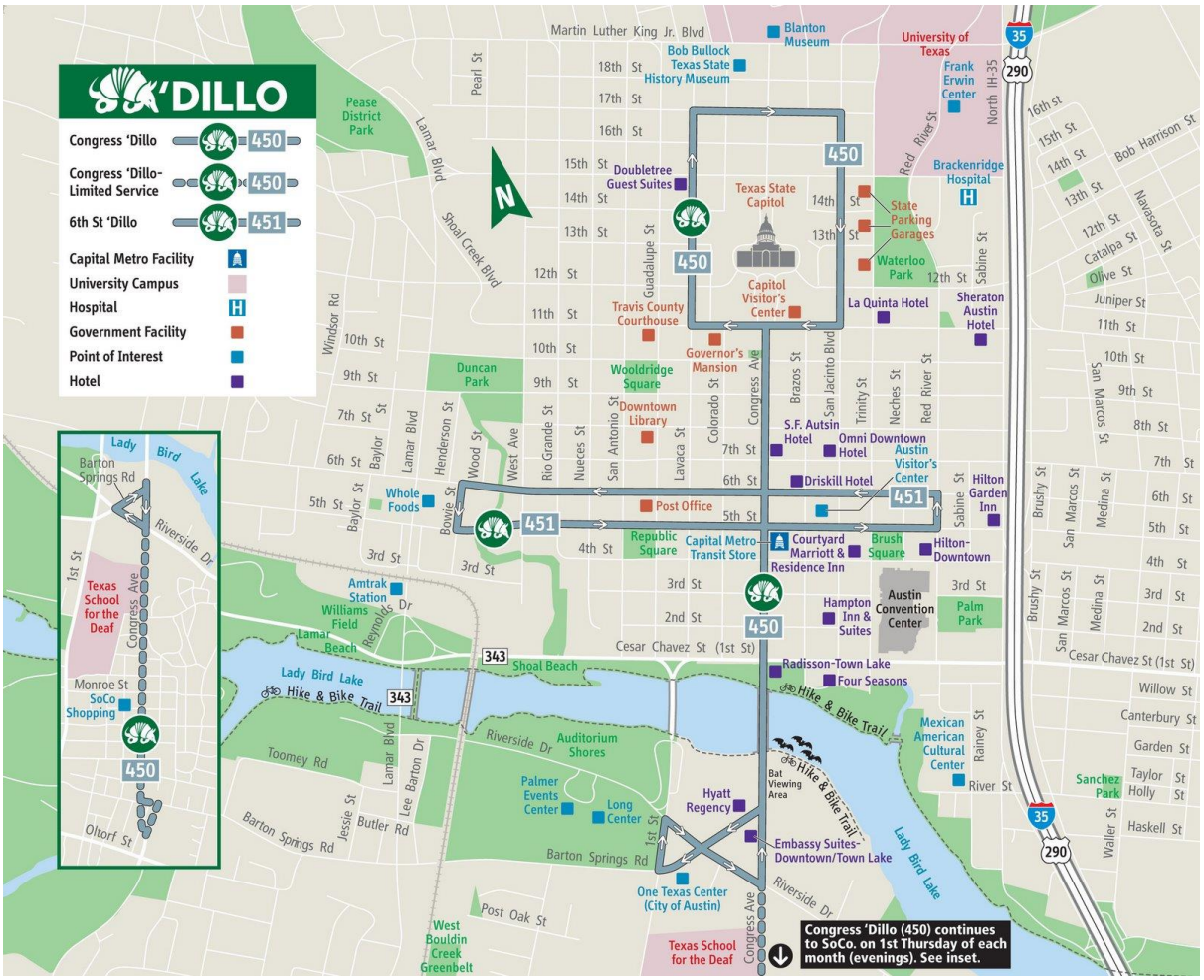
Figure 4-3 'Dillo Route Network, 2008



Source: Capital Metro

In 2009, Capital Metro redesigned its 'Dillo route network in an effort to increase ridership. The new 'Dillo route network consisted of two routes that provided simpler and more frequent service. Austin Community College Rio Grande Campus, University of Texas, East Austin, and free park-and-rides southwest of downtown were not included in the new 'Dillo route network. Capital Metro also implemented a $1 base fare in conjunction with the service redesign.

Figure 4-4 'Dillo Route Network, 2009



Source: Capital Metro

The truncated 'Dillo route network, 2008/2009 economic crisis, and updated fare policy caused ridership to plummet. Capital Metro discontinued the 'Dillo routes in October 2009 as part of a systemwide reduction of inefficient service prompted by decreased sales tax funding due to the Great Recession.

METRORAIL CONNECTORS

In February 2009, Capital Metro implemented a set of new routes that provided connections between MetroRail stations and nearby employment centers. Five routes awaited morning passengers disembarking at MLK Station and Downtown MetroRail stations, and transported them to the University of Texas, State Capitol, Guadalupe Street, Congress Avenue, and Riverside Drive. In the afternoon, each route returned passengers to the same MetroRail stations.

All three Downtown Station MetroRail Connector routes and the MLK Station-State Capitol route were eliminated in 2010. The MLK Station-University of Texas MetroRail Connector route remains in service.

Figure 4-5 MetroRail Connector Routes, 2009

Source: Capital Metro

5 PEER CITY CASE STUDIES

LITERATURE REVIEW: TCRP REPORT 87 (2001)

The Transportation Research Cooperative Program's Report 87 (published in 2011) aimed to gather a greater insight into the state of downtown circulator systems across North America, since literature covering downtown circulators is scarce. To this effect, a survey was conducted to obtain a snapshot of downtown circulators. In total, the survey had 78 respondents. The survey also includes input from agencies that discontinued or have not implemented a circulator service, in order to gain a greater insight into their reasoning. There a several key takeaways that from the report that are summarized below:

- Funding is key: a reliable source is best.
- Partnership and branding are imperative
- Simple, frequent routes and free service are most enticing to riders.
- Employees and visitors are the most common markets.
- Defining target markets is important.
- Coordinate with existing transit rather than duplicate service.
- Service flexibility is key, particularly adapting to traffic flow and patterns.
- Understanding the needs of hotels, visitors bureaus, large employers, and convention centers will help in effective planning and implementation.
- Regular reviews are important to note changes that could affect the service.
- Understanding attitudes toward walking and typical walking distances is important.

CASE STUDIES

The following circulators were reviewed to gain a better understanding of the design characteristics, service profiles, ridership performance, funding, and management. The five circulators operate in environments similar to downtown Austin and will be helpful in formulating recommendations in the future phases of this study.

DC Circulator, Washington, D.C.

CBUS Downtown Circulator, Columbus, OH

GreenLink Downtown Circulator, Houston, TX

Portland Streetcar, Portland, OR

MetroRide and MallRide, Denver, CO

Sources: DC Circualtor, COTA, Houston Metro, Portland Streetcar, RTD

DC Circulator, Washington, D.C.

The DC Circulator is made up of six different routes serving Washington, DC area, with one of the 6 routes servicing Rosslyn Metro Station across the Potomac River in Virginia. The circulator system offers visitors convenient and affordable access to major tourist attractions and also serves as a reliable mobility option for residents and workers in the downtown area.

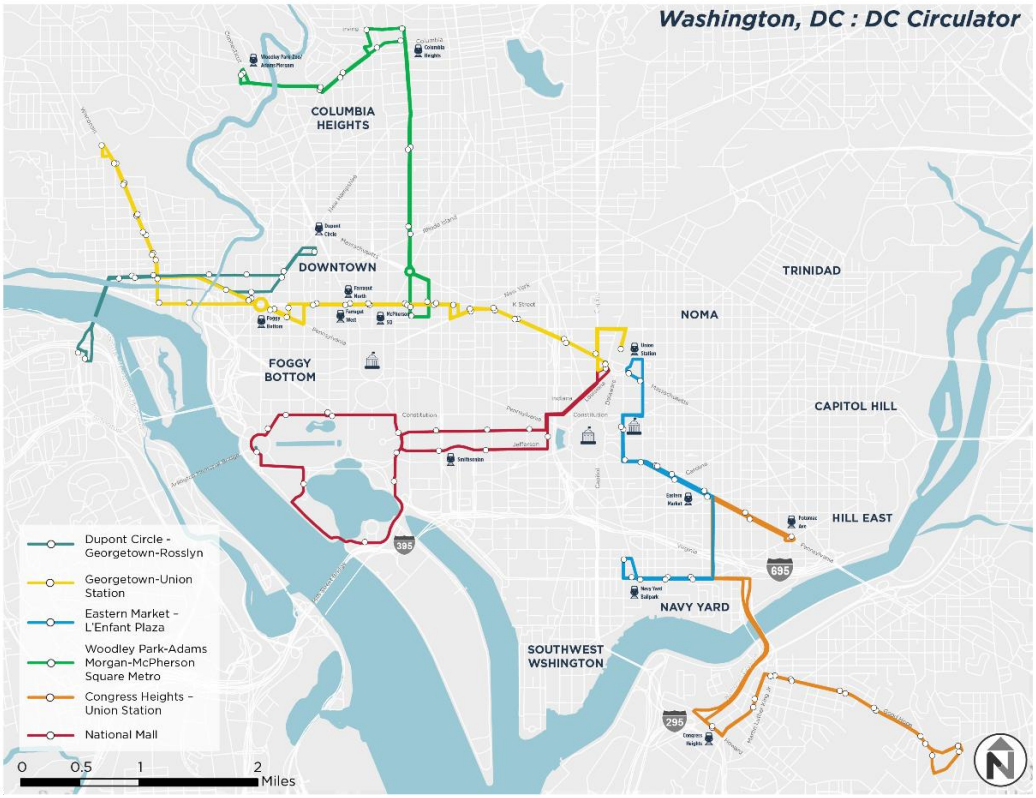
The DC Circulator connects visitors and employees with multiple activity centers, providing a simple, frequent, and fast service.

The DC Circulator has a characteristic brand, consisting of easily identifiable vehicles and easy-to-understand routes. Offering rides for $1.00, routes consistently run every 10 minutes, seven-days a week. On game days, the DC Circulator offers extended service for local sports teams. Passengers pay fares using a variety of methods including DC Circulator passes, cash, WAMTA bus passes, and SmartTrip Cards.

DC Circulator service began in 2005 and was developed by the Downtown Business Improvement District (BID), the DC Department of Transportation (DDOT), and the National Capital Planning Commission (NCPC) in collaboration with Washington Metropolitan Area Transit Authority (WMATA and/or Metro).

The DC Circulator has grown from the two original routes to six. In 2015, a route began service to the National Mall, and subsequently, in 2018, changes were implemented to extend access to growing centers of activity. Later, in 2019, the DC Circulator began a fare-free service. This was piloted for nearly 9-months and despite support from Mayor Bowser for making fare-free service permanent, the D.C. Council opposed, and fares were reintroduced.

Figure 5-1 DC Circulator Routes



Source: DC CIrculator

DC Circulator Characteristics	
Number of Routes	6
Fare	$1.00
Operating Hours/Frequency	Dupont Circle-Georgetown-Rosslyn, Georgetown-Union Station, and Woodley Park-Adams Morgan-McPherson Square Metro ▪ Monday – Thursday: 6am-Midnight ▪ Friday: 6am-3am ▪ Saturday: 7am-3am ▪ Sunday: 7am-Midnight Eastern Market – L'Enfant Plaza and Congress Heights – Union Station ▪ Weekdays: 6am-9pm ▪ Weekends: 7am-9pm National Mall Route ▪ Winter (October – March) Weekdays: 7am–7pm ▪ Winter Saturday – Sunday: 9am–7pm ▪ Summer (April – September) Weekdays: 7am–8pm ▪ Summer Saturday – Sunday: 9am–8pm
Frequency (all routes)	Every 10 minutes
Annual Ridership	4,645,318 (FY 2018)
Operating Costs	36,258,728 (FY 2018)
Operating Agency	District of Columbia Department of Transportation (DC DOT) Washington Metropolitan Area Transit Authority (WMATA)
Vehicle Type	Bus

Figure 5-2 DC Circulator Vehicle on Georgetown Route

Source: DC CIrculator

CBUS Downtown Circulator, Columbus, OH

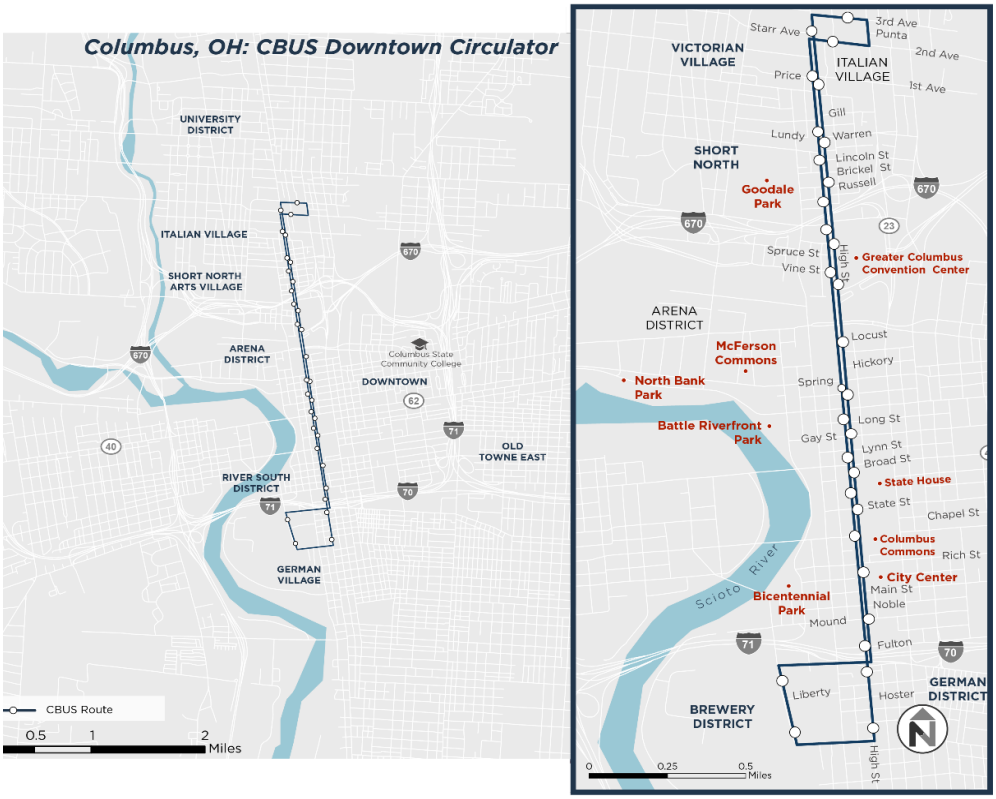
CBUS is a fare-free circulator in downtown Columbus that links City Center, the State House, and Convention Center with popular districts at the edge of downtown.

Central Ohio Transit Authority's (COTA) CBUS is a circulator in Columbus, Ohio that provides access to major attractions within Downtown between the city's Brewery and Short North districts. The CBUS is a fare-free service, operating daily with vehicles coming every 10 to 15-minutes the primary alignment runs bidirectional on High St for approximately 25 blocks and loops at the ends around the Brewery District and north of Italian Village. During the National Hockey League (NHL) season, when the Blue Jackets play weekday home games, the CBUS extends operations until midnight. The CBUS is effective in transporting visitors, residents, and employees throughout Downtown.

CBUS started service in 2014 as the result of a partnership between the Central Ohio Transit Authority and downtown developers and employers. The circulator is largely funded by local organizations and businesses, allowing CBUS to remain fare free. Throughout the life of the CBUS the City has engaged business owners and local organizations who have provided input and support for the service. Marketing has been crucial for the circulator: a survey conducted by COTA in 2016 revealed that half of riders attribute knowledge of the service to the marketing efforts by COTA promoting CBUS–including promotional advertisements and signage.

CBUS features several amenities that serve to draw and maintain ridership like free wi-fi. To serve downtown tourists and visitors, all CBUS operators are also certified tourist ambassadors. CBUS directly aided the increase in transit ridership in Columbus. CBUS has daily ridership averaging 2,000 to 3,000 and amounts a weekly ridership of 11,000 to 14,000. More than 80% of weekday users ride the CBUS for work-related purposes.

Figure 5-3 CBUS Route



CBUS Characteristics	
Number of Routes	1
Fare	Free
Operating Hours	Monday-Thursday: 7 a.m.-10 p.m. Friday: 7 a.m.-12 a.m. Saturday: 9 a.m.-12 a.m. Sunday: 10:30 a.m.-6 p.m.
Frequency	Frequency: Every 10-15 minutes
Annual Ridership	692,221 (2018)
Operating Costs	$1,345,717 (2018)
Operating Agency	Central Ohio Transit Authority (COTA)
Vehicle Type	Bus

Figure 5-4 CBUS Vehicle

Source: CBUS

Greenlink Downtown Circulator, Houston, TX

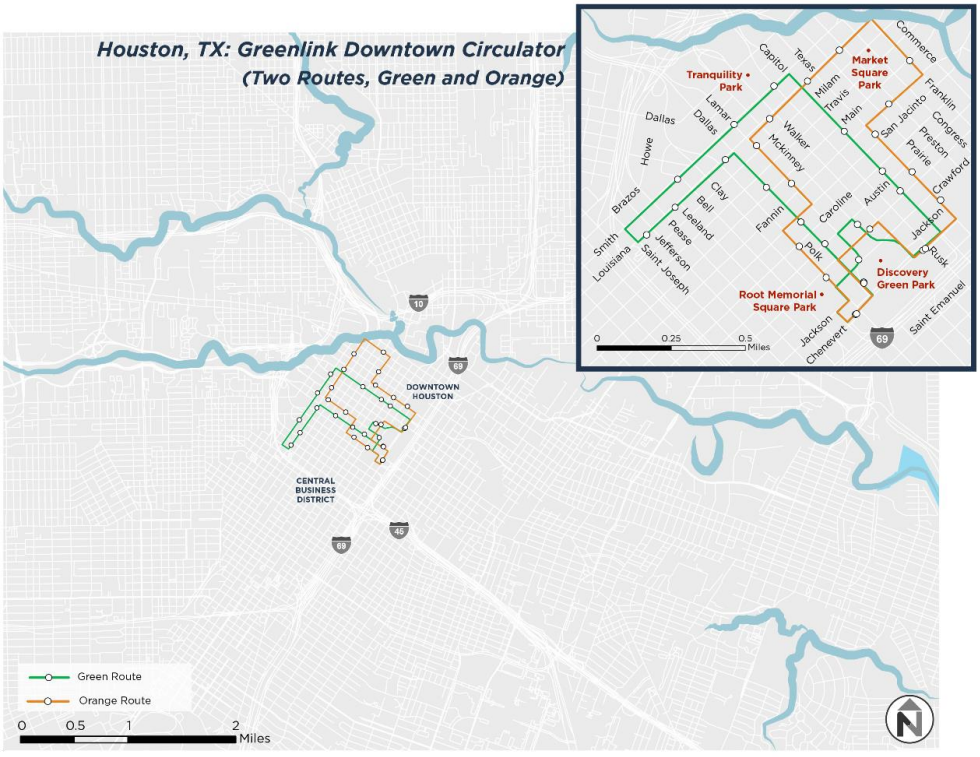
Houston's Greenlink has two circulator routes in the city's downtown core with short headways.

GreenLink is a fare-free downtown Circulator in Houston, Texas that has two routes: Green and Orange. The Green Route connects Main Street and the Avenida Houston entertainment district with office-heavy Southwest Downtown Houston, operating on weekdays every 7 to 10 minutes. Downtown workers are the primary market of the Green Route. The Orange Route connects major attractions around downtown, including Historic Market Square, City Hall, and the Theater District. This route operates seven days a week, with 10-minute headways.

Residents of Harris County have expressed a growing interest in visiting and living in more transit-oriented, walkable, and urban areas. The GreenLink Circulator improves access to downtown for those visitors who do not own a car and for those who want to park once and move about the area without a car. In 2010, Representative Sheila Jackson-Lee obtained an earmark from the Federal Transportation Appropriations Bill to purchase seven GreenLink buses. GreenLink vehicles run on natural gas, making them a clean alternative to traditional diesel buses.

GreenLink service started in 2012, funded by Houston First Corporation and the Downtown District and operated by the Metropolitan Transit Authority of Harris County (METRO). The Orange Route was launched in 2016 with encouragement from downtown businesses and in response to the area's growth. Further route updates and service hour expansions took place in 2018 aimed at improving service to better serve the communities of downtown Houston. GreenLink's ridership has not been as strong in recent years: the circulator service will need to adapt, considering a growing population and disruptive transportation technologies in what has become a crowded market for mobility options.

Figure 5-5 Houston Greenlink Downtown Circulator Routes



Greenlink Characteristics	
Number of Routes	2
Fare	Free
Operating Hours	Green Route (412) Monday-Friday: 6:30 a.m. - 6:30 p.m. Orange Route (413) Monday-Friday: 6:30 p.m. - midnight Saturday: 9 a.m. – midnight Sunday: 9 a.m. - 6 p.m.
Frequency	Green Route (412) Every 7 - 10 minutes Orange Route (413) Every 10 minutes
Annual Ridership	209,710 (2018)
Operating Costs	$1,509,420 (2018)
Operating Agency	METRO
Vehicle Type	Bus

Figure 5-6 Greenlink Circulator

Source: Downtown Houston

Portland Streetcar, Portland, OR

The Portland Streetcar serves Downtown Portland with three different lines operating on over 16-miles of track. Portland's streetcar the city's long-term commitment to intercity circulation. Between the three lines, the North/South, A-Loop, and B-Loop streetcar routes have been trending upward towards a ridership of nearly 5 million rides.

Portland Streetcar is widely accepted as an example of a successful modern streetcar network used by locals and visitors to connect downtown Portland and surrounding districts.

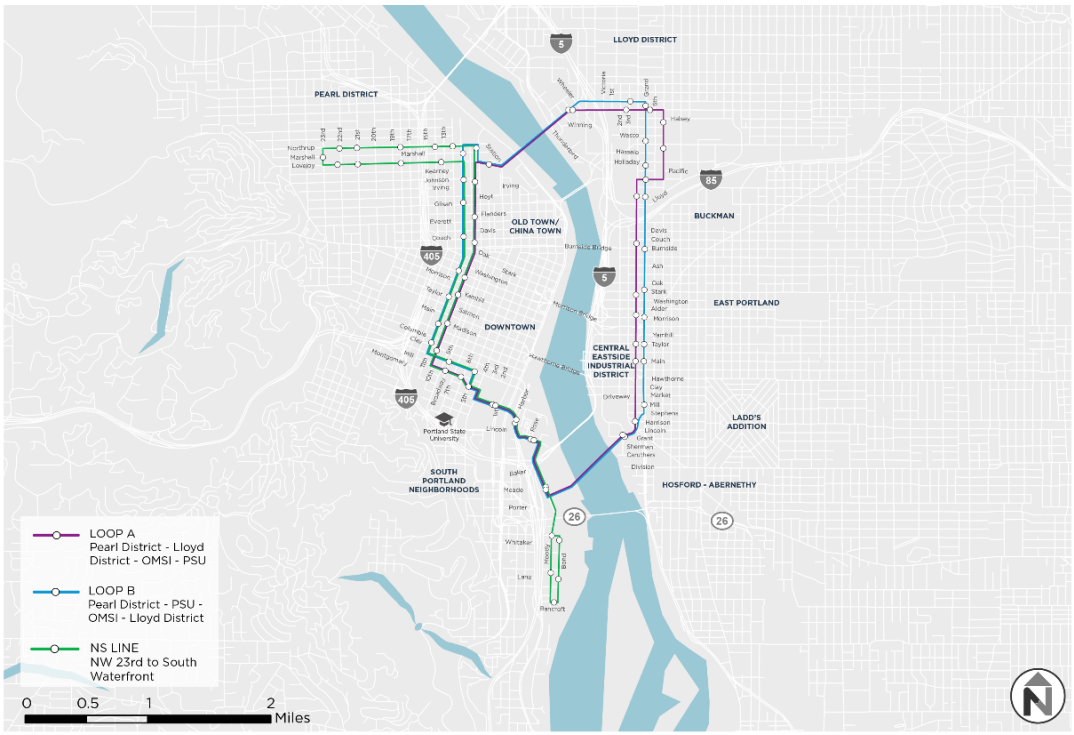
The A & B Loops are circular routes that connect the Pearl and Central Business districts—located west of the Willamette River—to the Central Eastside Industrial and Lloyd districts east of the river. Though they run parallel, the A Loop moves clockwise, and the B Loop moves counterclockwise. The A & B Loops cross the river by way of the Broadway Bridge to the north and Tilikum Crossing to the south. The Tilikum Crossing is a long-span bridge that allows access to public transit, pedestrians, and cyclists. Private vehicles are not permitted.

The Streetcar's NS Line is entirely located west of the Willamette River, extending for eight miles from the South Waterfront neighborhood to the Alphabet District providing service to both Portland State University (PSU) and to the Pearl and Central Business Districts.

The Streetcar operates seven days a week, with headways ranging from 15 to 20 minutes. The vehicles are ADA accessible, and are equipped with physical features such as low-floor sections, loading ramps, overhead announcements, and live marquees to accommodate users with a wide range abilities.

The Portland Streetcar is owned by the city and operated by the Portland Bureau of Transportation (PBOT) in partnership with Portland Streetcar, Inc. (PSI) and TriMet.

Figure 5-7 Portland Streetcar



Portland Streetcar Characteristics	
Number of Routes	3
Fare	$2.5
Weekday Operating Hours/Frequency	Weekdays 5:30am–10:00am; Every 20 Minutes 10:00am–7:00pm; Every 15 Minutes 7:00pm–11:30pm; Every 20 Minutes
Weekend Operating Hours/Frequency	Saturday 7:30am–10:00am; Every 20 Minutes 10:00am–7:00pm; Every 15 Minutes 7:00pm–11:30pm; Every 20 Minutes Sunday 7:30am–10:30pm; Every 20 Minutes
Annual Ridership	4,870,555 (FY 2018)
Operating Costs	$14.8M (2019)
Operating Agency	Bureau of Transportation in partnership with TriMet
Vehicle Type	Streetcar

Figure 5-8 Portland Streetcar

Source: Travel Portland

MallRide/MetroRide, Denver, CO

Denver's MallRide is a simple and frequent fare-free downtown connector that has been successful for nearly four decades. MetroRide is a peak period first/last mile connection for RTD riders.

The MallRide and the MetroRide are two shuttle routes in downtown Denver operated by the Regional Transportation District (RTD).

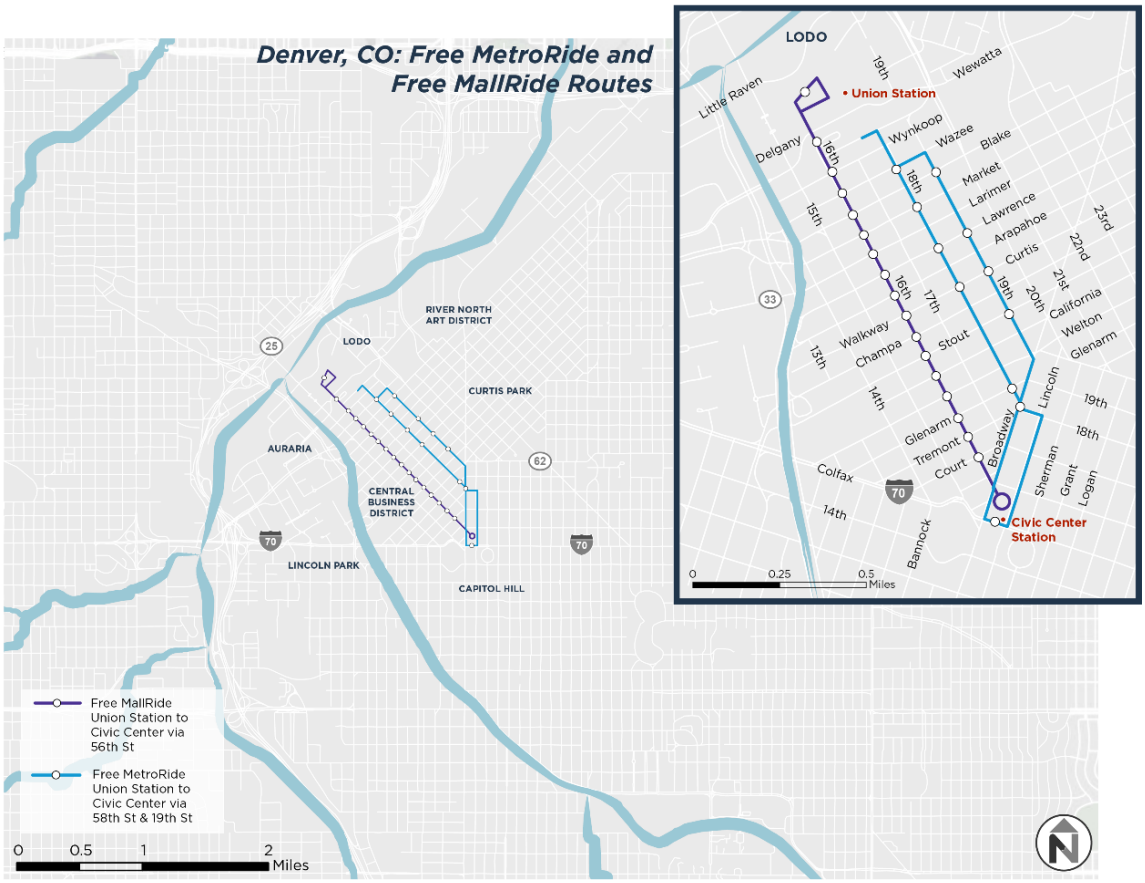
The MallRide serves the 16th Street Mall, a popular pedestrian and transit mall in the heart of Denver. This route runs daily with increased frequencies during peak hours and stops at every intersection between Denver's Union and Civic Center Stations.

The MetroRide route caters to downtown commuters, and such, runs only during the morning and afternoon weekday rush hours. The two routes are complimentary of one-another as well as the greater transportation system, offering connections to rail and bus services in downtown Denver.

The MallRide commenced service in 1982 after the 16th Street Mall opened. In 2011, the route was extended to accommodate a connection the W Light Rail Line, which opened in 2019.

The MetroRide was instigated as a part of the 2004 RTD FasTracks Plan, which voters approved to increase the presence of transit in the downtown Denver area. MetroRide began service in 2014, offering another alternative to driving during rush hour. The new service broadened access to many employment centers in downtown Denver. Typically, MetroRide's ridership is low compared to MallRide, which may stem from its reduced operation hours, fewer number of stops, and mixing with traffic in general purpose lanes.

Figure 5-9 Denver Circulator Routes



MallRide/MetroRide Characteristics	
Number of Routes	2
Fare	Free
Operating Hours	MallRide Monday-Friday: 4:59 a.m. – 1:19 a.m. Saturday: 5:23 a.m. –1:22 a.m. Sunday: 6:08 a.m. – 1:22 a.m. MetroRide Monday-Friday: 5:54 am – 9:18 am, 2:46 pm – 6:28 pm
Frequency	MallRide Monday-Friday: Every 2-15 minutes Saturday: 5:23 a.m. – last trip departing Union Station at 1:22 a.m. Sunday: 6:08 a.m. – last trip departing Union Station at 1:22 a.m. MetroRide Every 8-9 minutes
Annual Ridership	MallRide: 10,076,058 (2019) MetroRide: 706,559 (2019)
Operating Costs	N/A
Operating Agency	RTD
Vehicle Type	Bus

Figure 5-10 Free Mall Ride Vehicles

Source: Denver Post