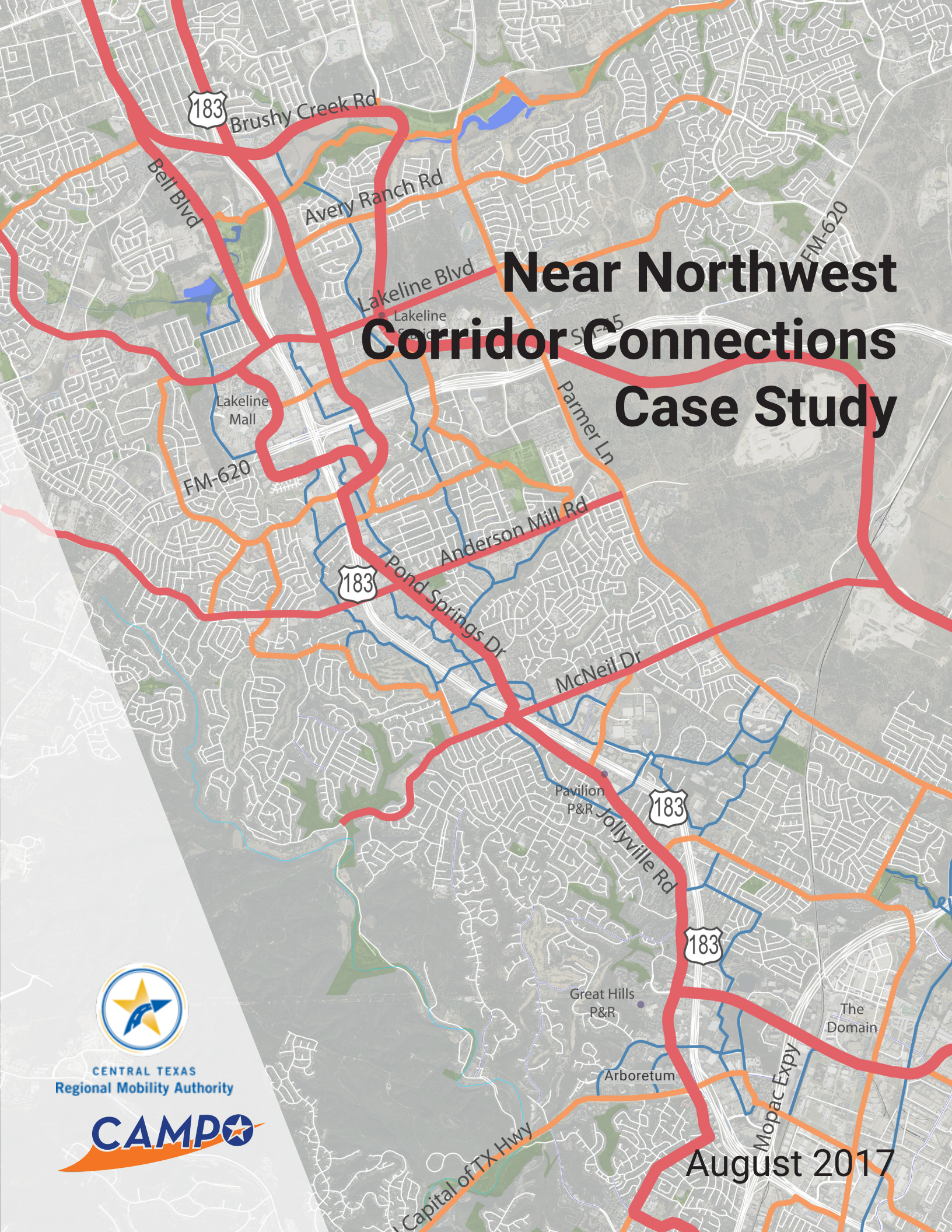


Near Northwest Corridor Connections Case Study

CENTRAL TEXAS
Regional Mobility Authority

CAMPO

August 2017

Prepared by:

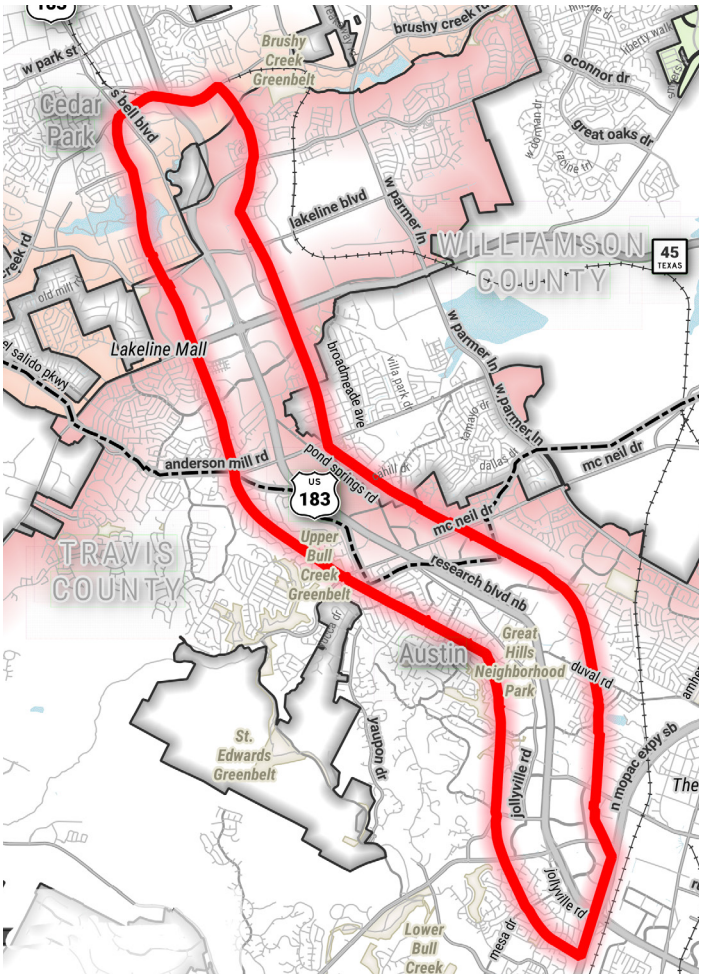
CONTENTS

CHAPTER 1
INTRODUCTION

The purpose of the Near Northwest Corridor Connections Case Study is to provide recommendations that will result in a multimodal corridor that supports and encourages active transportation. These recommendations take a balanced approach, including improvements to street connectivity, bicycle and pedestrian connectivity, safety, transit access and the built environment.

STUDY AREA

The study area for the case study includes areas within ½ mile of US 183 from East Cypress Creek Road in the north to State Loop 1 (MoPac) in the south. This important and continuously growing corridor contains shopping, transit, schools, libraries, and other services. Destinations in the study area include Cedar Park's Bell Boulevard, Brushy Creek Trail, Lakeline Mall, the Arboretum, Capital Metro's Park and Ride facilities, and the Lakeline Redline Station. The study area is immediately adjacent to The Domain commercial area and the Walnut Creek Trail south of MoPac.



CONTEXT

This case study was commissioned by the Central Texas Regional Mobility Authority (CTRMA) and was managed by the Capital Area Metropolitan Planning Organization (CAMPO) as an appendix of the 2045 CAMPO Active Transportation Plan.

183 North Mobility Project Environmental Assessment

This case study was initiated after an April 2016 Finding of No Significant Impact (FONSI) was issued for the environmental assessment. The 183 North Mobility Project found strong public support for bicycle and pedestrian improvements in the near northwest corridor. The Texas Department of Transportation (TxDOT) and the CTRMA received 374 public comments during the environmental study. Of those, 108 requested improvements for bicyclists and pedestrians. In addition, the City of Austin's Bicycle Advisory Council submitted a petition signed by 112 people supporting bicycle and pedestrian improvements in the 183 North Mobility Project area. Transitions between the improved section of US 183 and existing facilities would be provided along SH 45/RM620, MoPac, and on US 183. The preferred alternative includes sections of sidewalks and shared use path, but does not include a continuous shared use path along Research Boulevard (the US 183 frontage road).

2045 CAMPO Active Transportation Plan

This case study is also an important part of the 2045 CAMPO Active Transportation Plan. An example of a typical auto-centric corridor in the region, it presents an approach to balancing the needs of all users in the corridor including drivers, pedestrians and cyclists by enhancing overall street connectivity and improving conditions for walking and bicycling that may be used in other comparable environments in the region.

INTENT OF THE CASE STUDY

This case study is meant to provide high-level conceptual recommendations for a balanced approach for a multimodal corridor. While the recommendations were developed in coordination with a multi-jurisdictional advisory committee representing local governments and other agencies, they are non-binding. Neither CAMPO nor the CTRMA can require local governments to implement any of the elements of the study.

PROCESS

The study team conducted two week long charrettes, with site visits, focus groups, and public meetings to gather information and present initial ideas. Existing conditions and plans were reviewed. The team spread the word about the study through phone calls, email, social media, news releases, and flyers. *See the public engagement section*

for more information. Concepts were developed and recommendations were organized around four phases: short-term (2 to 4 years), medium-term (5 to 10 years), long-term (11 to 25 years), vision (26+ years).

Multi-jurisdictional

The study area spans two counties and two municipalities. Therefore, the case study was a multi-jurisdictional effort overseen by an advisory group made up of members from a variety of agencies. The advisory committee for the case study included representatives from Williamson County, Travis County, the City of Austin, the City of Cedar Park, Capital Metro, and TxDOT, as well as staff from the CTRMA and CAMPO. Public meetings were held in both the City of Austin and Cedar Park to encourage participation from throughout the corridor.

The case study advisory group included representatives from the City of Austin, Cedar Park, Williamson County, Travis County, TxDOT, Capital Metro, the CTRMA, and CAMPO.

VISION FOR THE CORRIDOR

This case study provides a holistic vision for the corridor. It recommends changes to zoning codes to improve the private-realm built environment for walking, suggests new road segments to alleviate traffic pressure on arterial roads, and recommends new and upgraded bicycle facilities and sidewalks. All of these changes could be made together over the next 25 years or more.

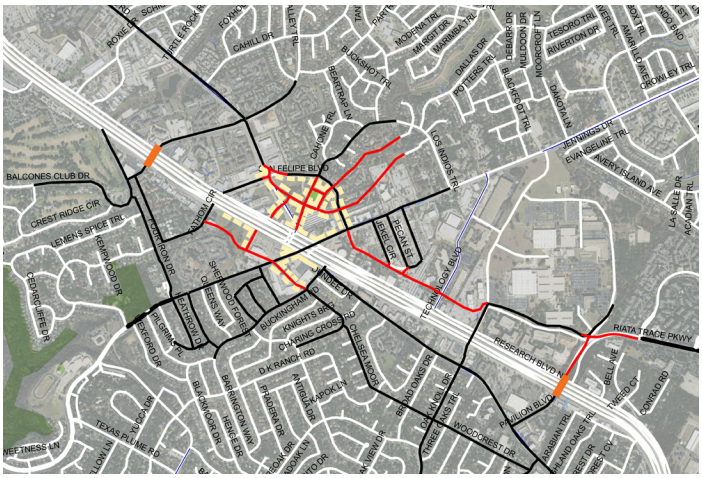
GUIDING PRINCIPLES AND KEY ELEMENTS

The recommendations in this case study use the following key elements to ensure the corridor balances multimodal connections, improves the pedestrian environment, and establishes an all ages and abilities bicycle network on appropriate facilities.

A. CREATE BALANCED MULTIMODAL CONNECTIONS

The Near Northwest Corridor is used by a wide variety of users for many different purposes. The corridors should improve connections for all trips, including cars, while improving safety, access to transit, and ability to navigate.

A1. Local Street Connectivity



Connected streets allow local traffic to use local roads, avoiding highways and major arterials. A network of local roads helps shorten trips for pedestrians and bicyclists as well and provides lower-traffic routes. New bridges over highways and other barriers shorten trip distances and re-connect communities. New local streets through potentially redeveloped or re-zoned properties can contribute to a better road network for all transportation modes.

A2. Right Sizing Streets

A capacity of a local street or minor arterial is primarily determined by the ability of traffic to flow through intersections, not by the number of lanes on a street between intersections. Therefore, many mid-block sections of road can be recalibrated to be inclusive of all users of the road. Road section repurposing, such as restriping, reconstruction or road diets, have been shown to facilitate left turning traffic and reduce crashes, while improving crossing conditions for pedestrians and providing space for bicycling. Experience in the City of Austin on volume-appropriate facilities has shown that “right-sizing” projects can accommodate the same motor vehicle volumes, avoid increases in travel time, reduce speeding, and improve safety. A lane conversion project on Kramer Lane in Austin (pictured) resulted in a 26 percent crash reduction.

A3. Access to Transit

Safe bicycle and pedestrian routes to transit support the transit system by helping passengers access stations and stops. They also support active transportation by helping nonmotorized users travel greater distances via transit. Bus stops and stations should be directly accessible by sidewalks and bicycle facilities and have bike racks available.

A4. Reconnecting Neighborhoods

New bridges over highways and other barriers shorten trip distances and reconnect communities.

New multimodal bridges across 183 to restore neighborhood connectivity

A5. Wayfinding

Wayfinding signs that direct users to nearby destinations – helps pedestrians and people on bikes navigate the network and find high quality routes to get where they are going. Wayfinding can also support route-specific branding to raise the profile of a trail or roadway corridor. The Near Northwest Corridor should be well marked.

Conceptual wayfinding signage for the conceptual bicycle network

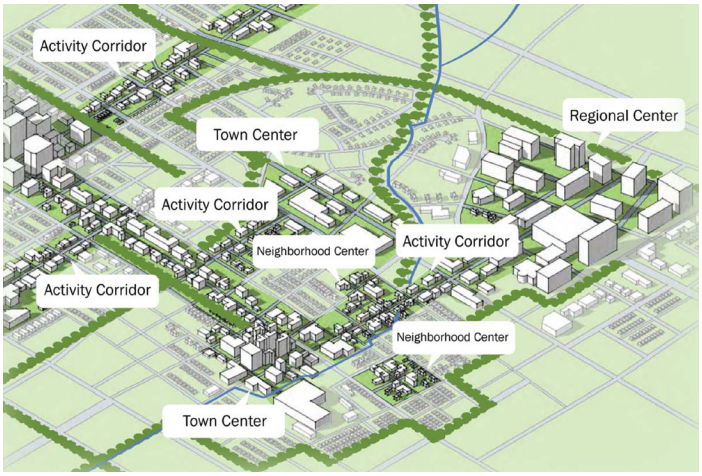
B. IMPROVE THE PEDESTRIAN ENVIRONMENT

The Near Northwest Corridor is largely auto-centric and built for car travel. Improving the pedestrian environment requires addressing land use, built-form codes, and specific pedestrian-focused areas ("nodes").

B1. Pedestrian Nodes

Pedestrian nodes are specific areas with a density of activities located within walking distances. Buildings within these nodes are built and landscaped to support an attractive walking environment.

B2. Land Use



Especially in pedestrian nodes, but also in other places along the corridor, land uses should be mixed so that destinations are close together, making walking and biking to these places. This can enable better transit connectivity.

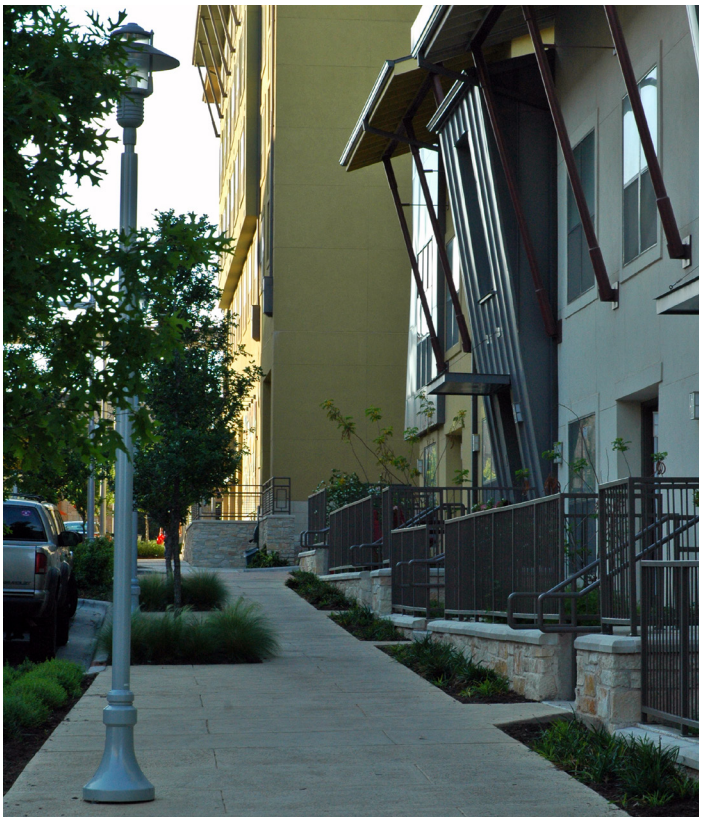
B3. Built Form

Buildings should be oriented toward pedestrians, so that, for example, parking is located at the back of buildings instead of the front. Pictured: A fast food restaurant in Fort Worth has pedestrian-centric intersection bulb-outs, landscaping, and sidewalks in the front. Parking and the drive-thru is located in the back.

B4. Sidewalks

Sidewalks should be connected, well-maintained, and meet Americans with Disabilities Act (ADA) standards to provide access for everyone.

B5. Landscaping



Landscaping, such as trees, bushes, and planter boxes, can enhance a pedestrian environment. Trees can provide shade and add visual interest. In more urban areas, landscaping can soften and breathe life into a streetscape, and can also buffer pedestrians and bicyclists from cars. Thoughtful and climate-appropriate landscaping should be included in all street and sidewalk projects.

B6. Lighting

Pedestrian-scale lighting creates a safe and pleasant walking environment. Lighting should be provided in pedestrian nodes, at crossings, and other locations where pedestrians are expected.

B7. Pedestrian Countdown Timers

Signalized intersections should have pedestrian countdown timers, showing when to cross and an indication of the amount of time remaining.

C. ESTABLISH AN ALL AGES AND ABILITIES BICYCLE NETWORK

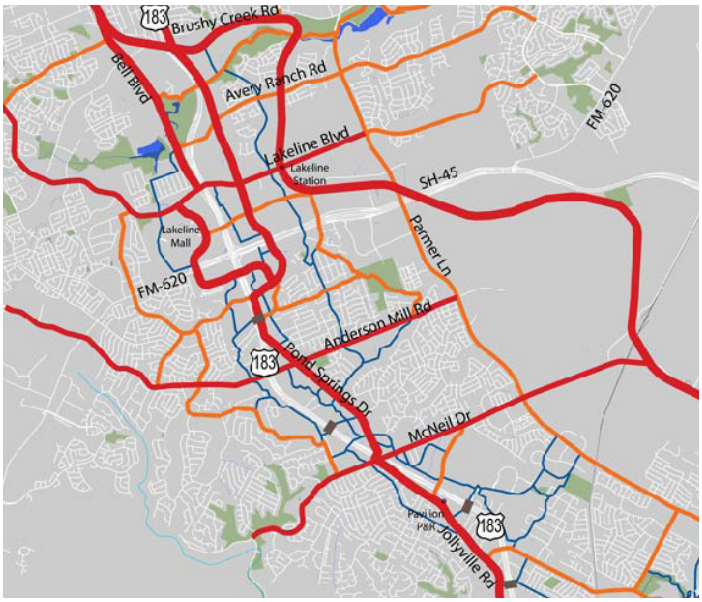
The bicycling network in the Near Northwest Corridor should be safe and comfortable for everyone who wants to ride a bike. This requires connected, coherent, high-quality facilities, safe intersections, and secure bike parking.

C1. High Quality Facilities

Each component of the bicycling network – bike lanes, separated bikes lanes, and trails – should be comfortable for a typical person to ride on. Separation from traffic should be provided on roads with speeds above 25 miles per hour.

C2. Fully Connected Network

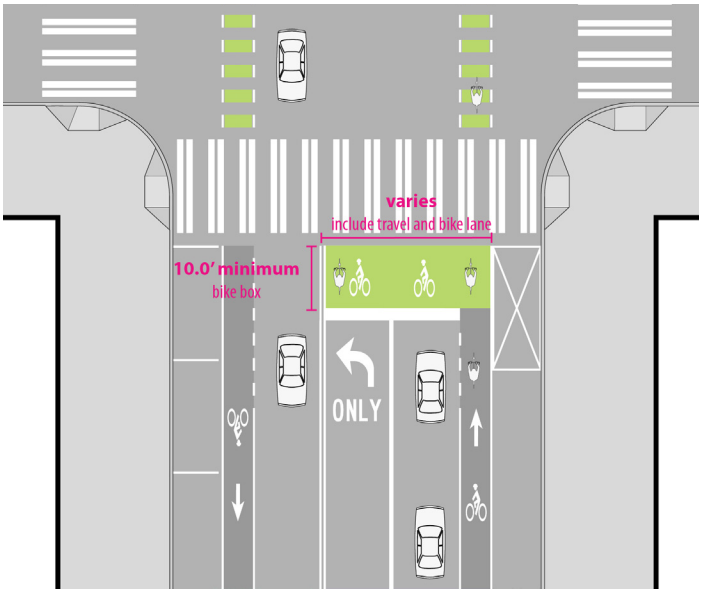
Each component of the bicycling network should be connected to the next. There should be no gaps in the network that would cause stress and discourage bicycling.



C3. Legible Network

Facilities in the corridor's bicycling network should be apparent to the system users. One segment of the network should seamlessly and obviously connect to the next. Wayfinding signs can support system legibility. The design of the Indianapolis Cultural Trail (pictured) clearly indicates where pedestrians, people on bikes, and drivers should all be in the system. The route is apparent, even without the well designed and located wayfinding signs, and the transitions from trail to separated bike lanes are easily understandable.

C4. Safe Intersections



Crossing intersections can be stressful. Intersections should be designed with bicycling, pedestrians, and drivers in mind. Bicycle facilities should continue up to the intersection. Green paint through the intersection can remind drivers to expect bicyclists. Bike boxes can provide

additional space for bicycles to wait at red lights and facilitate left turns when the light turns green.

C5. Bicycle Detection

Bicycle detection at signalized intersections allows a bicycle to trigger a green light. All intersections that are not on automatic timing should have bicycle detection.

C6. Bicycle Parking

People who ride bikes need to know that their bicycle is going to be safely waiting for them at the end of their visit to a destination on the corridor. Convenient and secure bicycle parking should be provided throughout the Near Northwest Corridor.

CHAPTER 2
EXISTING CONDITIONS

This existing conditions report describes current context along the corridor based on site visits, plan and project review, and the collection and analysis of a range of data.

The study area for the Near Northwest Corridor Connections Case Study includes the areas within ½ mile of US 183 from State Loop 1 (MoPac) on the south to Brushy Creek Trail on the north. The study area is an important transportation corridor that provides access toward downtown Austin and the Domain/Arboretum to the south and toward Cedar Park to the north. The corridor contains many businesses, retail destinations, and neighborhoods. People use the corridor to access employment centers, religious institutions, schools, parks and trails, recreational centers, and residences.

Adam Coppola Photography

During site visits conducted as part of this study, pedestrians and bicyclists were observed along the corridor. However, the street grid, land use patterns, and built form lead to destinations that are spread out and oriented toward motor vehicle travel. There are opportunities to improve walking conditions by making the environment more comfortable, engaging, accessible, connected, convenient, legible, and safe. Bicycling conditions vary in the corridor, with gaps in bicycling network and a range in the quality of bike facilities. Near and long term opportunities also exist to enhance the comfort, safety, and connectivity of the bicycling network.

DESTINATIONS

The Near Northwest Corridor includes a number of local and regional destinations which require comfortable connections for all users. These include:

- **Capital Metro Lakeline Redline Station and Park & Ride, Great Hills, Pavilion Park and Ride, and Kramer Station,** located on the northeastern end of the study corridor, experiences some of the highest transit ridership in the study area.
- **Lakeline Mall**, located on the northwestern end of the corridor, is a large indoor shopping mall with over 150 shops, a cinema and food court. Much of the connectivity to the mall is provided through South Lakeline Boulevard and Ranch Road 620.
- **The Domain** is a commercial hub located at the southeastern end of the study area and is one of the largest employment districts in the region. The domain is home to a mix of retail, offices, and residences. It is also served by bus transit and is walking distance a Capital Metro Red Line station.
- **MoPac North bicycle and pedestrian facilities**, including the Walnut Creek Trail, are located to southeast of the study area. Several bicycle and pedestrian facilities are existing and planned near MoPac North to expand bicycling and walking options.
- **Brushy Creek Trail**, located on the northern end of the corridor, serves as an east-west connection to the communities to the east.
- **Bell Boulevard** serves as a commercial corridor and future town center in Cedar Park. A corridor study with an emphasis on enhancing walking conditions has just been completed for Bell Boulevard.

A bicyclist walks his bicycle.

An existing roadway crossing at Spicewood Springs Road/McNeil Drive at US 183N.

A four-foot bike lane on Jollyville Road.

Sidewalk gaps along US 183N.

Worn grass (a "goat path") in the corridor at sidewalk gap locations indicates pedestrian use of the corridor.

Surface parking along the corridor. A pedestrian is visible just beyond the parking lot.

A buffered bike lane on Spicewood Springs Road.

EXISTING STUDIES, PLANS, AND REPORTS

A number of studies, plans and reports were reviewed as part of this existing conditions report. Recommendations contained in the existing studies will be used to inform the final recommendations for the study corridor. The following is a summary of documents reviewed.

FINAL ENVIRONMENTAL ASSESSMENT OF 183 NORTH MOBILITY PROJECT

Texas Department of Transportation and Central Texas Regional Mobility Authority (2016)

http://www.183north.com/2016.04.20_183_North_Mobility_Project_Final%20EA_Reduced.pdf

This assessment was conducted to study the potential environmental consequences for the proposed expansion of US 183 from MoPac to SH45/Ranch to Market Road 620, also known as the 183 North Mobility Project. This proposed expansion would include the construction of two variable-priced express lanes in each direction, a fourth general purpose lane, and connectors to SH 45/RM620 and MoPac. Transitions between the improved section of US 183 and existing facilities would be provided along SH 45/RM620, MoPac, and on US 183.

The environmental assessment determined that the proposed construction of shared use paths between existing parallel roadways will facilitate bicycle traffic between neighborhoods and to/from community facilities located along the corridor. In response to input from the public, additional bicycle and pedestrian improvements were incorporated.

Specific bicycle and pedestrian related recommendations within the study corridor include (pg. 14):

- Shared-use path from Jollyville Road to Pond Springs Road, crossing under US 183 at McNeil Drive/Spicewood Springs Road. This path would connect the existing bike lanes on Jollyville Road to the existing bike lanes on Pond Springs Road.
- Shared-use path along the northbound frontage road from Pond Springs Road to Lake Creek Parkway. This facility would connect the existing bike lanes on Pond Springs Road to the existing bikes lanes on Lake Creek Parkway.
- Fill gaps in existing sidewalks along the frontage roads.
- Restripe all cross-streets under US 183 to include bike lanes, with the exception of Braker Lane, Lake Creek Parkway and Loop 360 (which already include bike lanes).

MOPAC IMPROVEMENT PROJECT ENVIRONMENTAL STUDY

Texas Department of Transportation and Mobility Authority (2012)

http://www.mopacexpress.com/about/environmental-study.php

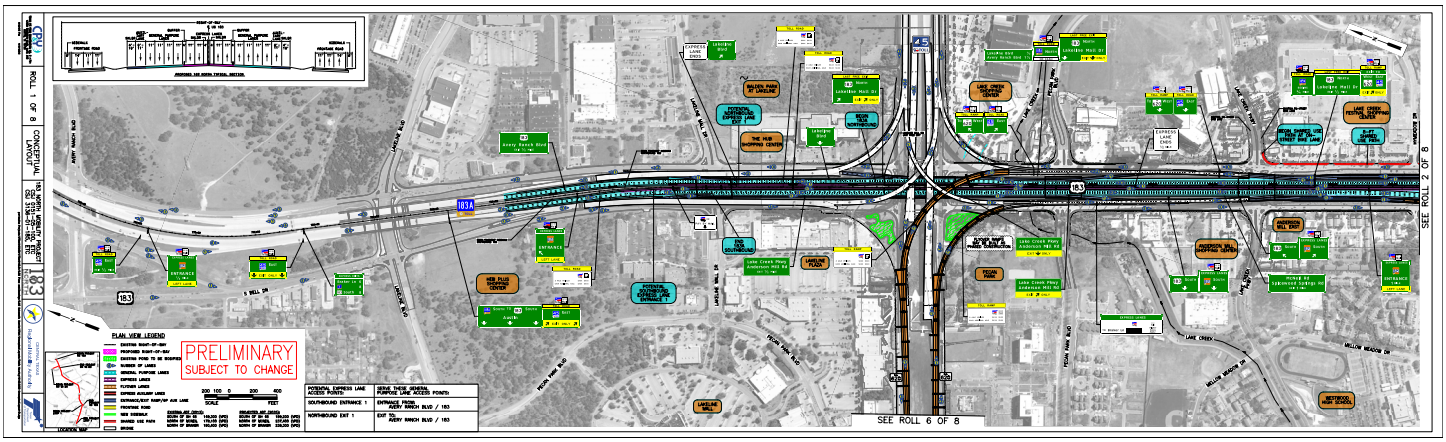
This environmental assessment evaluated the potential impacts of proposed improvements to MoPac (Loop 1). The MoPac Improvement Project aims to facilitate management of congestion and efficient movement, provide a reliable route for transit, and facilitate emergency response. The project includes the addition of one Express lane in each direction.

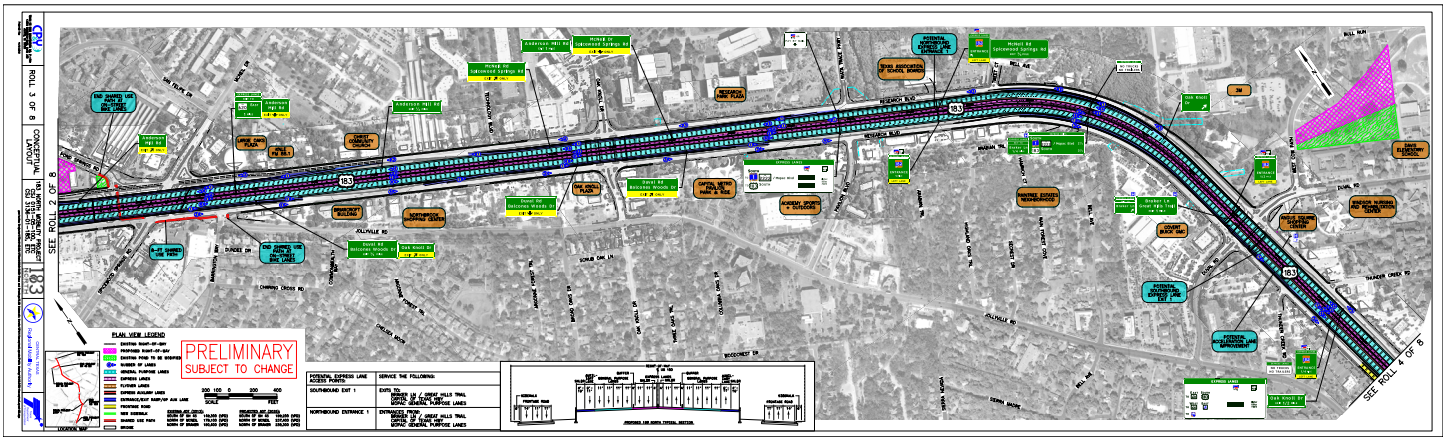
Bicycle and pedestrian access would not be impeded as a result of the "Build Alternative." Most cross-streets along the MoPac corridor currently have sidewalks to accommodate pedestrians, and several contain bike lanes. Bicycle and pedestrian facilities would be provided as described in the "Preferred Alternative," which proposes a shared-use path and sidewalk improvements as shown in the figure below.

Bicycle and pedestrian accommodations in the vicinity of the study area:

- Shared-use path on the west side of MoPac between the Walnut Creek Trail shared-use path and State Loop (SL) 360 between the southbound frontage road and the ROW line.
- Shared-use path connection from the south side of US 183 at Shoal Creek Boulevard, through the existing City of Austin/University of Texas detention pond site on the north side of US 183, to Neils Thompson Drive.
- Cross street bicycle connectivity accommodations would be made at the following locations in the vicinity of the study area to improve east/west connectivity across MoPac, fill in gaps in the existing City of Austin bicycle network, and provide access to parallel connections:
    - Duval Road/Burnet Road, Braker Lane, and Loop 360 (Capital of Texas Highway)

Conceptual layouts of the final environmental assessment of 183 North Mobility Project





LOOP 360 - CAPITAL OF TEXAS HIGHWAY

Texas Department of Transportation (TxDOT)

https://www.txdot.gov/inside-txdot/projects/studies/austin/loop-360.html

A 14.5 mile corridor improvement study is underway for Loop 360 from US 290/SH 71 to North MoPac. The purpose of the study is to identify needs for safety and mobility improvements within the Loop 360 corridor. Nine potential scenarios have been developed.

The October 2016 Study Update notes that "bicycle safety remains an important corridor concern" and states that "transportation improvements, combined with community awareness and safety practices, will help ensure corridors like Loop 360 remain a valid alternative for all transportation modes."

AUSTIN BICYCLE MASTER PLAN

Austin City Council (2014)

https://austintexas.gov/page/austin-bicycle-master-plan

The 2014 Austin Bicycle Master Plan updates the 2009 Bicycle Master Plan and encourages the City of Austin and surrounding areas to coordinate their efforts to ensure a strong local bicycle network and fulfillment of a well-connected and comprehensive, regional bicycle network. The three main focus areas for the bicycle network are: 1) creating an all ages and abilities bicycle network; 2) removing barriers in the existing network; and, 3) resolving issues with parking in bicycle lanes. The Bicycle Master Plan recommends 900 miles of bicycle lanes (130 miles currently exist) and 350 miles of multi-use trails (50 miles currently exist). When the plan is fully realized, there will be bicycle lanes on 21.3 percent of Austin's roadways.

US 183 is identified as a key feeder route to central Austin. Additionally, a number of corridors were recommended for improved bicycle facilities including Lamar Boulevard, MoPac Expressway, US 183, Congress Avenue, IH35, Loop 360, Burnet Road, East Riverside, South 1st Street, Airport Boulevard and 45th Street. The plan also calls for the provision of shared-use paths on both sides of controlled access freeways and frontage roads

where possible due to the directness of those routes and the presence of destinations along them. Due to high speeds and volumes of these roadways, physically separated bicycle facilities are recommended.

CITY OF AUSTIN URBAN TRAILS PROGRAM

City of Austin Public Works Department

http://austintexas.gov/page/current-urban-trails-projects

The Austin Urban Trails Program promotes non-motorized pathways for recreation and active transportation. There are currently approximately 30 miles of urban trails in Austin. The Urban Trails Master Plan envisions 47 additional miles of high priority trails to be built over the next two decades.

In order to address traffic congestion in the MoPac corridor, the City and State are partnering on the MoPac Mobility Bridges project, which is near the study area. The project includes three phases totaling approximately two miles of bicycle and pedestrian improvements. Improvements to this corridor were identified in the Austin Strategic Mobility Plan, the Bicycle Master Plan, and by the 2007 Mayor's Street Smarts Task Force.

IMAGINE AUSTIN COMPREHENSIVE PLAN

Austin City Council (2015)

http://www.austintexas.gov/sites/default/files/files/Planning/ImagineAustin/2015AmendedPlan_web.pdf

The Imagine Austin Comprehensive Plan highlights key challenges, opportunities, and principles for improving Austin over the coming years. Among the City's goals for the future are compact growth and regional collaboration and connectivity, with a range of transportation options, multimodal connectivity, and accessible community centers. The plan reviews past reports and studies, and discusses how the issues introduced in them should best be addressed.

As described in the Comprehensive Plan, the City aims to develop land use, transportation policies, and regulations that support active and healthy lifestyles. This includes projects such as community gardens, tree-shaded sidewalks and trails, bicycle parking, showers within office buildings, and having daily needs within proximity to home and work. Specific improvements and construction projects are not included in this plan.

THE CENTRAL TEXAS GREENPRINT FOR GROWTH

The Trust for Public Land (2009)

http://cloud.tpl.org/pubs/convis_tx_centexreport.pdf

Starting in 2008, The Trust for Public Land developed an interactive computer model for Travis County that defines, maps, and prioritizes conservation opportunities. The Travis County Greenprint identified four conservation goals, including the protection of water quality and quantity, recreational opportunities, sensitive and rare environmental features, and cultural resources. The Greenprint is currently being used by decision makers as a tool in planning and conservation.

CITY OF AUSTIN SIDEWALK MASTER PLAN

City of Austin Public Works Department, Bicycle & Pedestrian Program (2009)

https://www.austintexas.gov/sites/default/files/files/Public_Works/Sidewalk_Master_Plan.pdf

The Sidewalk Master Plan provides guidance on creating an accessible and walkable City. The Plan allows for prioritization and planning for future sidewalk projects and associated funding to improve connectivity. It also provides the basis from which other City initiatives related to pedestrian issues can build on. The Plan indicated that there were approximately 3,500 linear miles of roads without sidewalks. About 10 percent of these gaps in the sidewalk network are along arterials with the remaining 90 percent along collectors or residential streets.

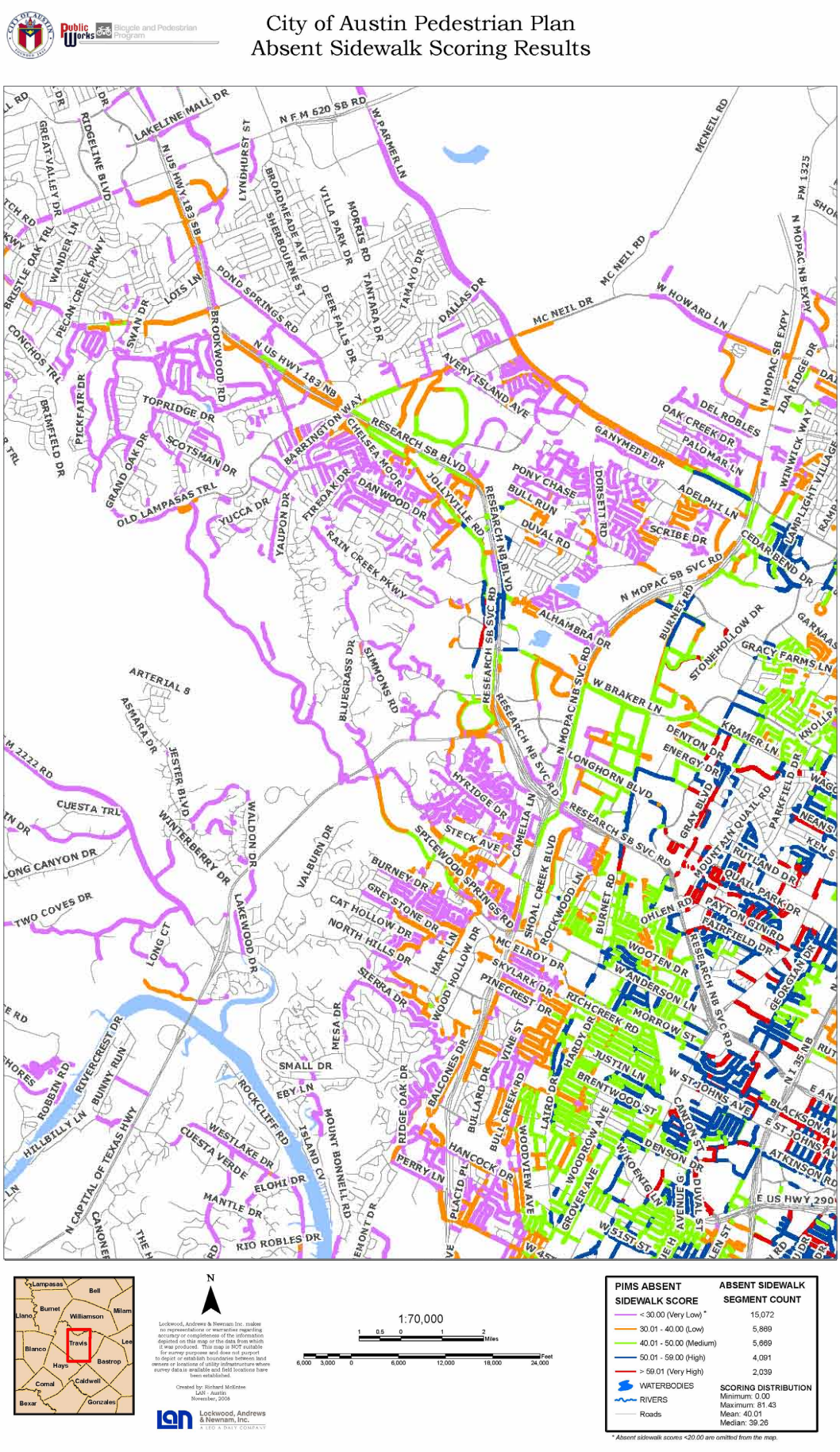
In an effort to complete a City-wide network of sidewalks that meets national standards for accessiblity (as required in the Americans with Disabilities Act, [ADA]), the City is developing a mechanism to prioritize sidewalk construction projects. An Absent Sidewalk Prioritization Matrix, using spatial analysis tools, scores sidewalks and assigns them a classification relative to all other scored sidewalks of their type. This classification ranks their importance using five levels (high-low). The matrix provides consistent, unbiased results to the City of Austin for over 30,000 locations. Consistent data updates made by the City will assist in maintaining the integrity of the sidewalk score output in the future.

LAND DEVELOPMENT CODE (WORKING DRAFT OF CODENEXT)

City of Austin (2017)

http://austintexas.gov/sites/default/files/files/Planning/CodeNEXT/ALDC_PRD_23_LandDevelopmentCode_Combined_2017_0130_web.pdf

Figure 1: City of Austin Pedestrian Plan Absent Sidewalk Scoring Results



The purpose of the Land Development Code is "to protect and promote public health, safety and general welfare through regulations and procedures for the use and development of land which are consistent with and implement the City's Comprehensive plan." To achieve the purpose, the document establishes procedures to classify land into base districts and overlay zones in order to regulate the use and development of land in a manner that, among other things, "facilitates a mix of uses and promotes compact, pedestrian-oriented development" and "minimizes traffic congestion and enhances the streetscape and pedestrian environment."

The Draft Land Development Code is out for public comment as of the publication of this case study.

BELL BOULEVARD REDEVELOPMENT MASTER PLAN

City of Cedar Park (2016)
http://cedarparktexas.gov/Modules/ShowDocument.aspx?documentid=5117

This Plan introduces a vision to relocate the portion of Bell Boulevard between Park Street and Buttercup Creek Boulevard further east to use the existing right of way of Old Highway 183. The vision of the project is to create a gathering place and sense of identity for residents and businesses in Cedar Park, as well as an attraction that can draw from the larger Austin metropolitan area. Six primary goals for this project, which fall within the categories of identity, economics, natural assets and community, were used during public workshops to understand how the public prioritizes issues. Community and economics were given the highest ranking.

Out of three redevelopment alternatives, the "Picket Alternative" was ultimately selected for implementation. The Picket Alternative will ultimately achieve the greatest pedestrian mobility and safety and vehicular mobility. Improvements that will impact the bicycle and pedestrian environment include:

- Shaded pedestrian sidewalks, a planted median and enhanced lighting on Bell Boulevard.
- Signalized intersection at the juncture of Shopping Street and Bell Boulevard to provide protected pedestrian crossings and left turns for southbound traffic.
- Gateway improvements at Bell Boulevard and Buttercup Creek Boulevard that include a simplified intersection reducing the crossing distance by 55 percent.
- Two lanes of traffic with angled parking on both sides.
- Block distance shortening.

CEDAR PARK COMPREHENSIVE PLAN

City of Cedar Park (2014)
http://cedarparktexas.gov/modules/showdocument.aspx?documentid=4467

The Cedar Park Comprehensive Plan aims to facilitate balanced and compatible land uses, plan for transportation improvements, support infrastructure improvements, and ultimately create a desirable, family-friendly place to work and live. Transportation goals relate to improving east-west connectivity, pedestrian connectivity and safety, and maintaining acceptable levels of service for roadways and intersections. The plan incorporates recommendations from the "US 183 Redevelopment Strategies" report that outlines ideas for improving the corridor.

In order to achieve its transportation goals, the plan outlines various action items, including:

- Conducting an inventory of existing sidewalks, identifying priority areas, allocating funding for sidewalk installation, preparing informational material regarding routes.
- Maintaining contact with TXDOT, redirecting traffic volume from Bell Boulevard to US 183A.

There were no additional specific recommendations for pedestrian or bicycle facilities.

WILLIAMSON COUNTY TRAILS MASTER PLAN

Williamson County (2014)
https://www.wilco.org/Portals/0/Departments/Parks/Wilco_Trails_Master_Plan_PPT_Presentation_062014.pdf?ver=2017-02-01-125612-000

This trails master plan identifies gaps in the existing and proposed trail network in the Williamson County and recommends priority trail segments to support bicycle and pedestrian travel.

DATA ANALYSIS

Available data on conditions in the study area were collected and analyzed. The following is a summary of the findings.

ROADWAY CONDITIONS

The Near Northwest Corridor Connections Case Study area is served by a number of east-west and north-south corridors that provide connectivity to the various destinations mentioned above. Many of these corridors have posted speed limits of 45 mph. Many corridors exhibit low average daily traffic (ADT) volumes in relation to the number of existing travel lanes. For example, the latest Texas Department of Transportation (TxDOT) Urban Traffic Map for the City of Austin shows that Pecan Park Boulevard, a corridor that includes six lanes of traffic, bike lanes on both sides, and has a 45 mph speed limit, only experiences around 5,500 cars per day west of the US-183 corridor.[1] See **Figure 3** below for more details on ADT.

Table 1 below provides a summary of select characteristics for the largest connecting corridors to the study area.

1 Texas Department of Transportation. 2010 Austin Urban Traffic Map. Obtained from http://www.txdot.gov/inside-txdot/division/transportation-planning/maps/urban-2010.html on October 25, 2016.

Table 1: Corridors and Select Characteristics

CORRIDOR	NUMBER OF LANES*	BICYCLE FACILITY	ADT (2015)	POSTED SPEED LIMIT (MPH)
Anderson Mill Road	4	Buffered Bike Lanes (east of 183N)**	29,815 (West side) 20,135 (East side)	40
Duval Road	3	Bike Lanes (at some locations)	15,328	35
Jollyville Road	5	Bike Lanes	15,982-21,007	45
Lake Creek Parkway	6 (with median)	Bike lanes	17,612	40
Lakeline Boulevard	7	Bike Lanes	29,080 (West side) 11,510 (East side)	45
McNeil Drive	5	N/A	13,036 (West side) 25,312 (East side)	45
Pecan Park Boulevard	5	Bike Lanes	5,523	35
Pond Springs Road	3	Bike Lanes (except at some intersections)	4,028-10,820	40
W Braker Lane	7	Bike Lanes	29,144-36,564	45

* Includes center turn lane.

** Existing buffered bike lanes drop on the approach to US 183.

Figure 2: Average Daily Traffic

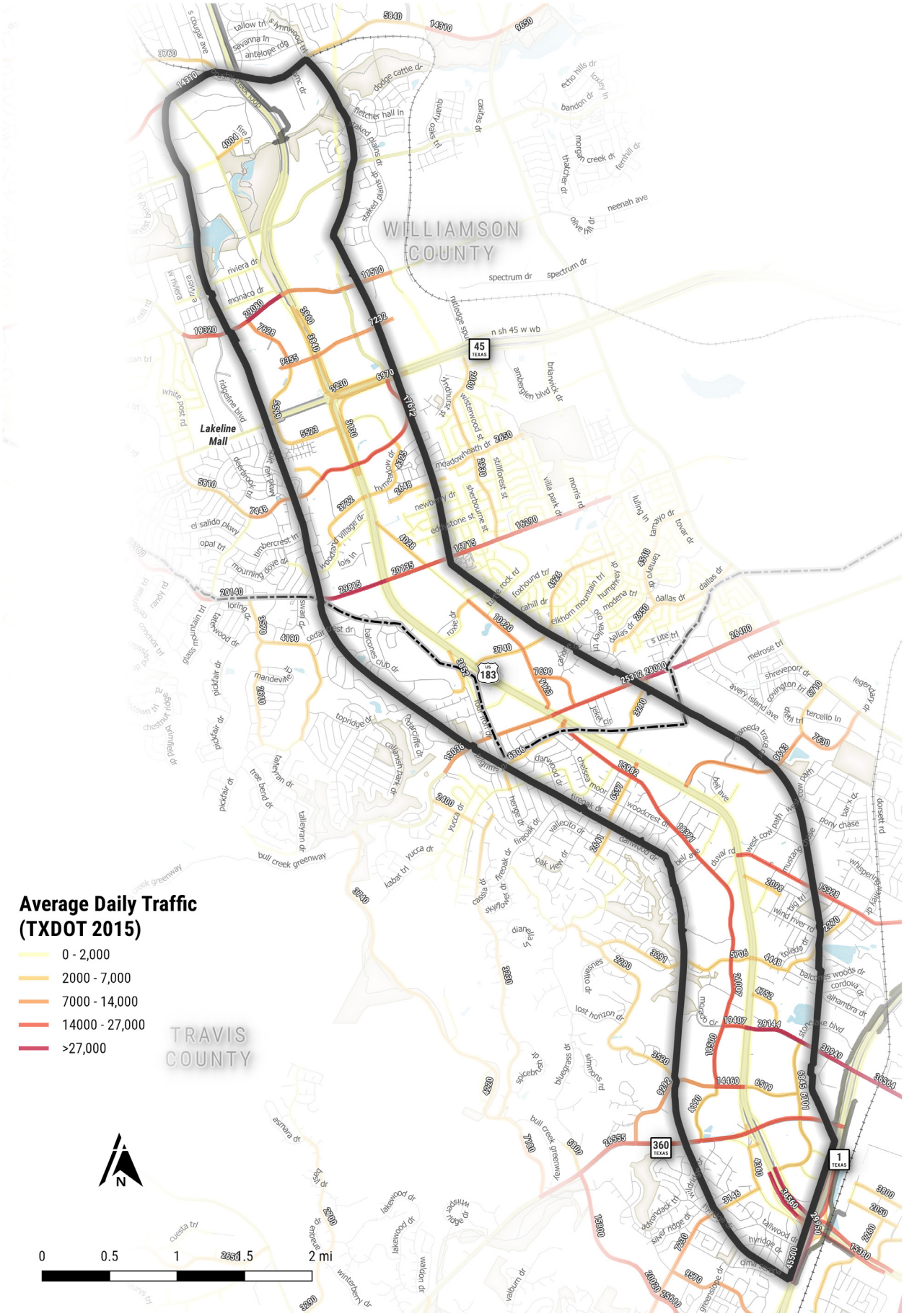
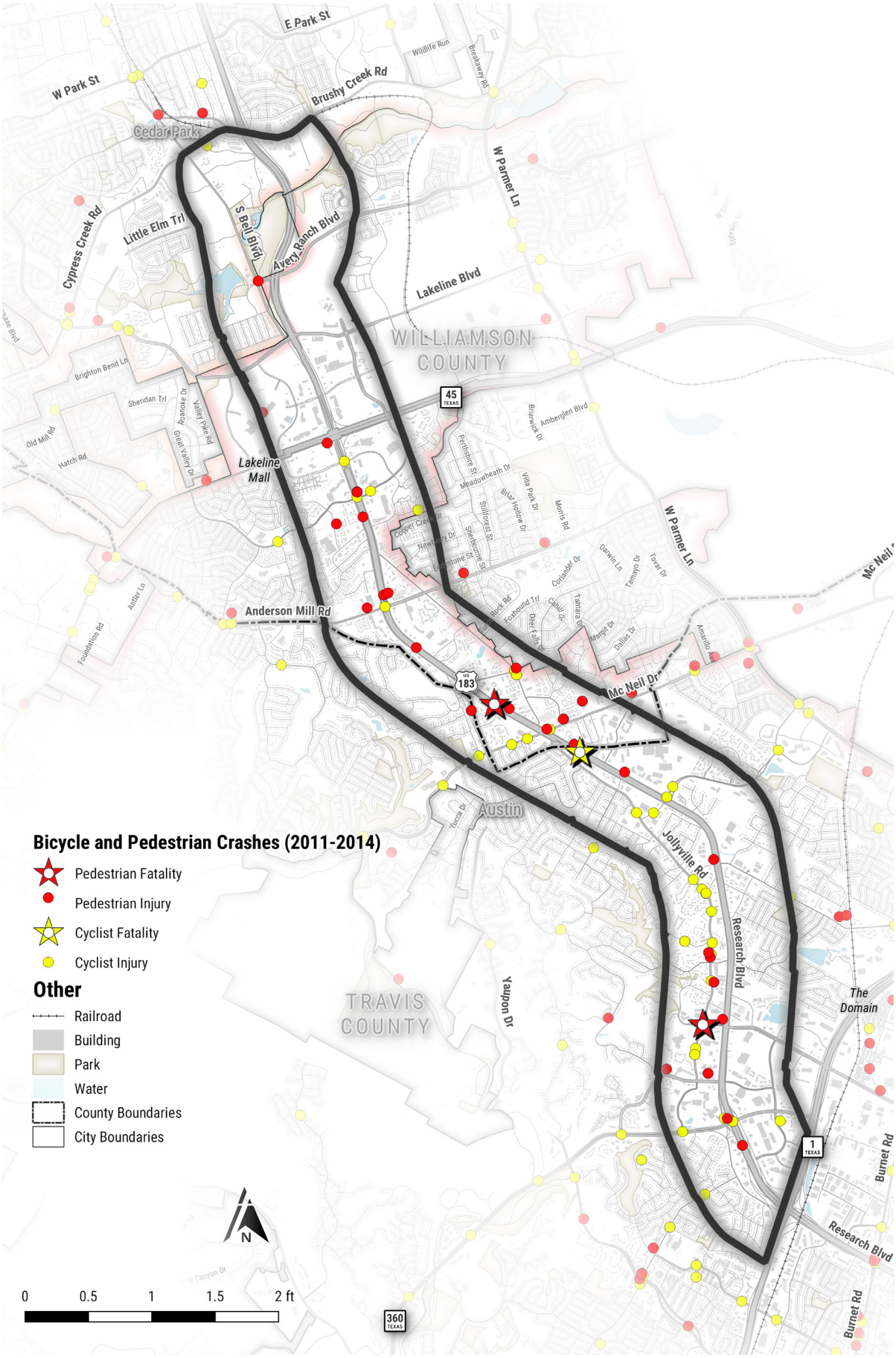


Figure 3: Bicycle and Pedestrian Crashes



BICYCLE AND PEDESTRIAN CRASHES

Pedestrian and bicycle safety—both real and perceived—are important factors influencing where and how often people walk and bike. Traffic incident data is one way to assess the safety of transportation system users and can be used to help target safety-related programs and investments. Figure 4 displays reported pedestrian and bicycle crashes between the years of 2011 and 2014.2 As noted in Table 2 the corridor experienced 46 bicycle related and 38 pedestrian related crashes during this period. 15 bicycle related crashes occurred on Jollyville Road, a five lane corridor that includes bicycle lanes. Most pedestrian crashes occurred in close proximity to bus stops along the major corridors within the study area. Unfortunately, pedestrian and bicyclists exposure data are not available to calculate a crash rate for corridor segments.

Table 2: Bicycle and Pedestrian Injuries and Fatalities

TYPE	FATALITY	INJURIES
Bicycle	1	46
Pedestrian	2	38
Bicycle + Pedestrian	3	84

In the same period between 2011 and 2014, the study area experienced one bicycle related fatality and two pedestrian related fatality. The bicycle and pedestrian related fatalities occurred along Research Boulevard and Jollyville Road.

TRANSIT

The study area is served by Capital Metro Rail and Bus transit. The Lakeline Red Line Station experiences among the highest numbers of bus boardings and alightings, as noted in Figure 5. The station includes a Park and Ride facility that allows commuters to park and link to Downtown Austin. The Redline will run additional trains in 2018, increasing frequency and expanding operating schedules.

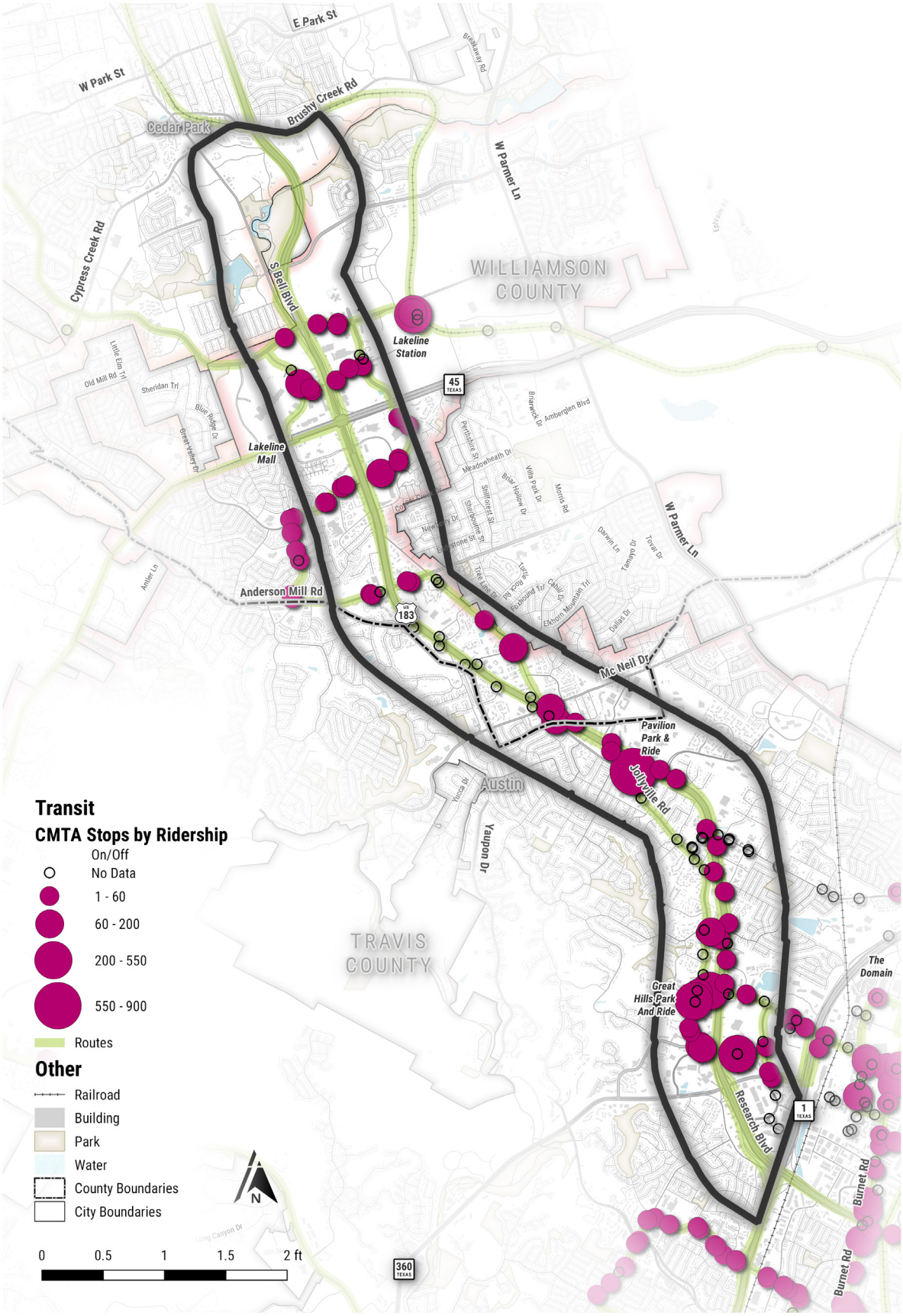
The area is served by Bus Route 383 which provides bus transit at 35 minute headways on weekdays and 50 minute headways on the weekends. Route 987 also provides express service during peak times (at 30 minute headways). The highest ridership is experienced at the Great Hills Park and Ride, Pavilion Park and Ride, and Lakeline Station. The route provides connections to Lakeline Mall, Austin Aquarium, the Gateway, and the Domain. The route also serves a number of important corridors within the study area including Lakeline Boulevard, Anderson Mill Road, Pond Springs Road, and Jollyville Road. While the route serves a number of local and regional destinations, because of its circuitous route, a typical ride from beginning to end can take upwards of one hour.

Capital Metro adopted its Connections 2025 Plan which will help guide the agency's service changes for the next five years. The proposed changes for bus transit in the study area include:

- Route 383: this route would be combined with Route 392 and the route would be realigned and streamlined to improve travel times. This realignment would replace service on Lake Creek Parkway west of US 183 with a new circulator service, Route 420 Lakeline Circulator. Route 383 would also now shift operations from US 183 frontage road to Jollyville Road.
- Route 987: the route would remain unchanged but would gain five additional trips for a total of 10 southbound morning and 10 northbound evening trips. These changes would also mean that the frequency of service would increase, reducing headways from every 30 minutes to every 20 minutes.

2 Texas Department of Transportation. GIS Layer. Bicycle and Pedestrian Crashes 2011-2014.

Figure 4: Bus Stops by Ridership Volumes



EXISTING AND PROPOSED BICYCLE FACILITIES

As noted in **Table 3** the majority of bicycle facilities are bicycle lanes. Many of the existing bike lanes run along connecting and parallel streets including Avery Ranch Boulevard, Lakeline Boulevard and Pond Spring Road among others. However, these facilities do not provide separation between high speed traffic (40 mph speed limit) and bicyclists. Anderson Mill Road includes buffered bike lanes, which typically provide greater comfort. Other facilities within the study corridor include paved and unpaved trails concentrated on the northern end of the Corridor. In particular, the Brushy Creek Regional Trail, provides regional connections to a number of destinations east and west of the study area. A map of existing bicycle facilities can be found in **Figure 6**.

Table 3: Existing Bicycle/Trail Facilities within 1/2 Mile of the US-183 Study Corridor

FACILITY	MILES
Share Path / Trail	4.04
Bike Lane / Dedicated On-Street	15.25
Shared Lanes / Sharrows / Bike Boulevard / Shoulder	1.40
Share Path / Trail	4.04
Unpaved Trail	0.92
TOTAL	21.61

A number of local and regional plans have called for the implementation of separated facilities and improvements/ upgrades to some existing facilities throughout the corridor. For example, the 2014 Austin Bicycle Plan called for the implementation of side paths along US 183, which was identified as infeasible by the US 183 North Environmental Impact Study. The 2014 Bicycle Plan also recomended the implementation of more than five miles of separated bike lanes in important north-south corridors like Jollyville Road and east-west connections like Duval Road. Furthermore, the Austin Urban Trails Master Plan calls for improvements along Jollyville Road and the MoPac corridor. A summary of proposed bicycle facilities within ½ mile of the study corridor can be found in **Table 4** and **Figure 7**.

Table 4: Proposed Bicycle/Trail Facilities within 1/2 Mile of the US-183 Study Corridor

FACILITY	MILES
Share Path / Trail	8.29
Bike Lane / Dedicated On-Street	12.29
Shared Lanes / Sharrows / Bike Boulevard / Shoulder	1.45
Share Path / Trail	16.65
Unpaved Trail	8.29
TOTAL	38.67

Figure 5: Existing Bicycle Facilities

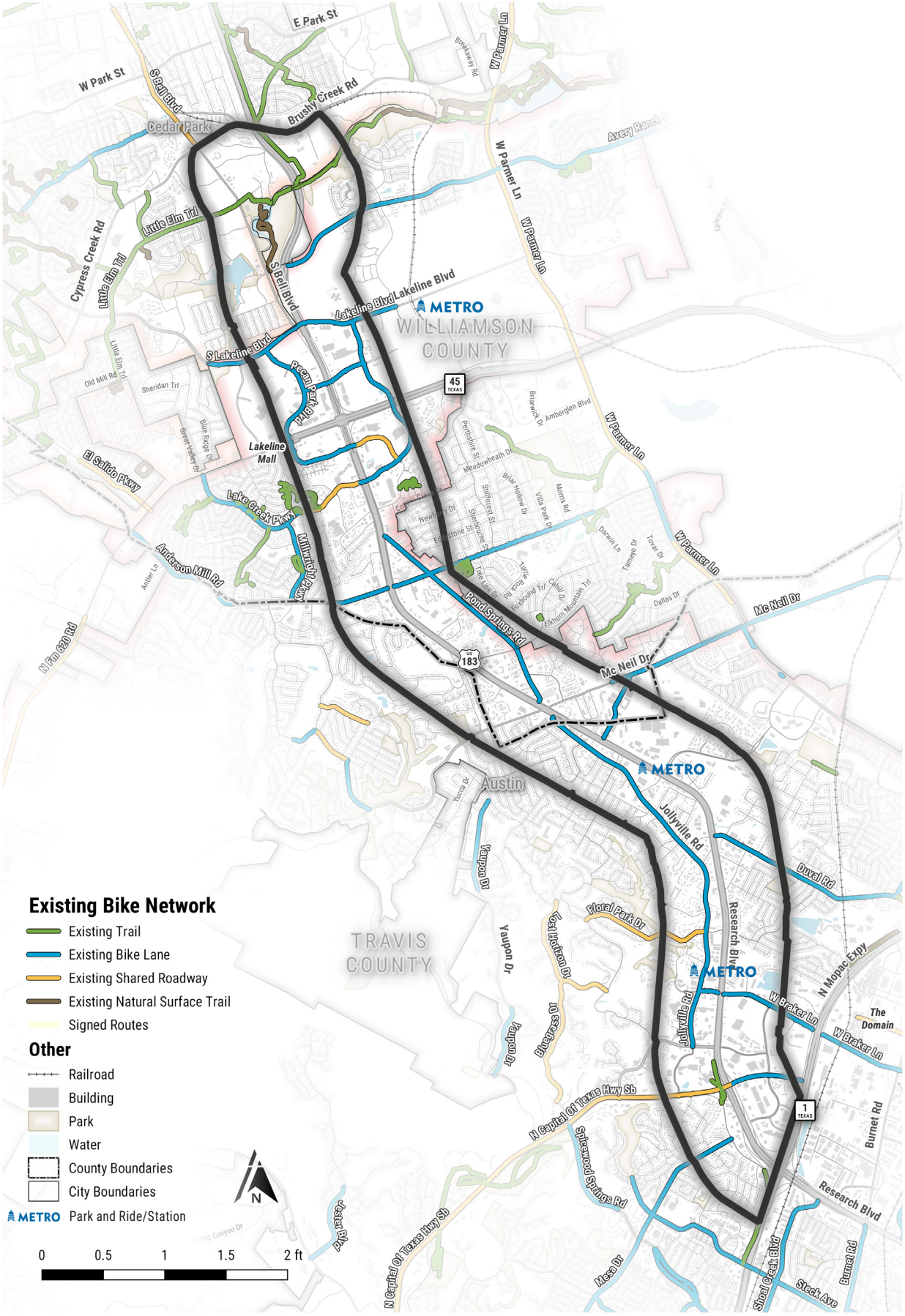
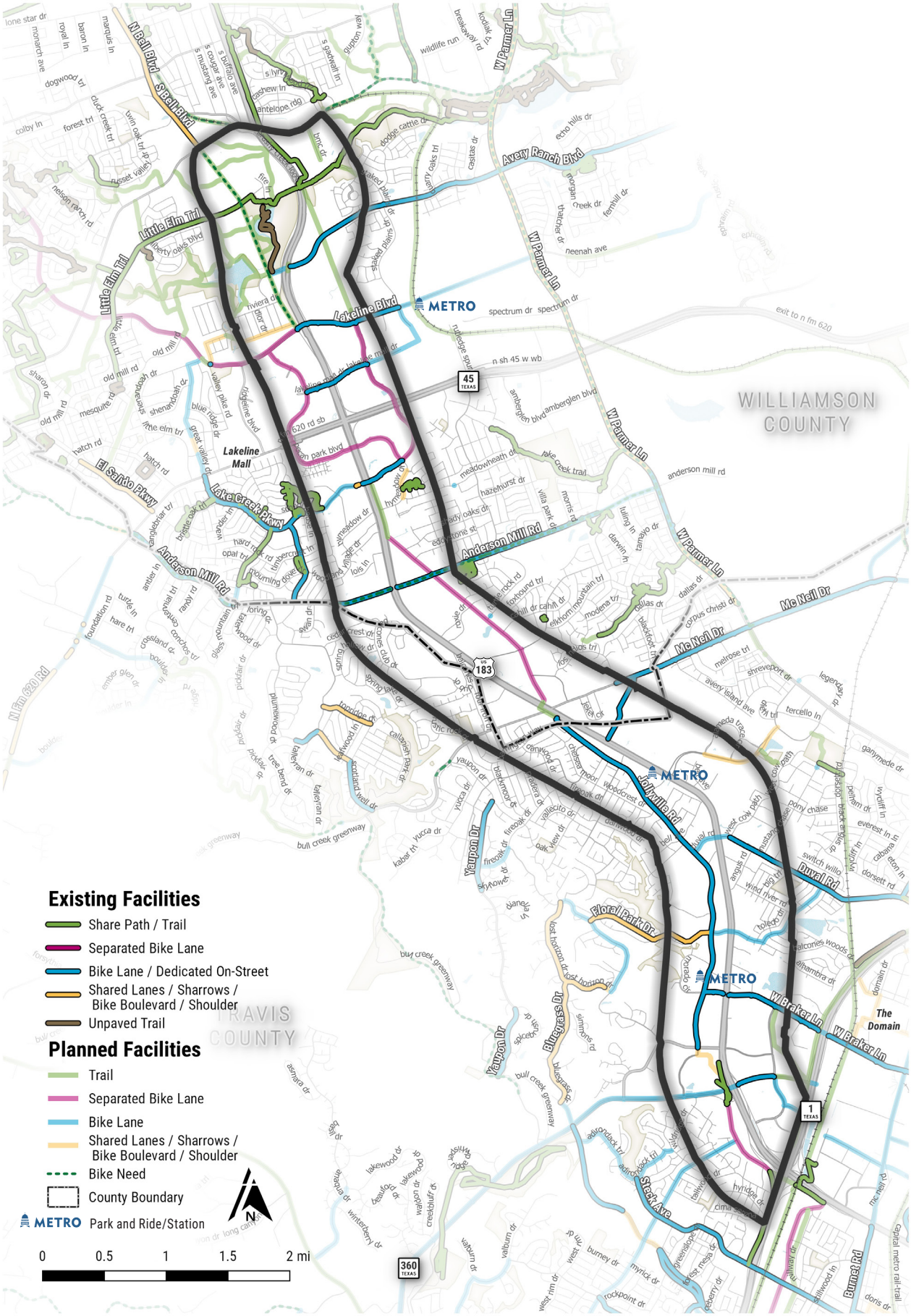


Figure 6: Proposed Bicycle Facilities



EXISTING AND PROPOSED SIDEWALK NETWORK

Many trips in the study area cannot be completed by foot today, as the area lacks sidewalk coverage. While existing sidewalks provide the required four-foot clearance related to ADA Accessibility requirements, many do not include separation between high speed traffic and pedestrians.

As noted in Figure 7 below, corridors with existing sidewalks include those in close proximity to the Lakeline Redline Station and Capital Metro Park and Ride locations.

A number of gaps within the sidewalk network exist, including areas connecting to Lakeline Mall, Cedar Park (just north of the study area) and the Domain. Further, single family neighborhoods and developments immediately adjacent to US-183 corridor lack sidewalk connectivity to major corridors and transit including McNeil Drive, Jollyville Road, and parts of Braker Lane.

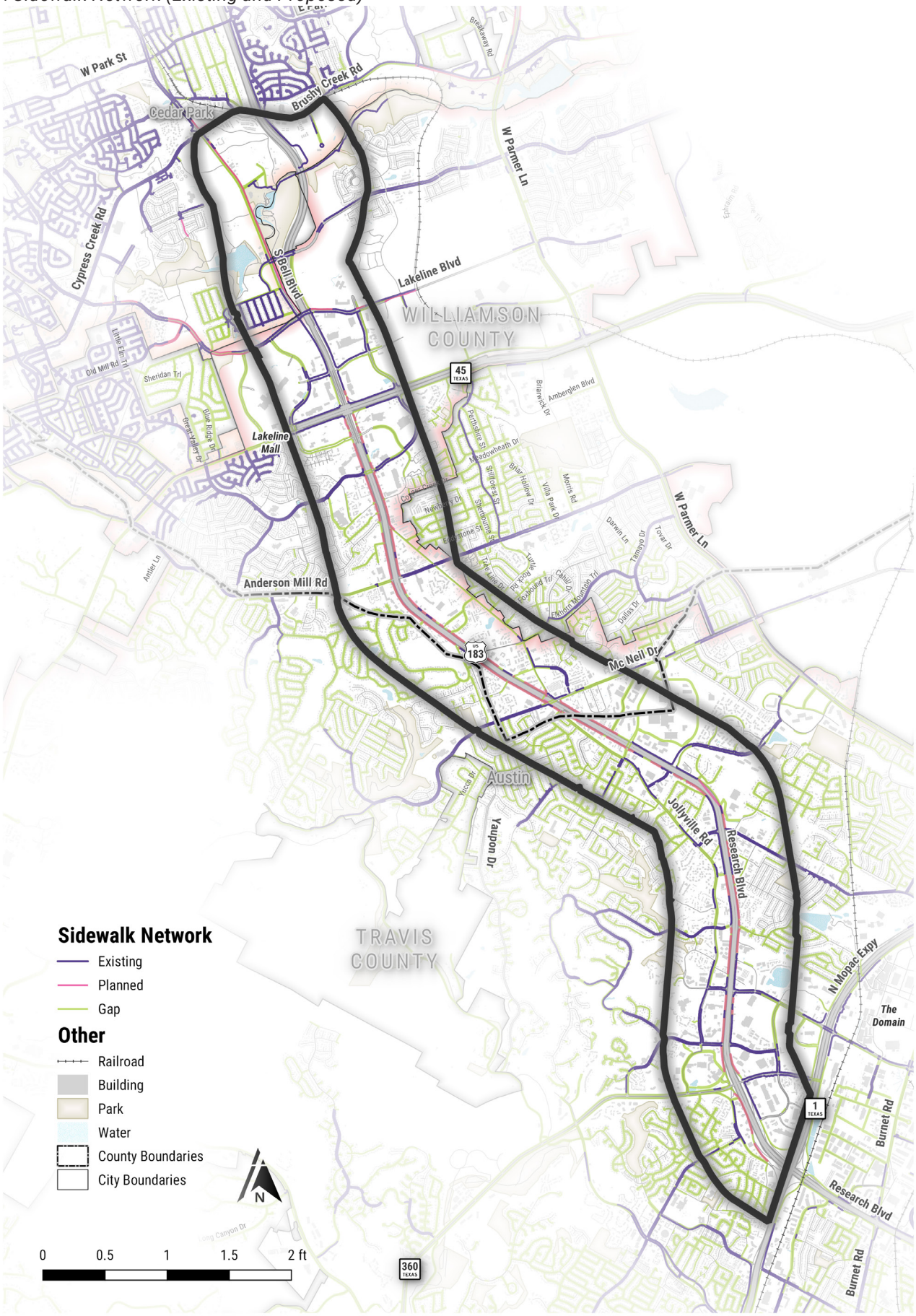
Table 5: Existing and Planned Sidewalk Coverage (miles)

FACILITY	MILES
Existing Sidewalks	28.50
Proposed Sidewalks (not part of 183N Mobility Project)	4.73
Proposed Sidewalks (as part of the 183N Mobility Project)*	9.00

* 183N Mobility Project, Proposed Bicycle and Pedestrian Improvements http://www.183north.com/183North_Handouts.pdf

In order to increase accessibility to many local and regional destinations for pedestrians, a number of regional plans have called for growing the sidewalk network. For example, the CTRMA MoPac Improvement Project Environmental Study called for a number of pedestrian improvements along Park Bend Drive, including the installation of ADA compliant ramps, striping at pedestrian crossings and pedestrian push signals where needed. Furthermore, pedestrian improvements including the construction of sidewalks along Lakeline Boulevard and Bell boulevard are planned. **Table 5** provides the mileage of existing and planned sidewalks in the study area (shown as "lane miles," which count each side of a street separately). The sidewalk improvements proposed as part of the 183N Mobility Project are listed separately from other proposed sidewalks in the study area. The US 183 North improvement project will complete all sidewalk gaps along the frontage roads of US 183 on both sides.

Figure 7: Sidewalk Network (Existing and Proposed)



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POPULATION DENSITY

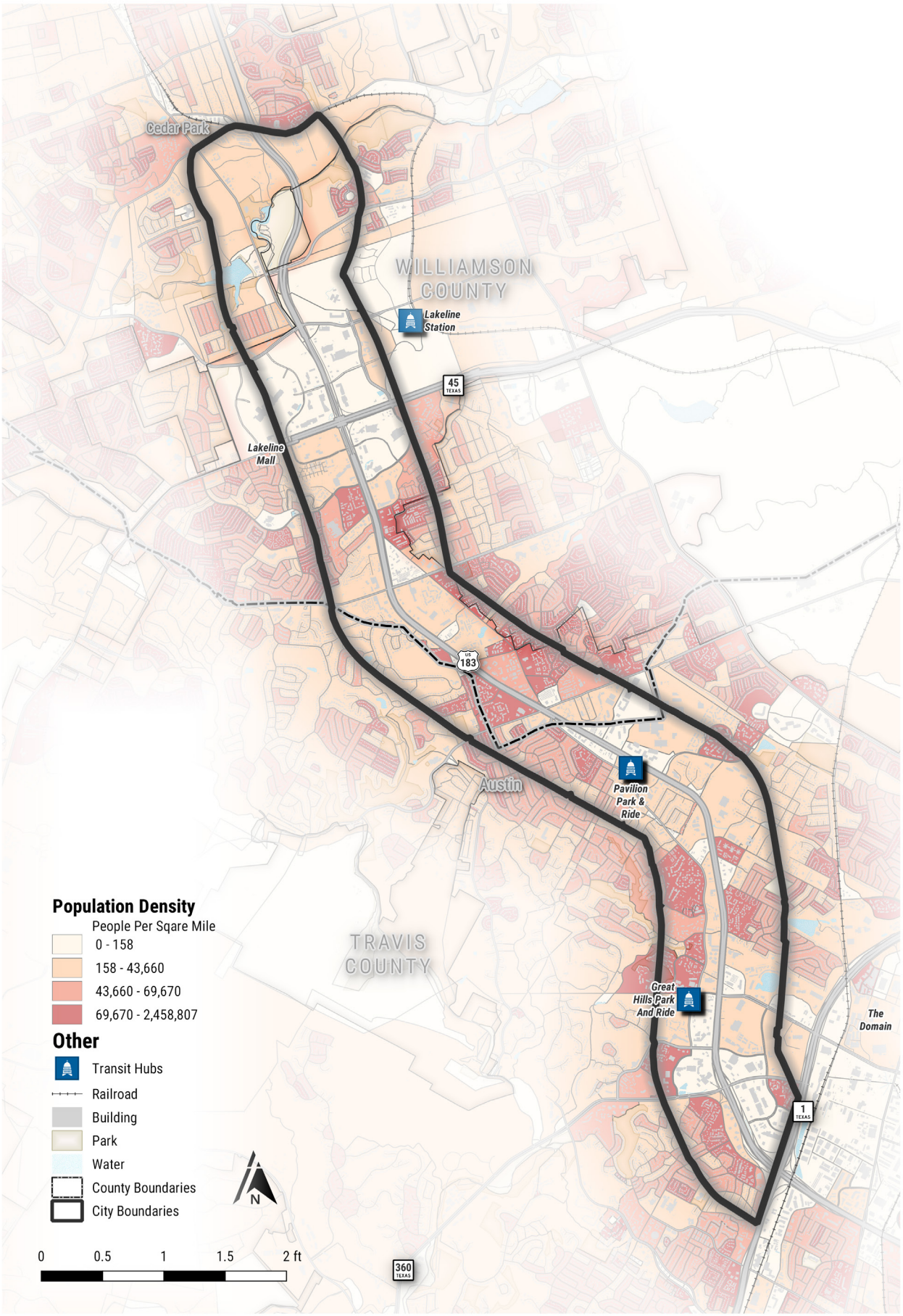
The Near Northwest Corridor serves north-south through traffic as well at local traffic for residents along the corridor. 35,346 people live within the study area. Population density (residents per square mile) varies along the corridor. In general, population density is lower in the northern part of the corridor, which includes the southern part of the City of Cedar Park and the unpopulated Brushy Creek Park. South of SH 45/RM 620 population density increases with communities including Anderson Mill, Anderson Mill East, Anderson Mill Village, Anderson Mill Village South, Hidden Meadows, the Woodlands, Maconda Park East, and Village Oaks, and nearby Forest North Estates, and Timberwood. South of Anderson Mill Road, population is densest east of Pond Springs Road in neighborhoods like Turtle Rock Estates, Hunter's Point, and Los Indios, and in the neighborhood of Sonesta West on the west side of US 183. South of there, residential density is mostly to the west of Jollyville Road (to the west of US 183) and boardering US 183 to the east at Balcones Woods and Mesa Park. All of these neighborhoods generate local trips, many of which currently funnel to US 183 and the frontage roads, adding to traffic along the corridor. Greater local street network connectivity would provide more options for these local trips, diverting them from the most congested roads and shortening trip distances.

Several groups of people in the corridor do not or cannot drive. Twelve percent of the population are school aged children who are not old enough to drive and could benefit from sidewalks and safe bicycling facilities. Fourteen percent of the population are senior (over 60 years old) who often want transportation choices other than driving. There are over 1,000 housing units in the corridor wherein no one owns a car and over 1,000 households living below the poverty line. These households would benefit from a broader range of transportation choices and safe access to transit stations.

Table 6: Corridor population data

DEMOGRAPHIC GROUP	COUNT
Population	35,347
School Aged Kids	4,466
Seniors	5,059
Zero Car Housing Units	1,073
Households	16,483
Households with Incomes Below Poverty Line	1,411
People of Color/Minorities	12,851

Figure 8: Population Density



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LAND USE

The planning team analyzed the land use patterns in the two counties. The study area contains a total of approximately 6,654 acres; 6,015 in the City of Austin and 649 in the City of Cedar Park (9.6 percent of the total study area). The tables below show a detailed breakdown of the land use, by acres, for the portions of the study area in the each city. The map shows general land use groupings based on land uses. Much of the land adjacent to US 183 and the frontage roads is zoned for commercial use. Residential use predominates further away from US 183. Higher density residential use exists in the southern third of the corridor. The existence of commercial uses along the corridor indicates destinations of interest to the frontage road addresses from local residential areas.

Table 7: City of Austin Existing Land Use, by Acreage

EXISTING LAND USE DESCRIPTION	SUM ACREAGE	% OF STUDY AREA	% OF STUDY AREA IN THE CITY OF AUSTIN
Streets and Roads	1189	18%	20%
Commercial	1107	17%	18%
Single Family	1013	15%	17%
Office	689	10%	11%
Apartment/Condo	684	10%	11%
Undeveloped	191	3%	3%
Common Areas	169	3%	3%
Manufacturing	166	2%	3%
Golf Courses	111	2%	2%
Duplexes	90	1.4%	1.5%
Parks/Greenbelts	85	1.3%	1.4%
Government Services	74	1.1%	1.2%
Meeting and Assembly	70	1.0%	1.2%
Warehousing	67	1.0%	1.1%
Parking	66	1.0%	1.1%
Educational	49	0.7%	0.8%
Retirement Housing	46	0.7%	0.8%
Miscellaneous Industrial	40	0.6%	0.7%
Utilities	22	0.3%	0.4%
Three/Fourplex	20	0.3%	0.3%
Water	17	0.3%	0.3%
Large-lot Single Family	16	0.2%	0.3%
Hospital	14	0.2%	0.2%
Agricultural	13	0.2%	0.2%
Landfills	3	0.04%	0.05%
Group Quarters	2	0.03%	0.03%
Mobile Homes	2	0.02%	0.03%
Cemetery	1	0.01%	0.02%
TOTAL AREA IN CITY OF AUSTIN	**6014.99**		**100.00%**
STUDY AREA, AREA	**6654**	**90.40%**	

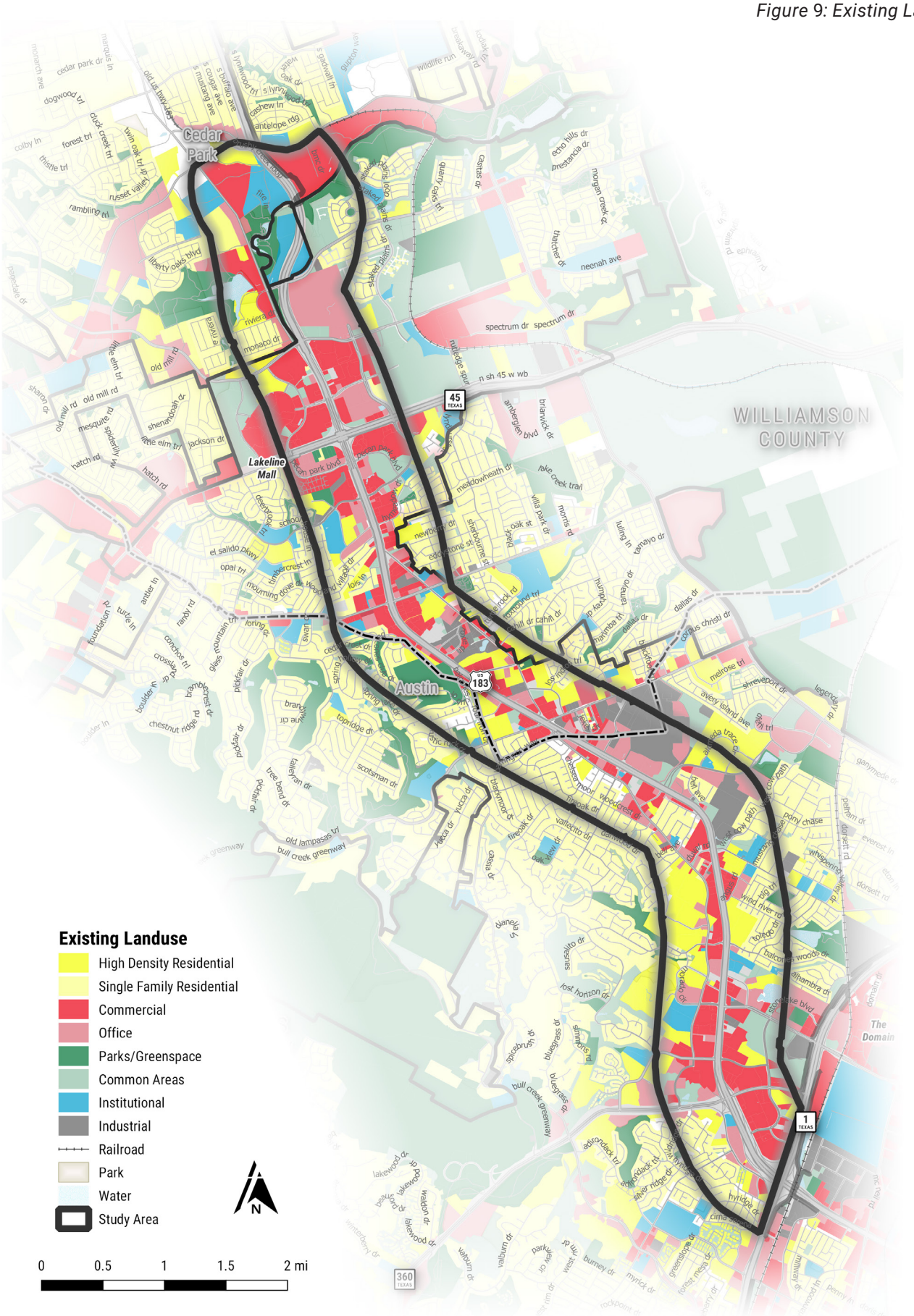
Table 8: City of Cedar Park Existing Land Use, by Acreage

EXISTING LAND USE DESCRIPTION	SUM ACREAGE	% OF STUDY AREA	% OF THE STUDY AREA IN CEDAR PARK
Unclassified	245.4	3.7%	38%
Commercial	227.6	3.4%	36%
Right of Way	86.3	1.3%	14%
Residential	76.3	1.2%	12%
Misc. Improvement	2.1	0.03%	0%
TOTAL AREA IN CITY OF AUSTIN	**637.6**		**100%**
STUDY AREA, AREA	**6,654**	**9.6%**	

Note on methodology: To calculate the acreage for study area, the polygon shapefile was clipped to study area boundary and areas were calculated for portion of land use district in the study area. In all tables, differences in area totals are caused by inconsistencies of the source data.

In the Cedar Park existing land use, Right of Ways are not classified or assigned a zoning district.

Figure 9: Existing Landuse



ZONING

As with the land use analysis, an analysis of the existing zoning for the corridor shows commercial activity adjacent to US 183 and the frontage roads, with residential activity further away. A benefit of the zoning analysis is that it shows the mixed use activity in the southern section of the corridor next to MoPac and the Domain in the area of the Arboretum.

Table 9: City of Austin Zoning, by Acreage

ZONING DESCRIPTION	SUM ACREAGE	% OF STUDY AREA	% OF STUDY AREA IN THE CITY OF AUSTIN
Right of Way (not zoned)	1188.8	17.9%	20%
Community Commercial	951.5	14.3%	16%
Single Family Residence - Standard Lot	600.9	9.0%	10%
Rural Residence	592.8	8.9%	10%
Limited Industrial Services	337.7	5.1%	6%
Multi-Family Residence - Low Density	300.5	4.5%	5%
North Burnet/Gateway District	240.3	3.6%	4%
Family Residence	221.4	3.3%	4%
Planned Unit Development	216.6	3.3%	4%
Limited Office	214.1	3.2%	4%
Single Family Residence - Large Lot	202.1	3.0%	3%
Not Zoned	147.7	2.2%	2%
Commercial Highway	130.5	2.0%	2%
General Commercial Services	130.4	2.0%	2%
Commercial-Liquor Sales	115.4	1.7%	2%
Public	93.4	1.4%	2%
Multi-Family Residence - Medium Density	88.5	1.3%	1.5%
Townhouse & Condominium Residence	44.3	0.67%	0.75%
Neighborhood Commercial	29.5	0.44%	0.50%
Multi-Family Residence - Limited Density	25.0	0.38%	0.42%
Single Family Residence - Small Lot	16.4	0.25%	0.28%
Development Reserve	15.7	0.24%	0.26%
Multi-Family Residence - Highest Density	9.6	0.14%	0.16%
Warehouse Limited Office	7.6	0.11%	0.13%
Not Zoned	0.99	0.01%	0.02%
Commercial Recreation	0.65	0.01%	0.01%
Agricultural	0.03	0.00%	0.00%
TOTAL AREA	**5922.24**		**100%**
STUDY AREA, AREA	**6654**	**89%**	

Table 10: Cedar Park Zoning, by Acreage

ZONING DESCRIPTION	SUM ACREAGE	% OF TOTAL STUDY AREA	% OF THE STUDY AREA IN CEDAR PARK
Right of Way (not zoned)	86.3	1.3%	13%
General Retail	77.7	1.2%	12%
Light Industrial	71.1	1.1%	11%
Planned Development	71.1	1.1%	11%
Open Space Recreational	63.7	1.0%	10%
Development Reserve	63.0	0.95%	9.9%
Single Family - Large Suburban Lot	46.9	0.70%	7.3%
Public Services	42.3	0.64%	6.6%
General Industry	35.7	0.54%	5.6%
Multifamiliy Residential	32.3	0.49%	5.1%
Open Space Green Belt	16.5	0.25%	2.6%
Single Family Large Lot	10.0	0.15%	1.6%
Local Retail	9.9	0.15%	1.6%
Condominiums Residential	9.2	0.14%	1.4%
General Office	2.6	0.04%	0.40%
Transitional Office	1.0	0.02%	0.16%
TOTAL AREA	**639.0**		**100.00%**
STUDY AREA, AREA	**6654**	**9.60%**	

BUILT FORM IN THE CORRIDOR

In the commercial and mixed use areas of the corridor, buildings are generally set back from the roadway and surrounded by parking, often on all sides. Buildings are generally one or two stories. There are frequent driveways on the frontage road and on other commercial roadways in the corridor.

Aerial view of a section of the Near Northwest Corridor. Buildings are set back from the roadway and surrounded by parking.

Figure 10: *Zoning*

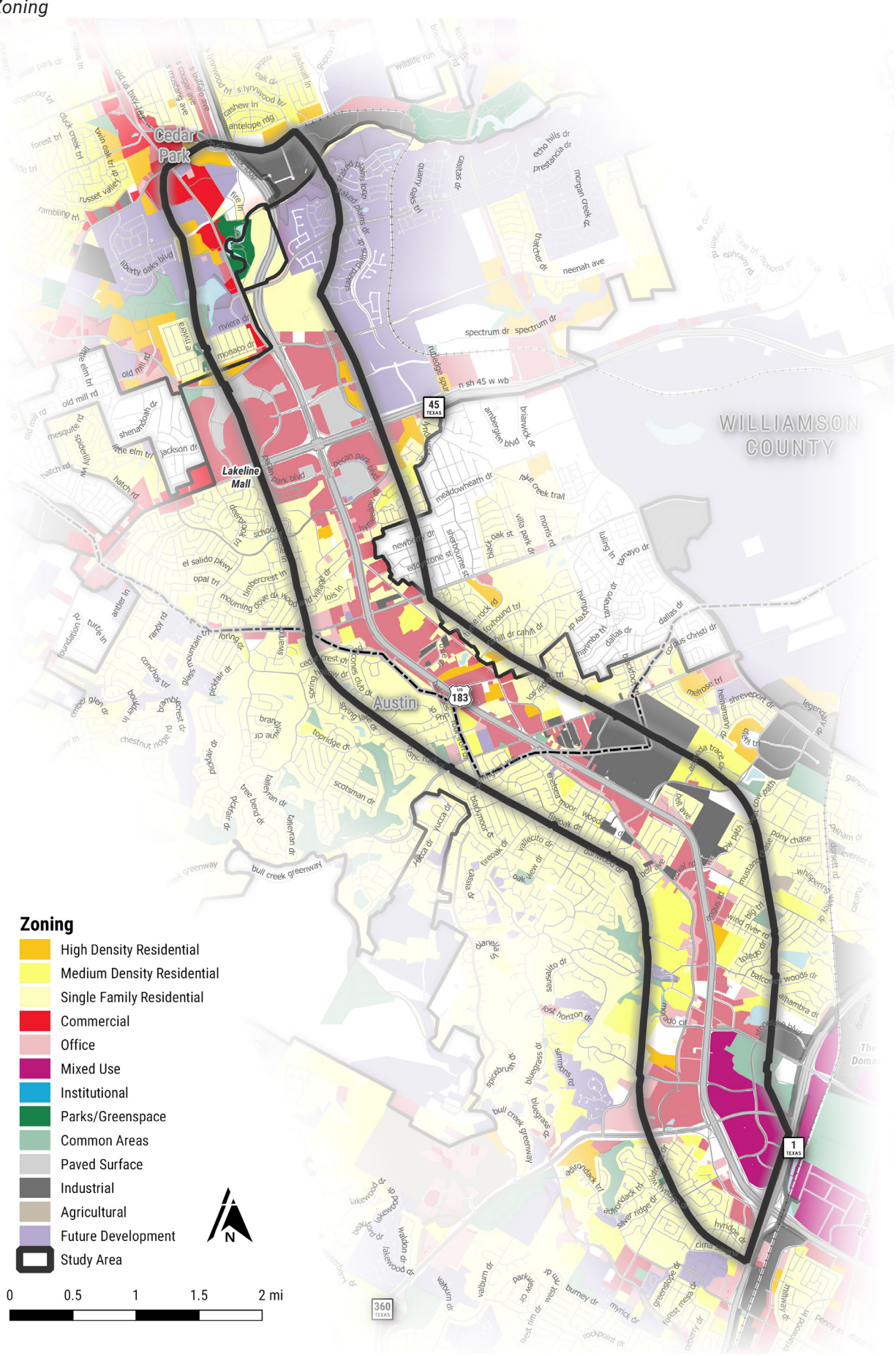
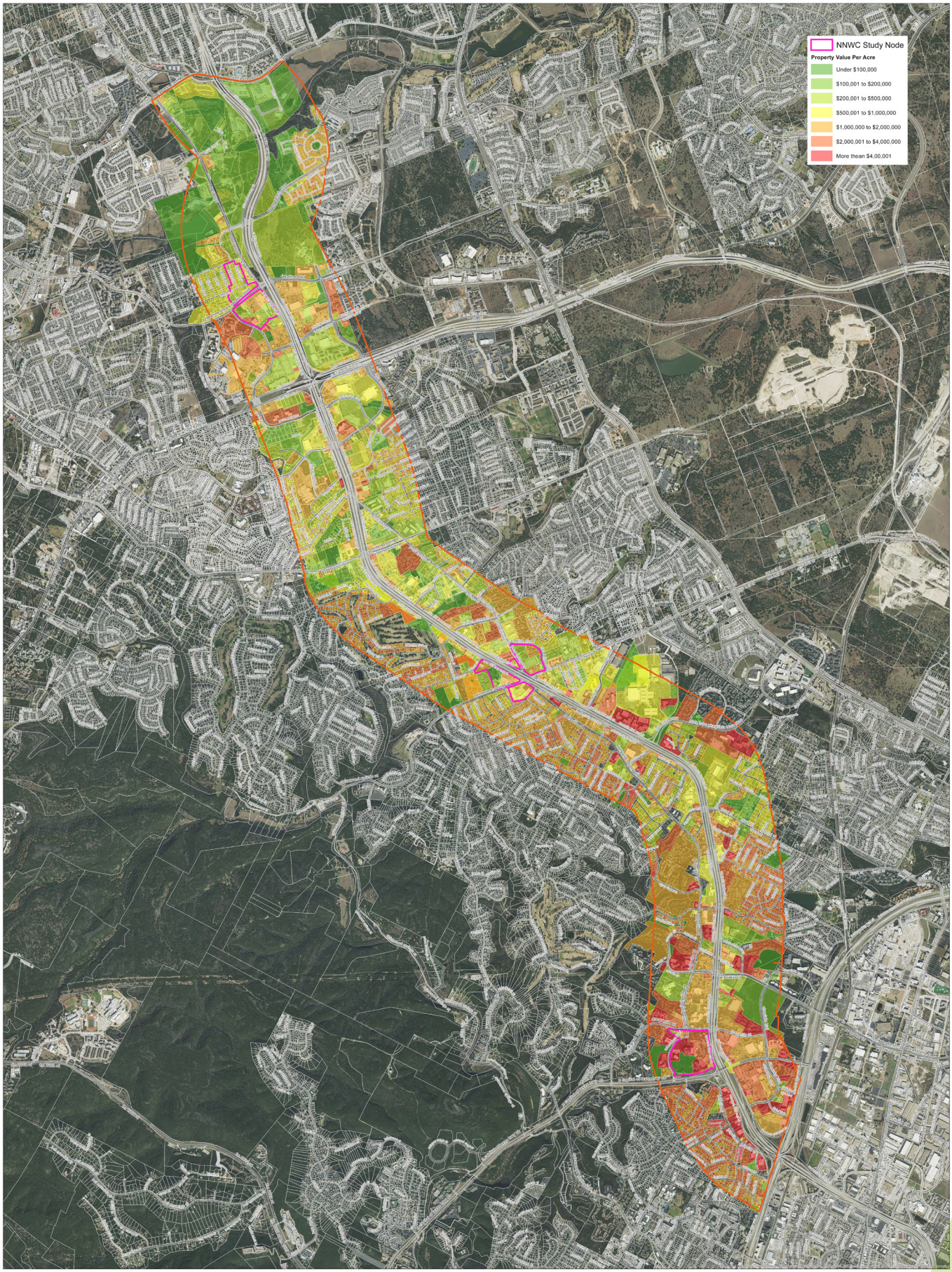


Figure 11: *Susceptibility-to-Change*



SUSCEPTIBILITY-TO-CHANGE

As part of the existing conditions review, the planning team conducted a susceptibility-to-change analysis to determine the parts of the study area that are most likely to be redeveloped in the coming years. This analysis helps inform the selection of pedestrian nodes and the street network recommendations.

To determine the likelihood of development occurring on specific parcels in the study area, the planning team examined the relationship of assessed parcel improvement value and assessed land value. These values were added together and divided by the parcel area of to give a value of measure in dollars per acres. This then allows for comparing parcels across the study area to see what land is the most affordable for purchase. Parcels with the low values per acre are more likely to be developed or redeveloped, where parcels with a greater value per acre will be less feasible for development or redevelopment.

This type of analysis will identify some of the more obvious areas for development, like greenfield sites, but it also shows areas where parcels with existing improvements have a low enough value where redevelopment is plausible. Travis County and Williamson County appraisal data appear to use different methods in the determining assessed property and improvement values. This analysis provides a comparable assessment of the study area across the two counties.

The map in Figure 11 shows the variations in property value. The green, yellow, and light orange colors represent parcels that may be more likely to be redeveloped based on their total property value per acre. The dark orange and red parcels have higher-value improvements and may be to be less likely to be redeveloped. This is intended to be an initial market analysis and not a redevelopment plan. It should not be interpreted as a ranking of properties to redevelop. As redevelopment does occur, transportation investments that improve network connectivity should be considered.

Much of the property along the US 183 frontage roads and Pond Springs Road may be relatively susceptible to change, based on this analysis, as they are colored green, light green, and yellow. The proposed pedestrian nodes located at Lakeline Boulevard and McNeil Drive/Spicewood Springs Road—indicated on the map by red outlines—are located in areas that are deemed relatively likely to redevelop. The improvement values toward the south end of the study area are higher than throughout the rest of the corridor, including the Arboretum at Great Hills—indicated by the red outline towards the south of map. Changes to this part of corridor may occur if property owners could further improve their value.

CONCLUSION

Overall, there are some notable challenges and opportunities in the study area for bicycle and pedestrian transportation. First, there are many important destinations in and near the study area. These includes the major destinations identified above, such as Lakeline Mall, the Domain, and existing trails, as well as the many retail and office destinations identified in the land use and zoning sections. The corridor also contains several important transit locations, such as the Great Hills Park and Ride, the Pavilion Park and Ride, Lakeline Park, and the Lakeline Redline Station. There are currently significant barriers for pedestrian and bicycle access to many of these destinations. Crossing US 183N is challenging, as is accessing the Arboretum and Bell Boulevard.

The second key finding is that there are gaps in the sidewalk and bicycling networks to access these destinations and to travel along the corridor. Several existing bicycle facilities end before busy intersections, and many roads do not contain low-stress bicycle facilities. There are many gaps in the sidewalk network, including along the US 183 frontage road (to be included in the US 183 Mobility Project) and to several important transit stations.

Third, the study area has a record of pedestrian and bicycle crashes and fatalities. In the most recent 5 year period of data (2011-2014) there were bicycle and pedestrian fatalities and dozens of injuries in the corridor.

Fourth, because of high traffic speeds and the large number of lanes, roadway conditions along key routes in the study area are auto-centric. The built-environment is also auto-oriented and does not encourage walking and bicycling.

Finally, the susceptibility-to-change analysis shows that there are many opportunities to redevelop property in the corridor in the next two decades and beyond and reorient buildings to support a friendlier walking and biking environment. The corridor features an array of destinations for people on foot and bike, but the roads and the built form are currently oriented toward motor vehicle use. Overall, there are opportunities to enhance comfort, safety, and mobility for all.

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CHAPTER 3
PUBLIC ENGAGEMENT

Public and stakeholder engagement is an important part of the Near Northwest Corridor Connections Case Study process. The project team solicited input from the public, transportation professionals, elected officials, and other corridor stakeholders. Extensive community outreach was conducted during two weeklong charrettes: the Discovery Charrette, during which information on existing conditions and stakeholder needs was collected, and the Design Charrette, during which initial ideas were presented and public feedback was collected. Additional communication occurred before, between, and after the two charrettes. Stakeholder input was critical throughout the process, from providing the initial impetus for the case study to identifying priority routes and refining route and design recommendations.

This chapter describes the community outreach process and charrette activities and provides a summary of the input gathered throughout the process.

ACTIVE TRANSPORTATION ADVISORY COMMITTEE (ATAC)-CORRIDOR SUB-COMMITTEE

During both charrette weeks, the project team met with the Near Northwest Corridor Connections Case Study sub-committee of the Active Transportation Advisory Committee (ATAC). These meetings occurred on Wednesday, October 12, 2016, and Tuesday, November 8, 2016.

The sub-committee reviewed the initial ideas in advance of the second public meeting of the Discovery Charrette and again before the public meeting during the Design Charrette. On Friday, March 31, the advisory committee met to review the draft project list and develop a list of potential implementation partners.

A member of the project team presents the "spine" and "rib" network idea to the ATAC Near Northwest Corridor Connections Case Study sub-committee.

COMMUNITY OUTREACH SUMMARY

The following methods were used to promote the outreach activities:

DATABASE

A database of stakeholders was developed early in the community outreach process through initial research of and contact with community members such as homeowners associations, local businesses, school districts, and civic groups. As stakeholders were contacted, they were asked to spread the word about the corridor study to neighbors, employees, and community members. Some community leaders gave recommendations about additional stakeholders to contact. The database was consistently maintained throughout the study and grew to over 200 stakeholder email addresses.

EMAILS

Emails with project and meeting information were periodically sent to stakeholders in the database to inform them about the project and ways to share their input. Emails were sent directly to individual contacts throughout the process and mass emails were sent:

- September and October 2016 – Individual emails identifying stakeholders and asking for participation in focus groups and public meetings
- October 5, 2016 – Notice of public meetings
- October 20, 2016 – A summary of activities and input from the Discover Charrette
- November 1, 2016 – A reminder of the November 10 public meeting
- November 9, 2016 – A reminder of the November 10 public meeting
- November 21, 2016 – A summary of activities and input received, and a reminder to share comments

Additional Email Campaigns to Promote January 24 Public Meeting were sent:

- December 28, 2016 – Notice of all upcoming Regional Active Transportation Plan meetings, including January 24 Near Northwest meeting
- January 13, 2017 – Notice of all upcoming Regional Active Transportation Plan meetings, including

January 24 Near Northwest meeting

- January 20, 2017 –A reminder of January 24 public meeting
- January 20, 2017 – A reminder of all upcoming Regional Active Transportation Plan meetings, including January 24 Near Northwest meeting
- January 23, 2017 – A reminder of all upcoming Regional Active Transportation Plan meetings, including January 24 Near Northwest meeting
- February 13, 2017 – A reminder of survey and Wikimapping opportunities and deadline

PHONE OUTREACH

Throughout the case study, stakeholders were contacted by phone to inform them about the project and ways to share their input. Over 50 initial calls were made to reach out to leaders of local community organizations and over 20 were contacted as part of follow-up phone outreach. Officials from many neighborhood associations, school districts, civic groups, and government agencies were also contacted by phone to invite them to attend upcoming focus groups and to ask them to share information about the case study.

LOCAL GOVERNMENT OUTREACH

CAMPO and CTRMA met with local governments to discuss concepts for the study area.

- November 29, 2016 and January 13, 2017 - City of Cedar Park Staff
- December 5, 2016 - City of Austin Planning and Zoning Staff about susceptibility to change, subdivsion, street connectivity, and consistency with Code Next.
- December 6, 2016 - Briefing with Austin City
- Council District 10 staff (was Sherri Gallo's staff)
- December 13, 2016 - Briefing with City of Austin District 6 Council Member Jimmy Flannigan
- December 20, 2016 - Presentation to City of Austin Bicycle Advisory Committee
- January 10, 207 - Williamson County Staff

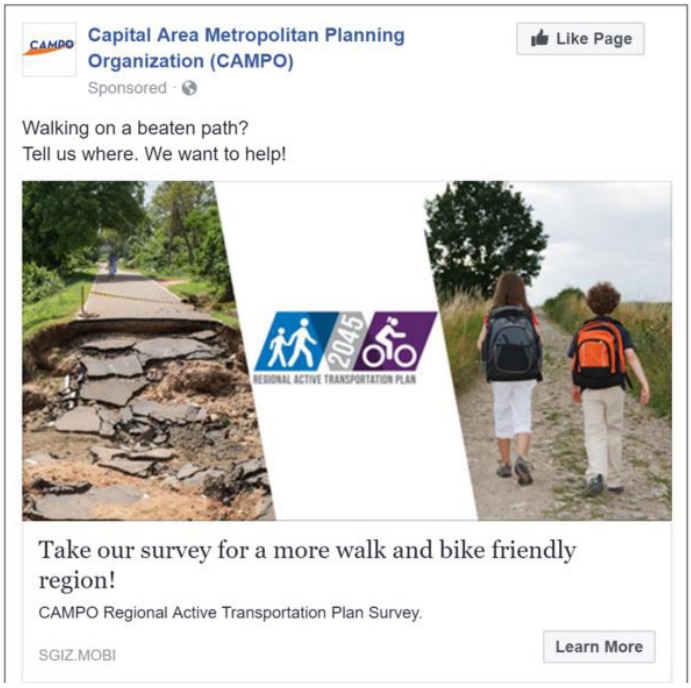
SOCIAL MEDIA

Social media posts were developed to be shared by CAMPO and partners such as CTRMA. Five posts were made to the CAMPO Facebook page during the week of October 7, 2016, to promote the October 11 and October 13 Public Meetings, including a Facebook event page and invitation. Three posts were made to the CTRMA Facebook page leading up to the November 10 public meeting. Three posts were created on the CAMPO Twitter page promoting the October 11 and 13 meetings, and two were made to promote the November 10 meeting. One post was made to the CTRMA Twitter page to promote the November 10 meeting. Many of these posts were shared by organizations and community leaders involved in the transportation planning process, such as BikeTexas officials, members of the Bicycle Advisory Committee, and the Center for Transportation Research.

TWEET HIGHLIGHTS

Top Tweet earned 661 impressions

Speak up & tell us where **#sidewalks** are needed. How about improving **#bike** lanes or **#trails**? Take the survey!
sgiz.mobi/s3/bikewalksur…
pic.twitter.com/wro2jTl63b



Sample of social media comments from the CAMPO Twitter and Facebook pages.

WHAT WE HEARD

Participants were encouraged to send their input to the project team through written comment cards and emails. Most comments addressed participants' concerns over the Jollyville Road concepts. Below are highlights of the input received:

- Many voiced concerns about travel time for vehicles in the three-lane version of the Jollyville Road concepts
- Some expressed concern that traffic would back up behind vehicles with frequent stops, such as buses, in the three-lane version.
- Some were concerned about the cost of the five-lane version.
- Some were concerned about the public involvement process in that they were not notified of the meetings and had not seen the data to support concepts.
- Several expressed that they would not use pedestrian or bicycle accommodations due to various factors, including: convenience, health issues, climate, and difficulty traveling with children.
- Some expressed a need for maintenance and clearing of debris in current bike facilities.
- Some were in favor of the Jollyville concepts and expressed a need for safe bike facilities.
- Some expressed support for the process and the creation of a multi-modal transportation network.
- Several suggested adding safer sidewalks and pedestrian crossings in the Jollyville area and across US HWY 183.

MEDIA COORDINATION

A press release was sent to 18 media outlets on November 2, 2016, to share information about the November 10 public meeting. These media outlets included radio, television, and print news to reach a wide variety of stakeholders.

Promotional flyers were delivered on October 5, 2016, to businesses along the corridor, such as Home Depot, Joel's Coffee, Lakeline Mall, and Twin Lakes Family YMCA, to be shared with employees and patrons. Flyers were also posted at the Brushy Creek Trail Head, the Cedar Park Trail Head, and apartment complexes near the project limits and throughout the study area. Flyers included information about both the October and November public meetings, as well as resources for community members to learn more about the corridor study and how to share their input.

THE DISCOVERY CHARRETTE

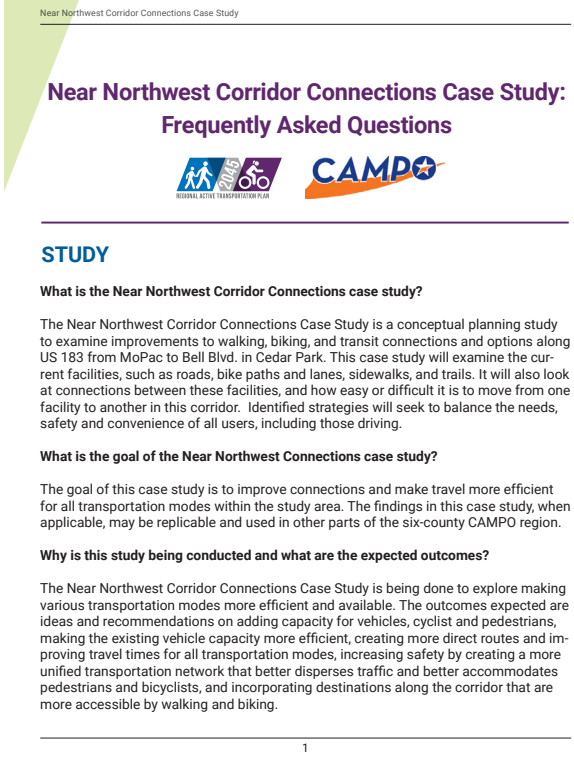
Members of the project team, including CAMPO staff, on a corridor site visit during the Discovery Charrette in October 2016.

During the week of October 10-14, 2016, the project team conducted a weeklong Discovery Charrette. This included corridor site visits, five stakeholder focus groups, meetings with CAMPO staff and the Advisory Committee, and two public meetings. TxDOT also included dynamic signage for the October meeting on US 183 N. The information gathered was used to generate "starter ideas," which were presented at community meetings and received public feedback.

Focus Groups

Stakeholders representing neighborhood groups, educational institutions, government agencies, active transportation advisory and advocacy groups, and workforce and economic development organizations participated in a series of five focus groups during the charrette week. In total, 65 people were invited to participate in the focus groups and each group ultimately had between two and six participants, allowing for in-depth conversations and a variety of perspectives.

Frequently Asked Questions



Near Northwest Corridor Connections Case Study

Near Northwest Corridor Connections Case Study: Frequently Asked Questions

STUDY

What is the Near Northwest Corridor Connections case study?

The Near Northwest Corridor Connections Case Study is a conceptual planning study to examine improvements to walking, biking, and transit connections and options along US 183 from MoPac to Bell Blvd. in Cedar Park. This case study will examine the current facilities, such as roads, bike paths and lanes, sidewalks, and trails. It will also look at connections between these facilities, and how easy or difficult it is to move from one facility to another in this corridor. Identified strategies will seek to balance the needs, safety and convenience of all users, including those driving.

What is the goal of the Near Northwest Connections case study?

The goal of this case study is to improve connections and make travel more efficient for all transportation modes within the study area. The findings in this case study, when applicable, may be replicable and used in other parts of the six-county CAMPO region.

Why is this study being conducted and what are the expected outcomes?

The Near Northwest Corridor Connections Case Study is being done to explore making various transportation modes more efficient and available. The outcomes expected are ideas and recommendations on adding capacity for vehicles, cyclist and pedestrians, making the existing vehicle capacity more efficient, creating more direct routes and improving travel times for all transportation modes, increasing safety by creating a more unified transportation network that better disperses traffic and better accommodates pedestrians and bicyclists, and incorporating destinations along the corridor that are more accessible by walking and biking.

1

A frequently asked questions document was developed and distributed as address common questions about the case study.

WHAT WE HEARD

The members of the focus groups were invited to draw on trace paper placed over aerial maps of the corridor to indicate priority routes and destinations. The groups also reviewed maps of existing conditions, which included information on transit station boardings, pedestrian and bicycle injuries and fatalities, and existing sidewalks and bicycle facilities. During the discussion, the participants mentioned key priorities, challenges, and opportunities. Stakeholders repeatedly mentioned the need to improve safety, create a complete and intuitive network, and for the network to connect to existing trails, transit, and key destinations, such as Lakeline Mall and the Arboretum. Their input was used to develop the “spine” and “ribs” network concept and routes.

The themes identified are organized by stakeholder group below.

Neighbors:

- Connect to the Arboretum
- Connect to Brushy Creek Trail

Attendees represented the following focus groups:

Neighbors: Neighborhood groups and apartment associations

- Avery Ranch Homeowners Association
- Anderson Mill Neighborhood Association
- Milwood Neighborhood Association
- Hunters Chase Property Owners Association (POA)

Education: Schools and Libraries

- Spicewood Springs Branch Library
- Austin Community College (ACC) Cypress Creek Campus
- Safe Kids Austin
- Round Rock Independent School District

Government Agencies: Cities, Counties, and Elected Officials

- City of Austin Transportation Department
- Williamson County
- Travis County
- Central Texas Regional Mobility Authority
- Texas Department of Transportation
- Office of Councilmember Zimmerman

Advisory Committees & Advocates

- Bicycle Advisory Council
- Bike Austin
- Vision Zero ATX
- Bicycle Sport Shop
- Bike Texas

Economic Development: Workforce & Chamber of Commerce

- Workforce Solutions Capital Area

- Connect to Lakeline Station (consider using treatment center property)
- Connect to Forest North Elementary School
- Make safe connections across US 183 and SH 45N
- Sweep the shoulders and bike lanes on Parmer Lane
- Complete signage and wayfinding
- Widen shared use paths

Schools and libraries:

- Safety is top priority
- Improve safety in two-mile "walk zone" around schools and libraries
- Sidewalks need to be maintained – and it can be difficult for community members to identify the responsible agency for maintenance
- Create safe connections to the public library
- There is significant demand for better walking and biking for ACC students

Government agencies:

- Coordinate with Capital Metro plan; there is a lot of potential for collaboration and opportunities to create "transit ready" areas that support short trips and future transit stations
- Consider traffic impacts of improvements; avoid reducing auto capacity
- Connect to Park & Ride areas
- Redevelopment is a long-term strategy to make the corridor more walkable and bikeable
- City of Cedar Park prefers off-street shared use paths, while Travis County uses trails, and the City of Austin used on-street bike lanes and separated bike lanes, but the facilities should be seamless and continuous

Advisory and advocacy groups:

- Use safe design speeds (25mph)
- Consolidate driveways
- Plant trees
- Connect Lakeline Mall
- Conduct a systematic analysis of difficult roadway crossings

Economic development organizations:

- Pedestrian access to Capital Metro facilities is important for job access
- Currently, there are many places that can't be easily reached by walking
- Intended routes should be clearly identifiable
- Design for safety
- Widen existing paths to separate bicycles and pedestrians
- Provide/improve bicycle parking at Lakeline station

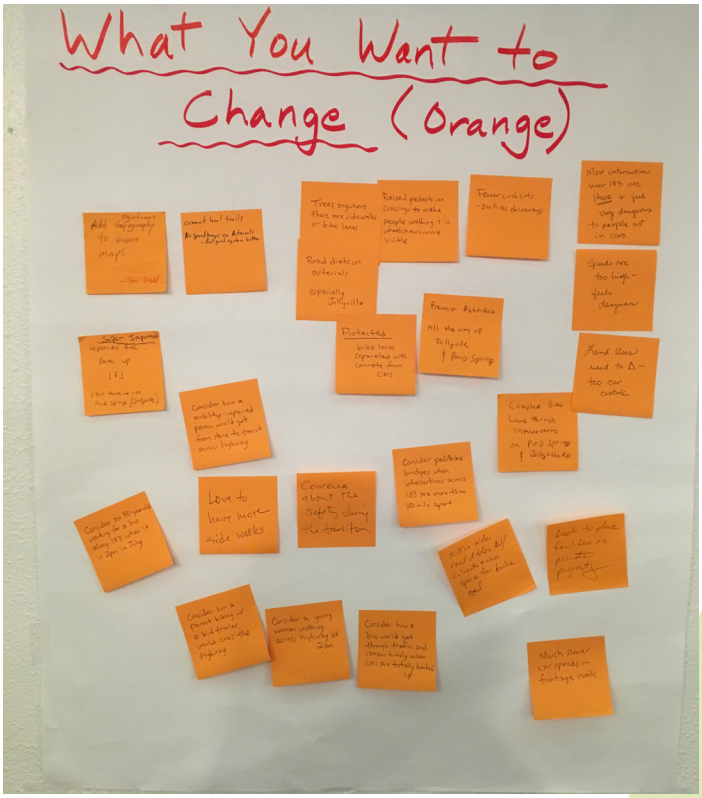
PUBLIC MEETING #1

Date: October 11, 2016

Time: 5:30-7:30 pm

Location: Balcones Country Club, 8600 Balcones Club Drive, Austin, TX 78750

A public meeting was held on October 11, 2016 to present background information about the corridor case study and to gather public input on local transportation needs. The meeting included a detailed presentation explaining CAMPO's role in transportation planning, the purpose and scope of the case study, existing conditions in the area, and topics to consider in planning improvements to the Near Northwest Region's active transportation network.



Community stakeholders participate in focus groups to provide input on needs and priorities for the corridor. Participants and project team members drew on trace paper over maps to mark important routes. Priorities, such as safety, access to transit stations, and connecting existing trails, were identified. Participants included neighbors, educators, government agencies, advisory and advocacy organizations, and workforce and economic development stakeholders.

WHAT WE HEARD

Meeting participants recorded what improvements they would like to see as a result of this case study to improve conditions for walking and bicycling. We heard the following:

- Connect the existing trails throughout the corridor
- Accommodate people of all ages and abilities in the bicycling and walking network
- Provide walking access for people with mobility-impairments
- Build separated bike lanes; facilities should be comfortable for everyone
- Build more sidewalks, including along 183N, to transit stations, and other destinations
- Improve bicycling and walking conditions along 183N
- Improve safety at intersections
- Provide safe places to cross 183N and build new bridges with bicycle and pedestrian facilities (or bicycle-pedestrian bridges)
- Extend all existing bike lanes to intersections and paint them through the intersections
- Improve safety
- Address right hook collisions (and near collisions)
- Reduce auto vehicle speeds
- Preserve auto capacity
- Reducing motor vehicle lane widths is acceptable, but do not remove motor vehicle lanes
- Add trees and shade for more hospitable walking conditions
- Make street grid, built environment, and land use improvements
- Consolidate driveways so there are fewer conflict points with sidewalks and bicycling facilities
- Connect local streets for local trips
- Use private property to increase connections within the network

PUBLIC MEETING #2

Date: October 13, 2016

Time: 5:30-7:30 pm

Location: Balcones Country Club, 8600 Balcones Club Drive, Austin, TX 78750

A public meeting was held on October 13, 2016 to give background information on the case study, present an overview of input received during the Discovery Charrette, and gather feedback on "starter ideas" developed based on received input. The meeting included a presentation explaining CAMPO's role in transportation planning, an outline and timeline of the case study, a summary of activities and input received at the October 11 meeting, and potential plans developed based on input received to date.

WHAT WE HEARD

Members of the public and representatives from city and county governments provided feedback on the starter ideas presented at the meeting.

We heard the following feedback:

- Detailed discussion occurred around the proposal to route the spine of the north-south network along Jollyville Road and Pond Springs Road, instead of the US 183 frontage roads
- Participants suggested modifying the routes of a proposed new street connection and path near Brushy Creak to minimize impacts to the park area
- Attendees mentioned the need for facilities that support people with disabilities and comply with the Americans with Disabilities Act
- Participants generally expressed support for the spine and ribs concept and the potential street connections in the "central node" at the intersection of McNeil Drive and Spicewood Springs Road

Participants at public meeting #2 give feedback on the "starter ideas" presented for the network.

THE DESIGN CHARRETTE

The Design Charrette from November 8 to 10, 2016, consisted of several focus groups and one public meeting. The purpose of this charrette was to present preliminary designs based on input that had been received throughout the community outreach process and gather feedback on the potential plans.

FOCUS GROUPS

The focus group attendees were invited back for a second round of discussions. This time the groups reviewed a slide show presentation of the initial ideas that were assembled as a result of the community feedback from the Discovery Charrette activities.

WHAT WE HEARD

Participants provided specific feedback on routes and began to make suggestions on bicycle facility types. Feedback was incorporated into the content presented at the public meetings. The City of Austin contributed suggestions on code recommendations and project implementation processes.

PUBLIC MEETING #3

Date: November 10, 2016

Time: 5:30-7:30 pm

Location: Spicewood Springs Library, 8637 Spicewood Springs Road, Austin, TX 78759

A public meeting was held on November 10, 2016 to present information about the corridor study and gather feedback on preliminary designs. The meeting took place in an open house format with a brief presentation including information about CAMPO, a summary of input received to date, existing conditions of the corridor's pedestrian and bicycling facilities, and preliminary designs for improvements to those facilities. After the presentation, attendees were able to ask specific questions and provide commentary during a question, answer, and comment session.

WHAT WE HEARD

During the question, answer, and comment session, citizens shared concerns and questions about the Near Northwest Corridor Study. Community members were also encouraged to share comments through email. A total of 73 written and emailed comments were received.

Below is a summary of common themes identified:

- Participants expressed concerns about bicycling and walking safety in the case study area and with accessing important destinations in the corridor
- Community members identified their trip origins and destinations in the area
- Some expressed they felt neighborhood associations and residents were not notified of the planning process or meetings
- Some voiced concerns about funding for active transportation

Participants at the November 10, 2016, public meeting identify where they live and where they would like to walk and bike to in the study area.

- There was concern about the reduction of vehicular lanes on Jollyville Road
- A participant noted that plans for the Near Northwest Corridor need to be incorporated into the TxDOT Loop 360 plans
- There were questions on how many cyclists would use these proposed bicycle facilities and if there was a distinction between recreational bicycle riders and commuters

PUBLIC MEETING #4

Date: January 24, 2017

Time: 4:00-7:00 pm

Location: Cedar Park Library, 550 Discovery Blvd, Cedar Park, TX 78613

A public open house was held on January 24, 2017 to present information about the Regional Active Transportation Plan, as well as updated information on the Near Northwest Corridor Study. This meeting was promoted along with the other 10 meetings held for the Regional Active Transportation Plan, and two additional emails were sent to the Near Northwest database. Exhibits shared information on the purpose of the study, challenges, outreach process, what we heard, existing conditions data, and concepts for the area which included both a three and five vehicular lane options for Jollyville Road. Attendees visited in detail with CAMPO staff and project team members and were able to share input via a comment card, survey, and WikiMap.

WHAT WE HEARD

120 written and emailed comments were submitted regarding the Northwest Corridor Study in total, 93 of which concerned possible changes to Jollyville Road.

- Most emailed comments were sent in response to the suggestion that vehicle traffic lanes on Jollyville Road be reduced to accommodate bike lanes
- Many expressed concerns that lane reductions would inhibit traffic flow in the area, and potentially create conflicts with busses, noting that bicycle transportation is not always a practical option for residents with health issues, families, or businesses receiving deliveries
- Some expressed support for the suggestion, stating that they would use bicycle transportation more often if they felt the facilities were safe
- Some expressed a desire for continuous sidewalks along Jollyville Lane and a greater emphasis on pedestrian facilities
- Some felt that more could have been done to notify local neighborhoods of upcoming meetings and planning efforts in the area

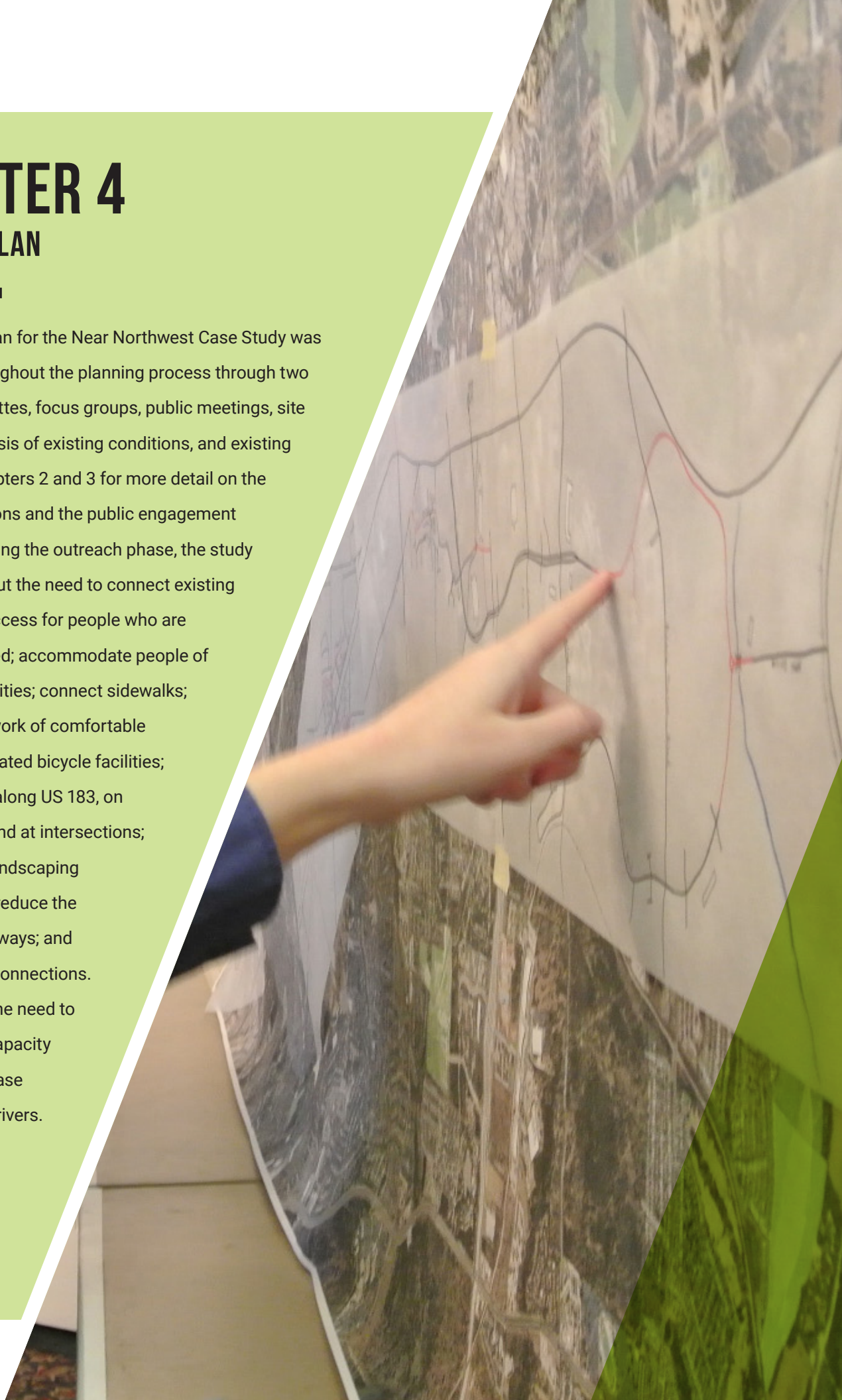
DISTRICT 10 MEETING

Date: February 15, 2017

City of Austin Council Member Alison Alter (District 10) held a community meeting to discuss comments and concerns about the proposed Jollyville Road concepts. City of Austin staff gave a presentation about the concept, why they recommended the concept to CAMPO, and discussed other improvements that could happen prior to any transformation of Jollyville Road. Council Member Alter and City staff answered questions following the presentation.

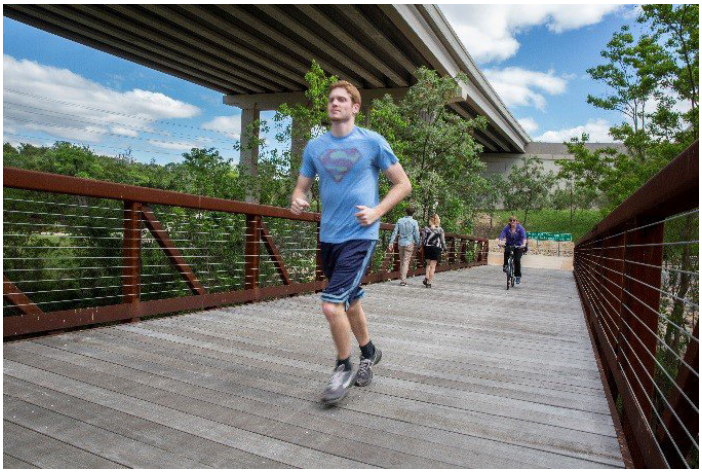
CHAPTER 4
CONCEPT PLAN

The Concept Plan for the Near Northwest Case Study was developed throughout the planning process through two weeks of charrettes, focus groups, public meetings, site visits, and analysis of existing conditions, and existing plans. (See Chapters 2 and 3 for more detail on the existing conditions and the public engagement processes.) During the outreach phase, the study team heard about the need to connect existing trails; provide access for people who are mobility-impaired; accommodate people of all ages and abilities; connect sidewalks; establish a network of comfortable physically separated bicycle facilities; improve safety along US 183, on parallel roads, and at intersections; add trees and landscaping improvements; reduce the number of driveways; and improve street connections. We also heard the need to preserve auto capacity and to not increase travel time for drivers.



INTRODUCTION

To address these needs, this Concept Plan makes broad conceptual recommendations for street connectivity, the creation of pedestrian nodes, improvements to the bicycling network, and the reduction of barriers to walking and bicycling in the corridor. The Design Characteristics chapter provides recommendations to the built-form of the Near Northwest Corridor to support these recommendations and address the needs identified.

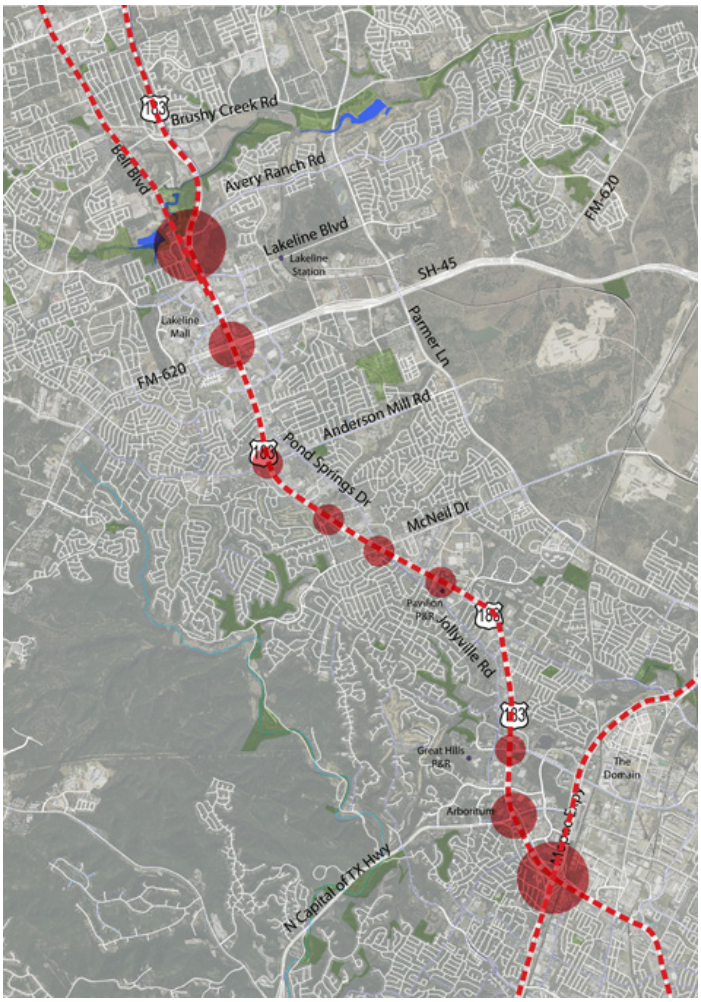


Pedestrians on Brushy Creek Trail, one of the locations residesnts would like better access to in the Near Northwest Corridor. Photo credit: Central Texas Regional Mobility Authority (CTRMA)

BARRIERS

Stakeholders identified several significant physical barriers to walking and biking in the study area. US 183 itself is challenging to cross, effectively separating the west side from the east. Nine intersections, in particular, were noted by stakeholders as particularly challenging:

- The area around Lakeline Boulevard, the connection to Bell Boulevard, and access to 183A shared use path to the north
- The intersection of US 183 and Farm to Market Road 620/Toll Road 45 and access to Lakeline Mall
- The intersection of US 183 and Anderson Mill Road
- The lack of a crossing connecting Oceanaire Boulevard on the west and Hunters Chas Drive on the east
- The intersection of US 183 and Spicewood Springs Road on the west and McNeil Drive on the east
- The lack of a crossing connecting Pavilion Boulevard and the Park & Ride on the west and Riata Trace Parkway on the east
- The intersection of US 183 and West Braker Lane, connecting to Great Hills Park & Ride
- The intersection of US 183 and North Capital of Texas Highway, and connections to the Arboretum at Great Hills
- The intersection of US 183 and North MoPac and connections to the Domain



Identified barriers along the US 183 Corridor

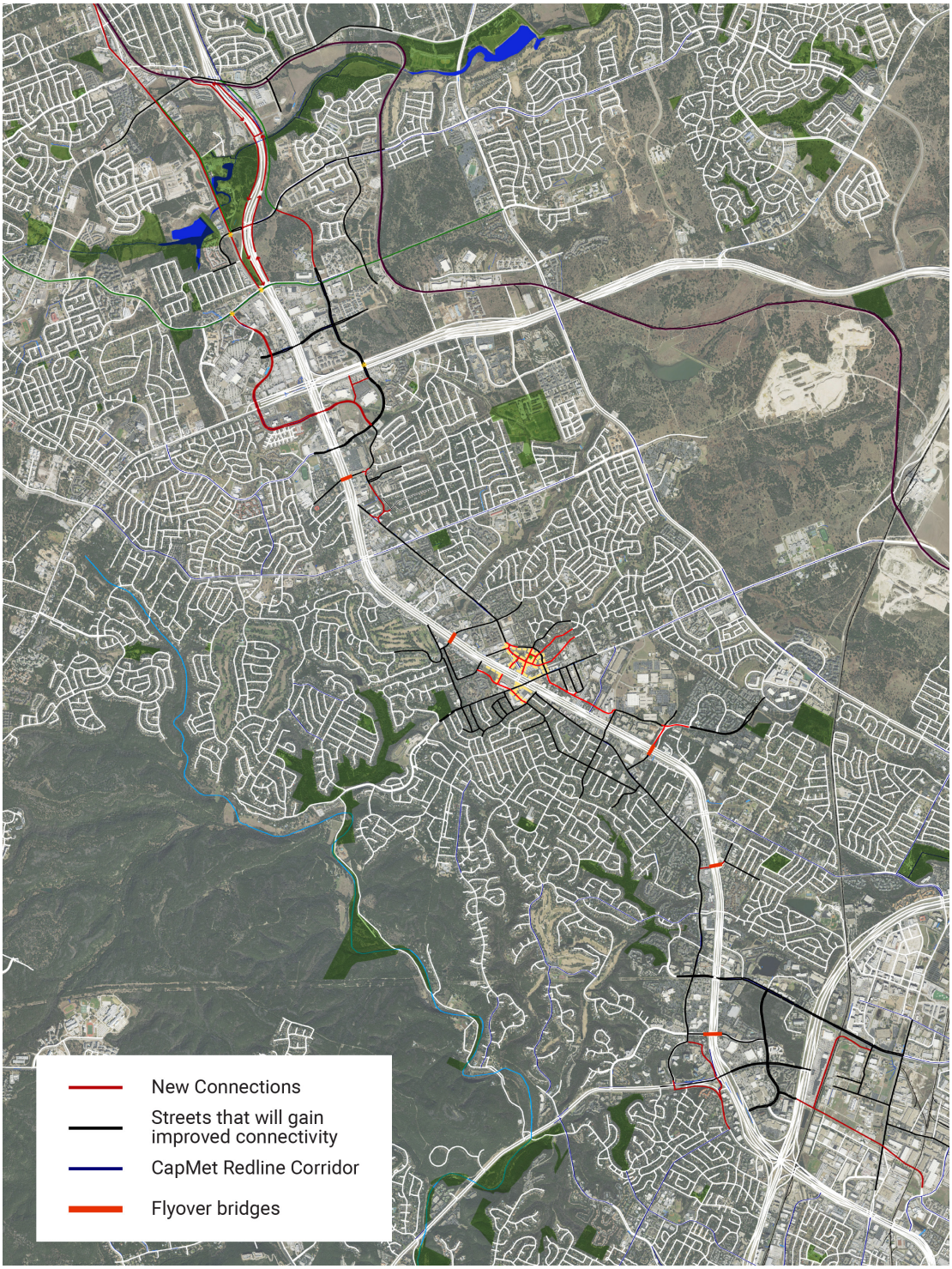
STREET NETWORK CONNECTIONS

A connected network – where streets intersect with one another and dead-ends and cul-de-sacs are few – supports travel efficiency for local automobiles. The current local street network channels most car trips to a limited number of major arterial roads and US 183. This Case Study recommends street connections that would improve traffic flow and provide additional alternative routes.

This additional roadway connectivity also supports the pedestrian network by shortening walking trip distances

and creating additional corners, resulting in a more inviting walking environment. The roadway design of the new road segment would include car travel lanes, sidewalks, and bicycle facilities.

There are several specifics areas where new street segments will improve traffic flow, helping drivers, pedestrians, and bicyclists. They are described as nodes below.

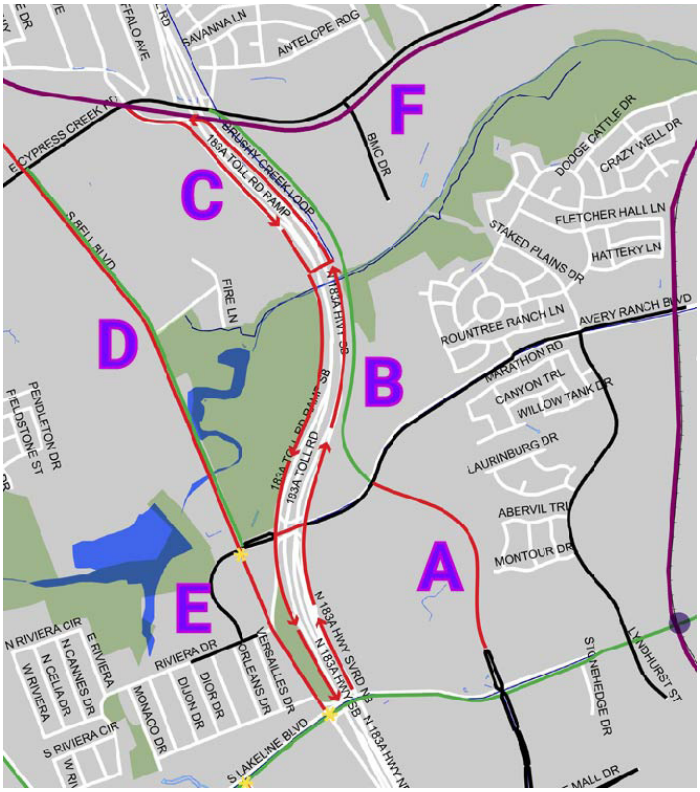


Overview of the whole corridor

Northern Node I: Cedar Park Connection

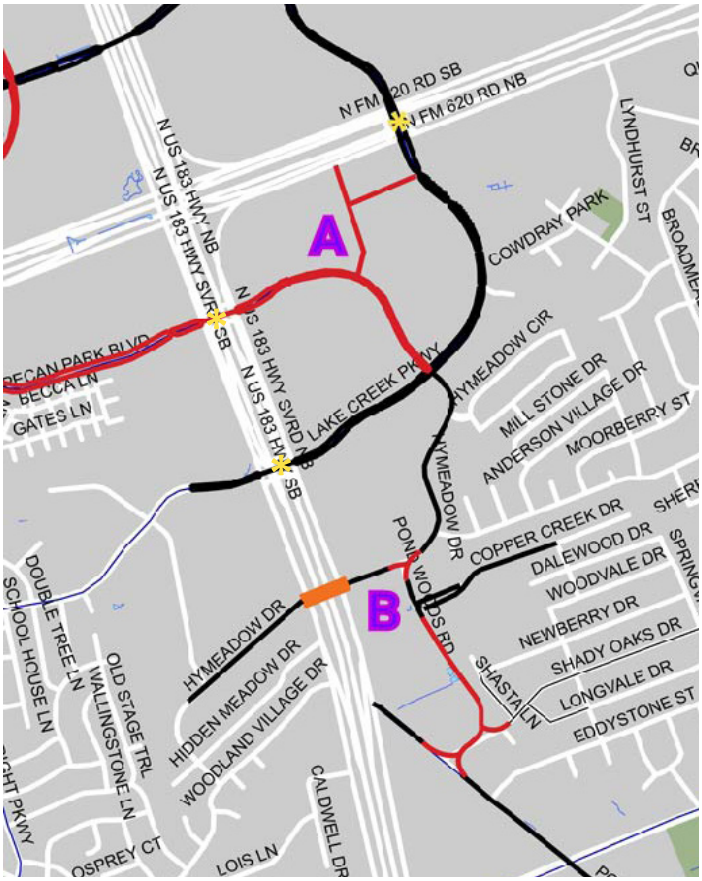
Bell Boulevard and Brushy Creek Trail are important destinations at the north end of the study area.

An extension of Lake Creek Parkway would improve access between Lakeline Boulevard and Avery Ranch Boulevard (A). A shared use path would extend from Avery Ranch Boulevard to the existing shared use path next to the US 183A Toll Road (B). The frontage road on the 183A Toll Road would connect the whole length (C). A shared use path and new road improvements would connect to redeveloped and walkable Bell Boulevard in Cedar Park (D). Cedar Park currently requires six foot sidewalks for new development and this could be increased to 10 feet along Bell Boulevard's improvements (E). As shown in the Rail with Trail Feasibility Study done by Capital Metro, a shared use path should be constructed adjacent to the Capital Metro Red Line right-of-way (F). to support active transportation connectivity.



Northern Node II: Lake Creek Parkway Loop

The area around Lake Creek Parkway would benefit from some additional roadway connections. For example, a new street connection from Hymeadow Drive to the shopping plaza parking lot road (A). A connection from Pond Woods Road to Pond Springs Road would benefit the network by providing a parallel link and an alternative to US 183 (B). The intersection underpasses under 45/FM 620 and US 183 should be improved to provide safe pedestrian crossings, bicycle detection, and bicycle lanes marked through the intersections.



Central Node: Redevelopment Opportunity at McNeil Drive/Spicewood Springs Road

The intersection of US 183 and Spicewood Springs Road and McNeil Drive is a challenging location for all modes of transportation, but also an opportunity to become a walkable “pedestrian node” and a location with some useful new road segments to improve connectivity. These road segments would be contingent on the redevelopment of the commercial property. The susceptibility-to-change analysis indicates that redevelopment may be likely. New road segments from the northbound US 183 Frontage Road to San Felipe Boulevard

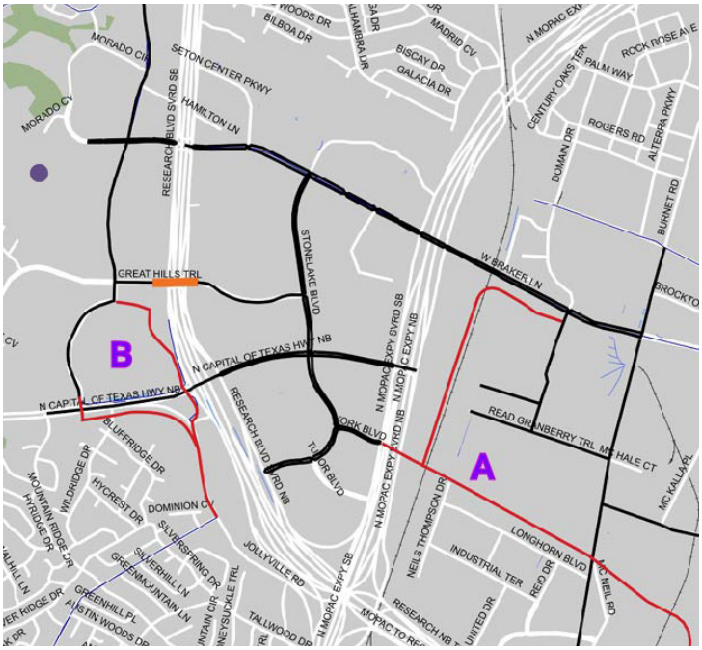
(A) Would create opportunities for vitalized public space, storefronts, and residence. Local streets on the southwest side of US 183N would similarly create attractive new local street and connect Fathom Circle to Charing Cross Road

(B). On the east side, a new connect would provide an alternative parallel route between the southbound frontage road and Research Park Loop

(C) (D). The connection to Research Park Loop and Riata Trace Parkway could be improved to make the connection smoother

Southern Node: Connection to the Domain and Across North Capital of Texas Highway

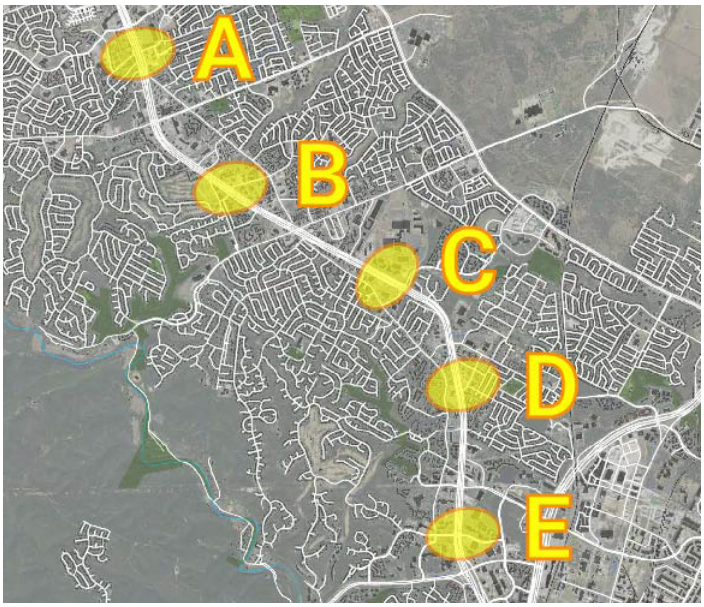
Improving the connectivity through the Arboretum between two sections of Jollyville Road would have the potential to improve travel flow along Jollyville (B) and across North Capital of Texas Highway to communities in the south and west of the corridor. A bridge extending York Boulevard to West Rundberg Lane would facilitate car travel from North Austin to the Near Northwest Corridor (A). Finally, a new road connection adjacent to the Lincoln Dealership connecting US 183 and Jollyville Road (C) could potentially lead to a new bridge overpass over US 183.



Multimodal bridges

In order to facilitate east-west travel, this Study proposes investigating the addition of five additional bridge crossings.

- Hymeadow Drive West to Hymeadow Drive East (A)
- Fathom Circle to San Felipe Boulevard (B)
- Pavilion Boulevard to Riata Trace Parkway (C)
- Jollyville Road to Angus Road (D)
- Great Hills Trail west to east (E)



These bridges are recommended to be designed with auto lanes, sidewalks, and bicycle facilities.

Rendering of typical bridge crossing of US 183 with auto, bicycle and pedestrian facilities

PEDESTRIAN IMPROVEMENTS

Pedestrian recommendations for the Near Northwest Corridor focus on infrastructure improvements such as sidewalks and shared use paths, connections to transit stops and stations, safe intersections, and improvements to land use and the design of buildings and other environmental features in the Study Area. The improved street connectivity described above would benefit pedestrians by shortening trip distances. Improvements would also be made to access local retail, schools, libraries, and trails.

Pedestrian Nodes and Corridors

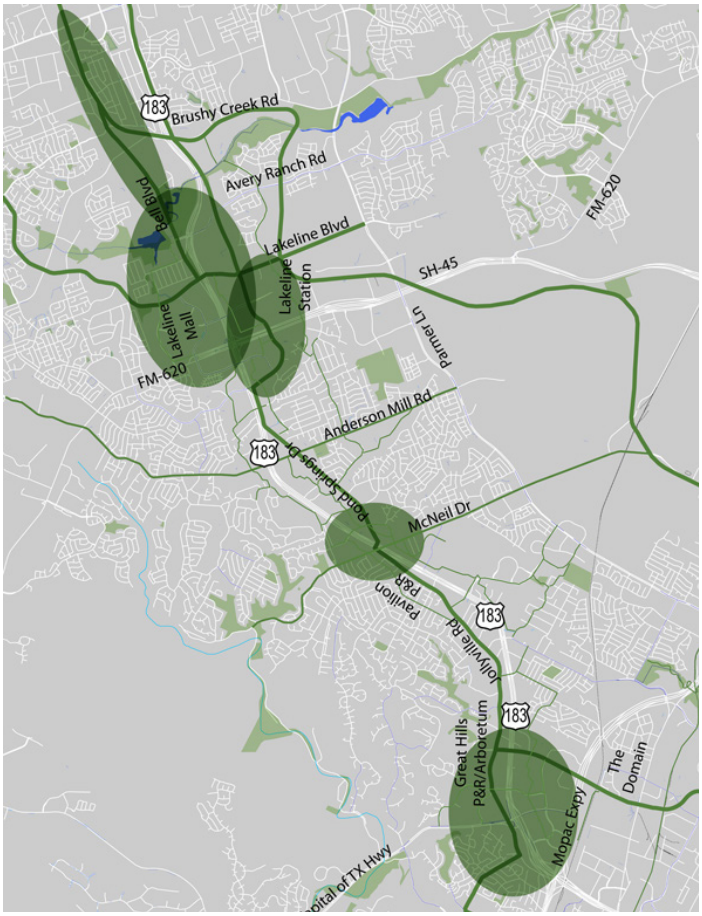
"Pedestrian nodes" are locations where higher-density redevelopment is recommended. These nodes would be connected by lower-density pedestrian corridor connections, where safe and comfortable walking conditions would be provided. New street segments would also be built to accommodate pedestrian travel (see Figure 9).

The proposed nodes include the area:

- Connecting to Bell Boulevard in the north
- Around Lakeline Mall
- Around Lakeline station
- The intersection of McNeil Drive/Spicewood Springs Road and US 183N
- Between the Great Hills Park & Ride, the North Capital of Texas Highway and the Domain.

Recommended development in these nodes over the next 25 years and beyond could be dense, provide a mix of uses, such as retail, residential and office, and designed to support a comfortable walking environment. The design of streets and buildings impact walkability. In the pedestrian nodes, buildings should be built close to the street, have attractive facades, and locate parking in the rear. The recommendations for these "high-intensity development" areas are described in the Development Characteristics chapter and the phasing is indicated in the Implementation chapter. The development areas are consistent with the areas identified in the Imagine Austin Comprehensive Plan, the Cedar Park Comprehensive Plan, and the Bell Boulevard Redevelopment Master Plan.

The corridors connecting these nodes would be less dense and likely redevelop more slowly, and are referred to as "auto-urban" corridors. These corridors would focus on consolidating driveways and placing parking in the rear of building, without fundamentally changing the density or other characteristics. The areas outside of the study area would remain low density suburban in character.



Pedestrian-Focused Redevelopment at McNeil Drive/Spicewood Springs Road

An example of a recommended pedestrian node is located at the intersection of US 183 and McNeil Drive/Spicewood Spring Road. Because of the redevelopment demand at this location, there is an opportunity to add street connections, design new buildings in a pedestrian-friendly manner, and create attractive public space. The adjacent conceptual drawing shows the buildings on the northeast section oriented around a new park, with buildings oriented toward the street, parking in the back, and attractive streetscaping.

Conceptual drawing by Jill Baumgartner, Halff Associates.

The larger streets in pedestrian nodes, known as A-streets, would accommodate two auto lanes, trees, parking, sidewalks, and café space.

Smaller streets in pedestrian nodes would provide space for auto traffic (without center lines), trees, and sidewalks.

BICYCLE NETWORK

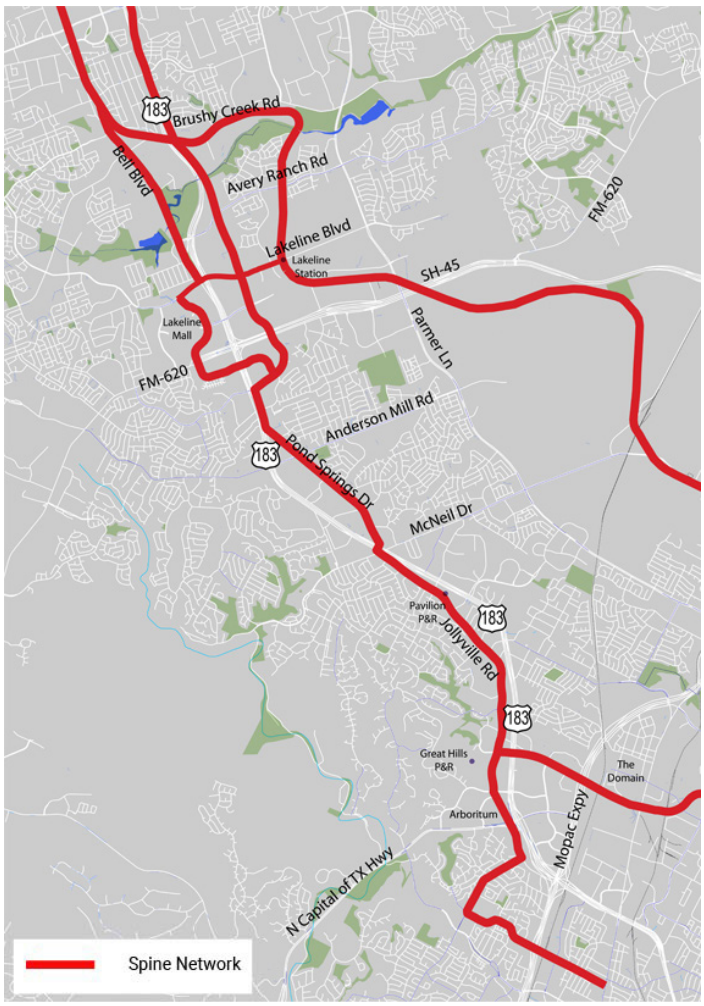
THE BICYCLE NETWORK

A high quality bicycle network provides safety, comfort, and connectivity. Points of conflict between bicycle travel and car travel are minimized, yielding is encouraged, space is clearly delineated for different modes, and facilities are consistency designed. Comfort is provided when bicycle travel is physically separated from automobile travel, bicyclists can pass one another, and delay at intersections is minimized. The conversion to physically separated bike facilities is recomended over the course of all phases. A connected bicycle network provides direct routes, seamless transitions between different types of facilities and roads, and makes easy links to transit.

The recommendations are organized in several categories: the “spine” network, “rib” network, “support” network, and “fabric” network.

Spine

The spine network provides for direct north-south travel on or along the corridor. It would extend from Bell Boulevard and the 183A Toll Road shared use path, through the Lakeline Mall area and along Lake Creek Parkway, to a new shared use path segment along the US 183 frontage road, to Pond Springs Road and Jollyville Road, connecting Great Hills Park and Ride and the Arboretum, and then cross MoPac to the Domain and go along Mesa Drive to destinations in the south. Bicycle facilities along the spine would provide physical separation from traffic and well-designed intersections to provide safety and comfort. New and upgraded facilities on the spine network would be developed in phases over time as opportunities become available. The Capital Metro Redline Corridor would provide a route for a shared use connection.



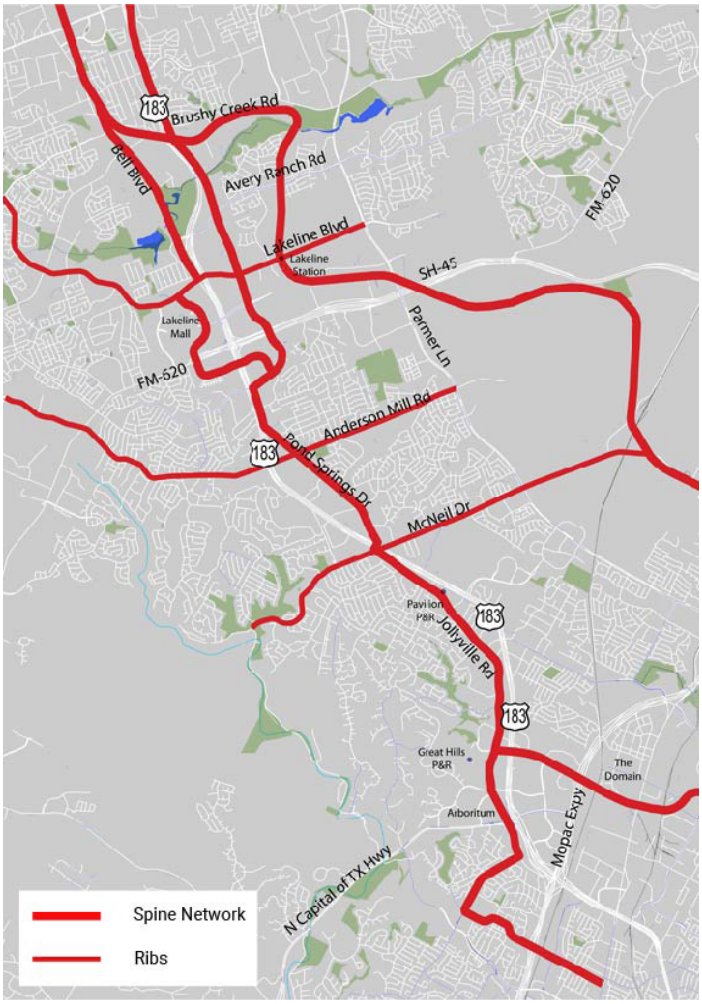
US 183 Frontage Roads or Parallel Roads

There has been interest expressed in a shared use path on the US 183 frontage roads, to connect people on foot and bike to the buildings located on the frontage and provide a direct north-south route. The Study Team carefully considered this option. The frontage roads are currently being asked to perform a number of roles: it is carrying high volumes of high speed traffic, providing driveway access to destinations, and handling high volumes of turning traffic at intersections. Asking it to also provide a safe and comfortable bicycling environment – in the next 10 to 20 years – is infeasible. The corridor lacks cues in the built environment to inform motorists to expect cyclists or pedestrians because there are many driveways creating turning conflicts, and speeds are high. The environment is presently the territory of the high speed motorist. The presence of a shared use path alone would not be enough to provide a comfortable bicycling environment for people from the ages of 8 to 80. There are, however, ways to alter the design of the frontage road in the long-term so that walking and bicycling would be intuitively expected by the motorists. The recommendation is to make changes to the built form along the frontage road over time by requiring buildings to "address the street," consolidating driveways, reducing speeds, and providing an engaging bicycling and walking environment by improving aesthetics. In the short-term, the Case Study recommends a parallel route that would act as a north-south spine for the bicycling network, including connections for cyclists and pedestrians between the spine and destinations on the frontage road.

The US 183 Frontage Road. New sidewalk connections would be included in the 183N Mobility Project. However, the frontage road would still be a challenging environment for bicycling because of its high speeds, frequent driveways, and turning movements by motor vehicles.

Spine and Ribs

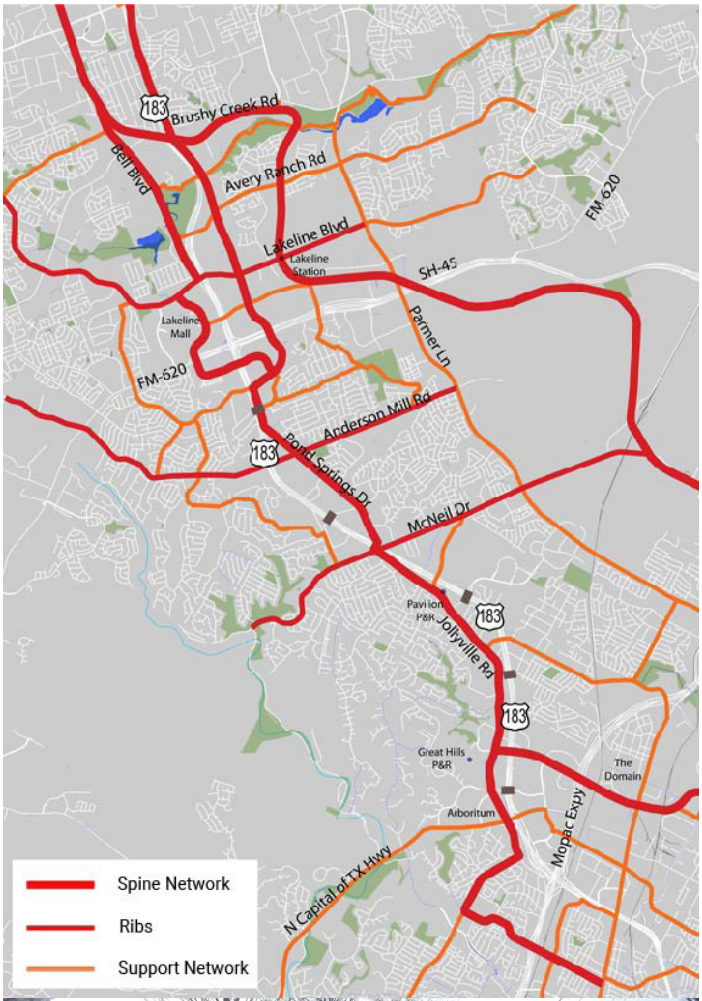
The "ribs" of the network connect the major roads along the corridor to the spine routes. These include Lakeline Boulevard, Anderson Mill Road, and McNeil Drive/ Spicewood Springs Road.



High quality separated bike lanes and shared-use paths make up the spine and rib network of facilities.

Support Network

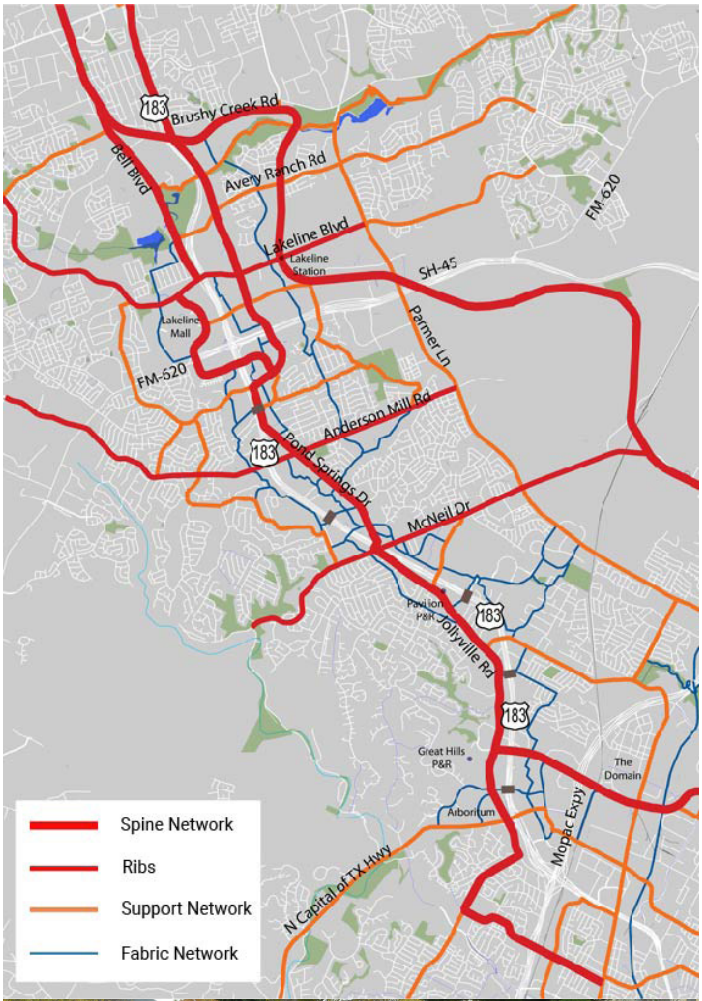
Additional routes in the corridor would make up the support network. These routes would be lower traffic and lower speed roads. When possible they would include bike lanes. Signs would direct users to the spine network and area destinations. They are shown in orange in graphic below.



Buffered and standard bicycle lanes make up the support network of facilities.

Fabric Network

Fabric network connections are small local roads or connections through parking or residential developments that allow people on bikes to get from their homes and businesses to the rest of the network. This network is shown in blue in the graphic below.



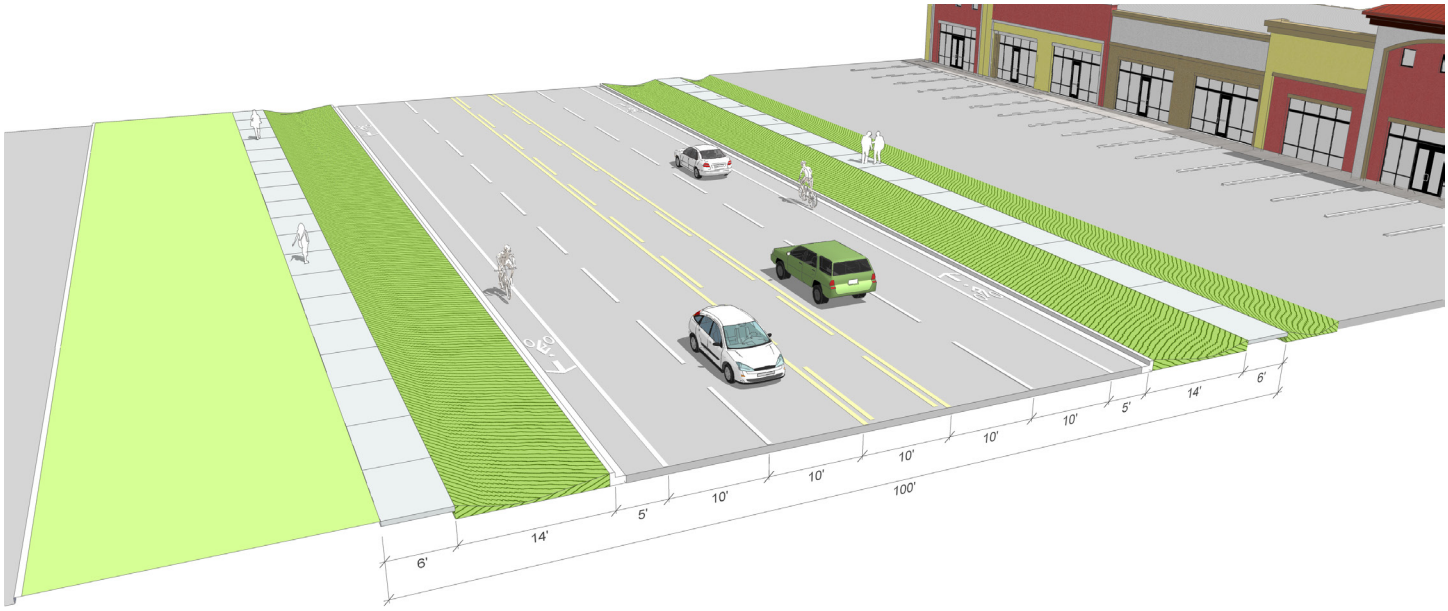
Sharrows, standard bicycle lanes, and signed routes make up the fabric network of facilities.

CONCEPTUAL CROSS-SECTIONS

The following conceptual designs provide options for possible future cross sections. These recommendations would be implemented over time by the appropriate local jurisdiction as the corridor redevelops.

Jollyville Road

Jollyville Road is an important segment of the spine network. The existing roadway contains a standard bike lane next to five lanes of traffic. This Case Study presents two conceptual options: a three lane option, suggested by the City of Austin, and a five lane option. The proposed cross-sections (Figures 17 and 18), show a future development scenario for after US 183 is expanded and adjacent property is redeveloped, where buildings are positioned next to the sidewalk. Parking would be located behind the buildings. The three lane option includes separated bike lanes with a vertical separating element, such as bollards. The five lane option includes parking-separated bike lanes and shows bus pick up and drop off.



Jollyville Road - Existing conditions

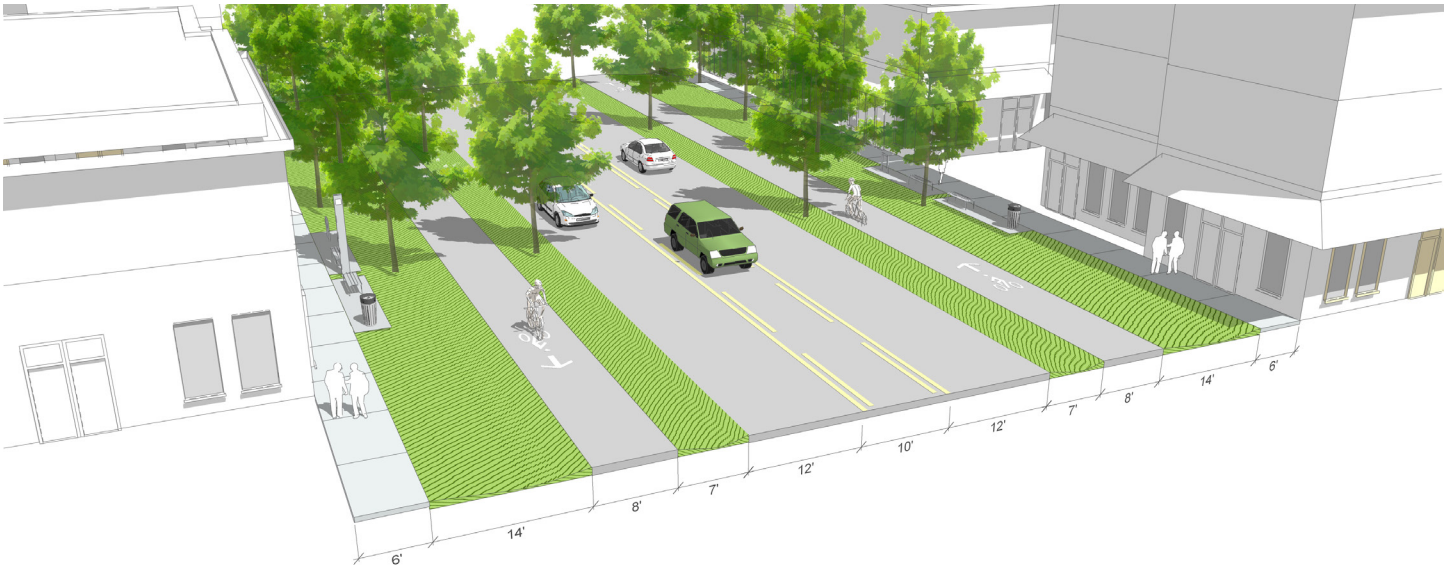
Jolleyville Road - Five Lane Option

Jollyville Road - Three Lane Option

Ponds Springs Road

Pond Springs Road is another important connection in the spine network. The graphic below shows the existing cross-section with three auto lanes and unprotected bike lanes. The proposed cross-section in Figure 21 shows buildings next to the sidewalk and physically separated bike lanes.

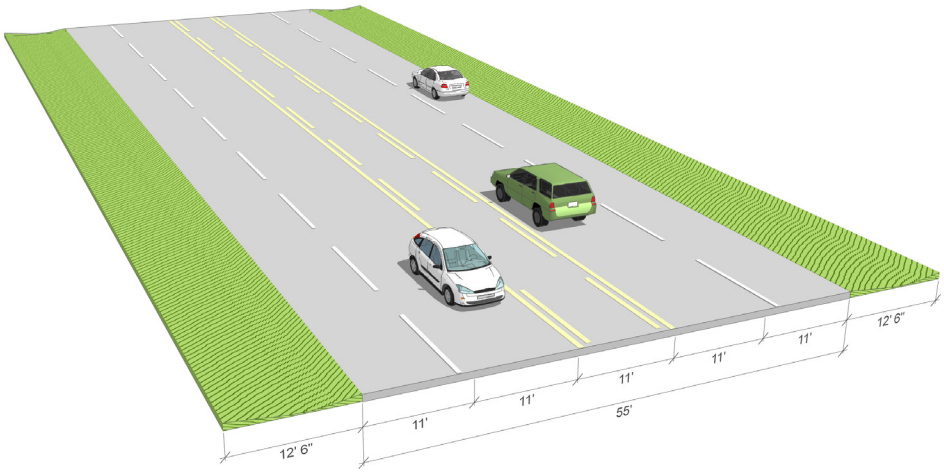
Pond Springs Road - Existing Conditions



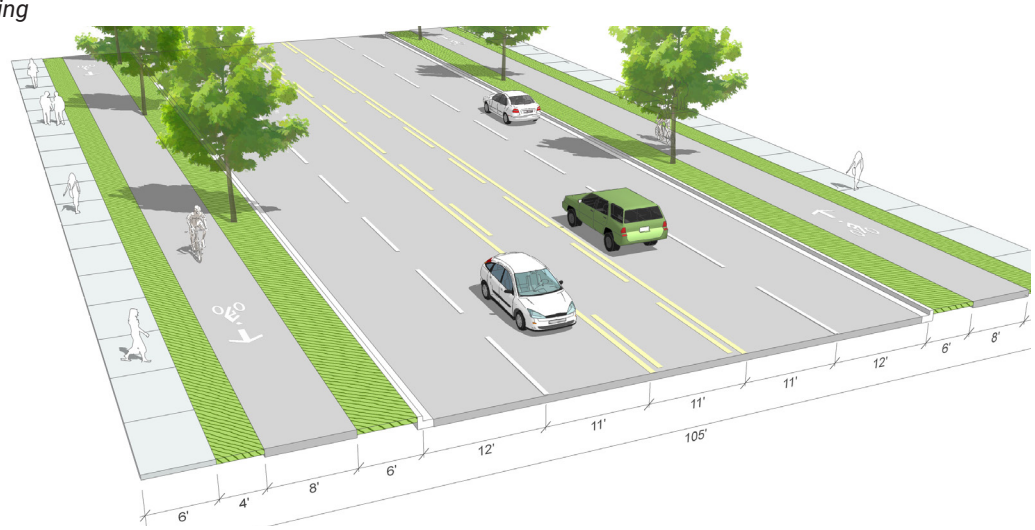
Pond Springs Road - Proposed Separated Bike Lanes

McNeil Drive

McNeil Drive is part of the proposed rib network. The proposed cross-section shown below includes physically separated bike lanes on both sides.



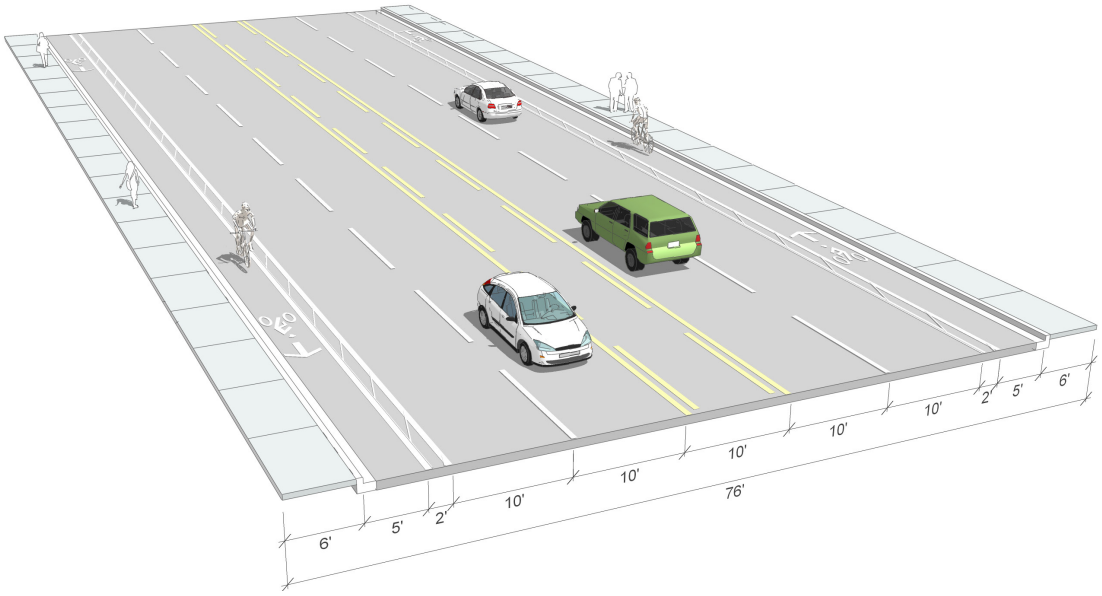
McNeil Drive - Existing



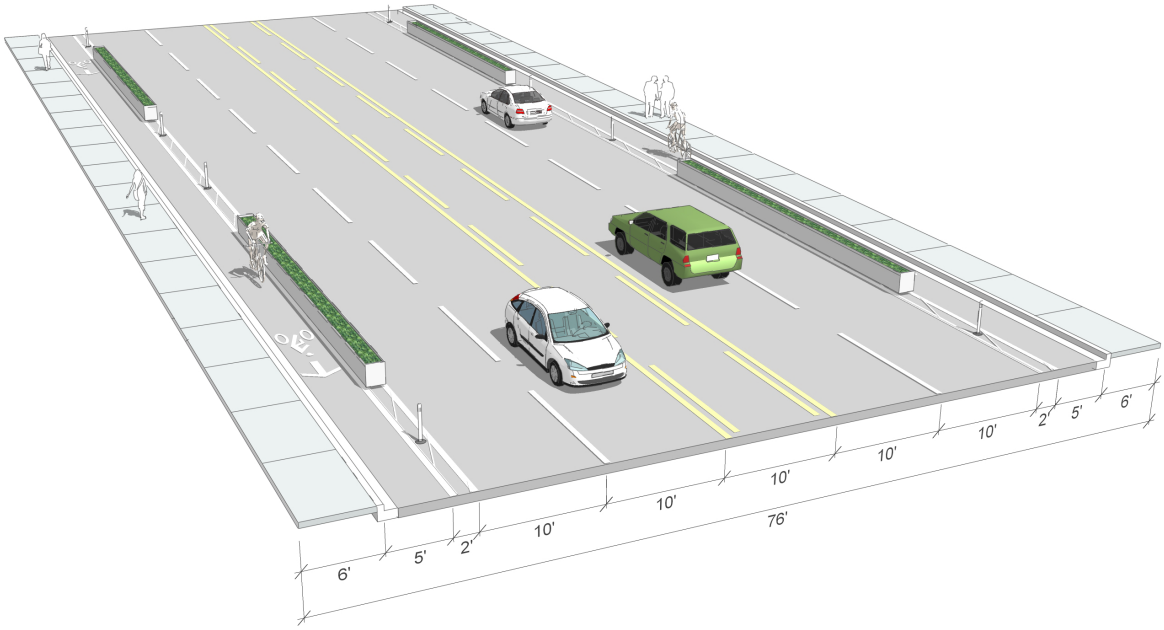
McNeil Drive - Roadway Improvement

Spicewood Springs Road

Spicewood Springs Road is also part of the proposed rib network, continuing the McNeil Road facilities to the west. The existing condition is shown in the graphic below. The proposed cross-section upgrades the buffered bike lane to physically separated bike lanes on both sides.



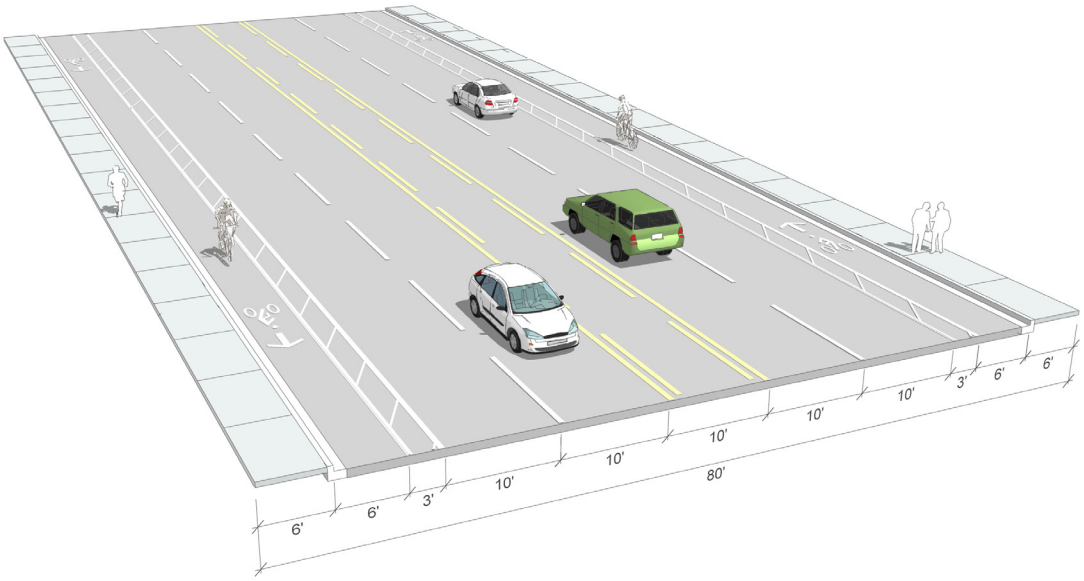
Spicewood Springs Road - Existing Conditions



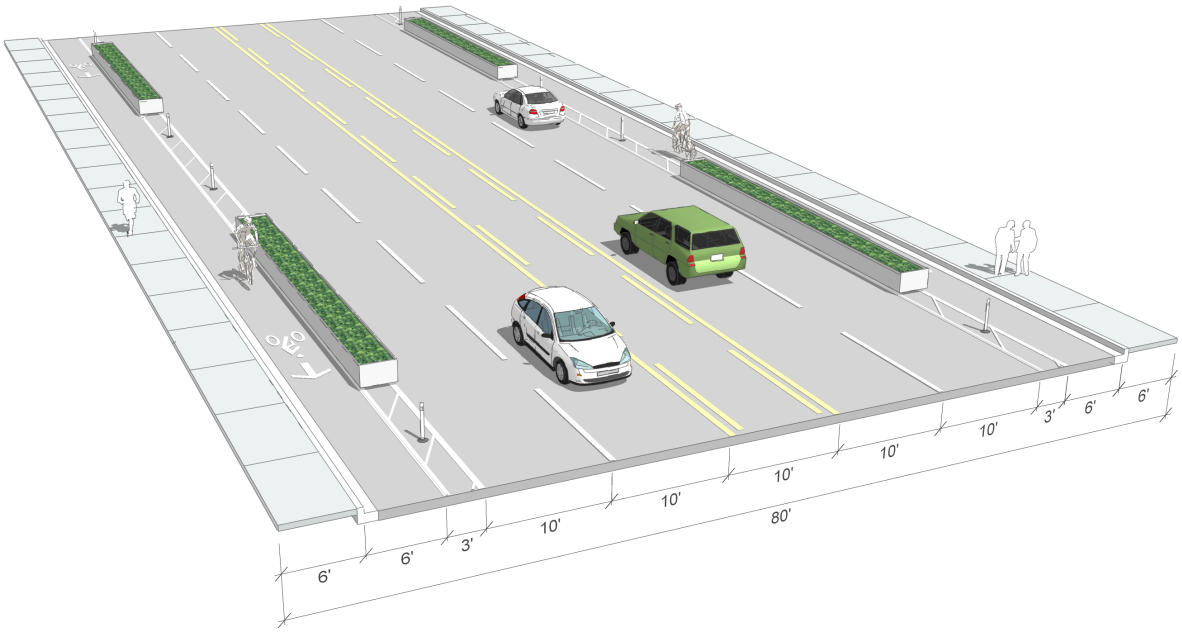
Spicewood Springs Road - Proposed Separated Bike Lanes Option 1

Anderson Mill Road

The graphics below illustrate the proposed cross-section for Anderson Mill Road upgrades the buffered bike lane to physically separated bike lanes on both sides.



Anderson Mill Road - Existing Conditions



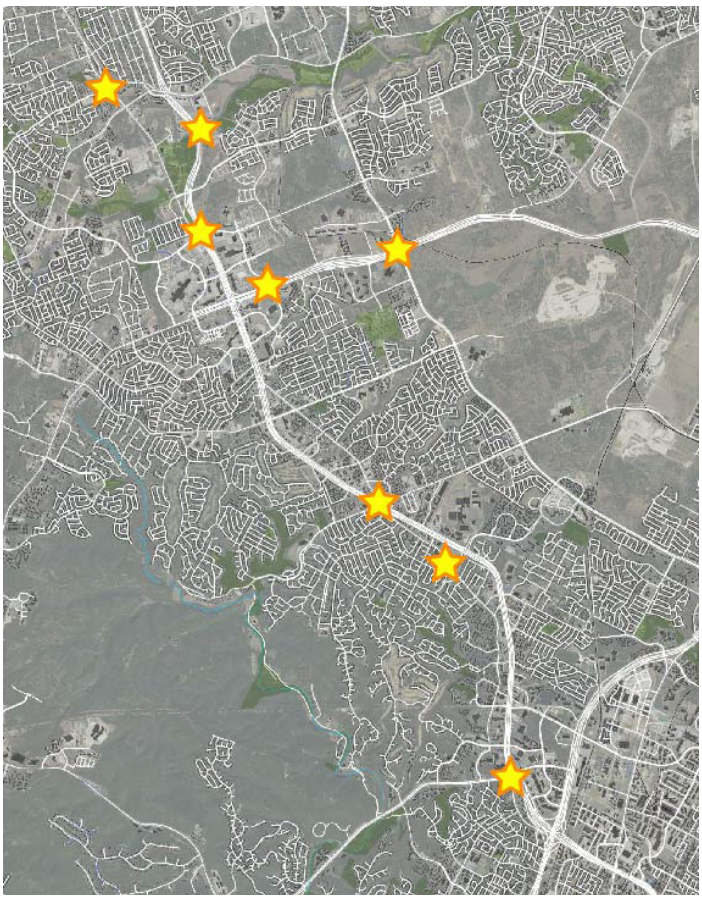
Anderson Mill Road - Proposed Upgraded Facilities - Separated Bike Lanes

INTERSECTIONS & CROSSINGS

Attention should be paid to intersections and roadway crossings to ensure safety and comfort for pedestrians and bicyclists. Elements that should be considered at intersections include:

- Bike detection – people on bikes at intersection trigger a green light.
- Bike boxes – green painted boxes provide a space for left turning bicyclists and other bicyclists at red lights together.
- Marked bike lanes – dashed or solid bicycle lane marked through the intersection indicate to drivers to expect bicyclists in the conflict zone.
- Bike signals – Signal heads at trails and separated bike lanes control bicycle movements.

- Pedestrian countdown timers – Signals when it is safe for pedestrians to cross and how much time is remaining.
- Leading pedestrian intervals – Signal time that gives crossing pedestrians permission to cross before right-turning cars.



Intersection Improvements at McNeil Drive/ Spicewood Springs Road

The graphic below shows intersection treatments for the intersection of US 183 and McNeil Drive/Spicewood Springs Road. Separated bicycle lanes extend all the way to the intersection. Green paint through the intersection indicates the conflict zone and runs parallel to the pedestrian crosswalk. A shared use path extends underneath the US 183 overpass. Crosswalks and green bike lanes are marked across the right turn slip lanes.

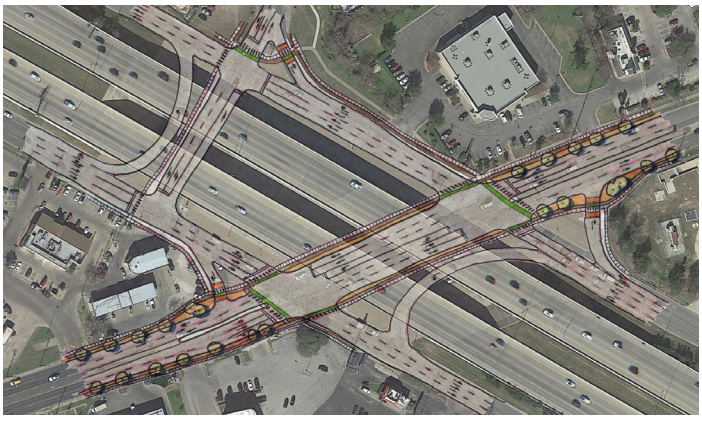
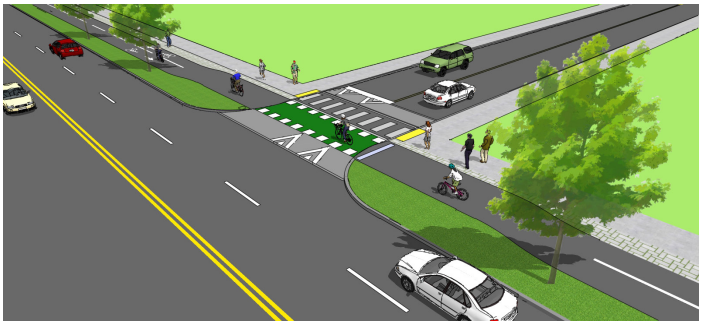


Illustration showing a concept for intersection design and routes going under US 183.

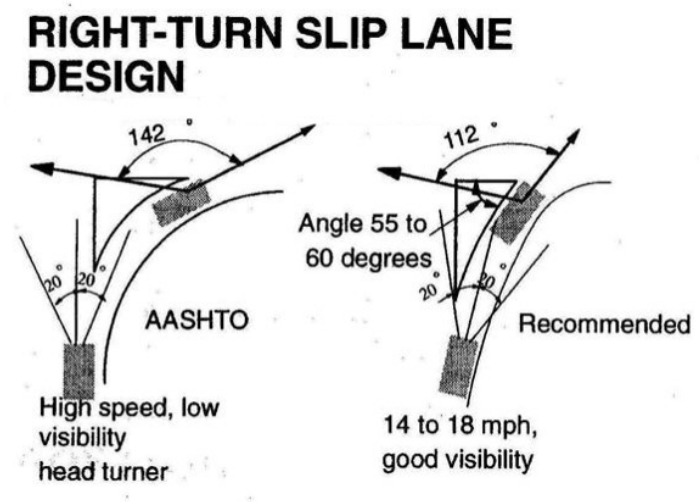
Side Street and Driveway Crossings

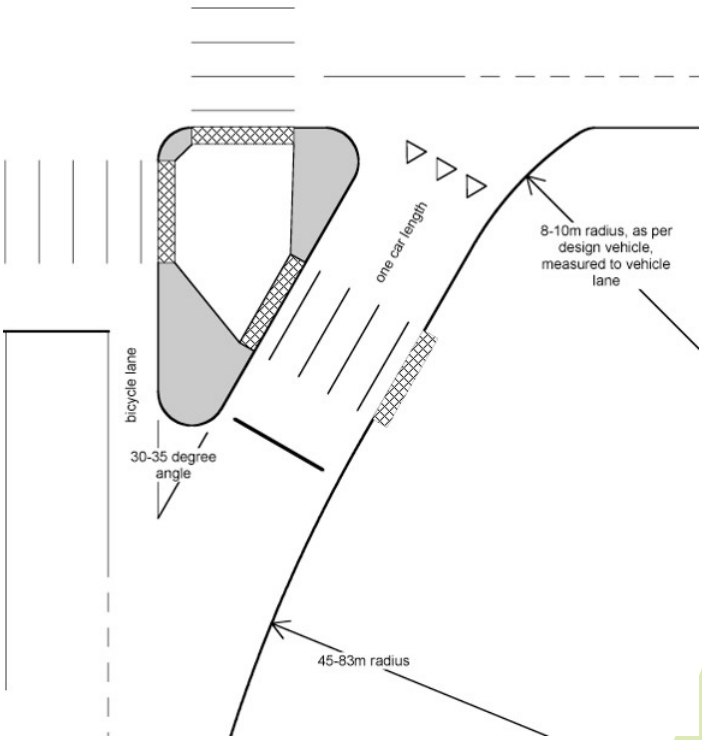
Raised crossings are recommended across side streets and driveways. Raised crossings increase visibility for pedestrians and bicyclists.



Intersection at North Capital of Texas Highway (Loop 360)

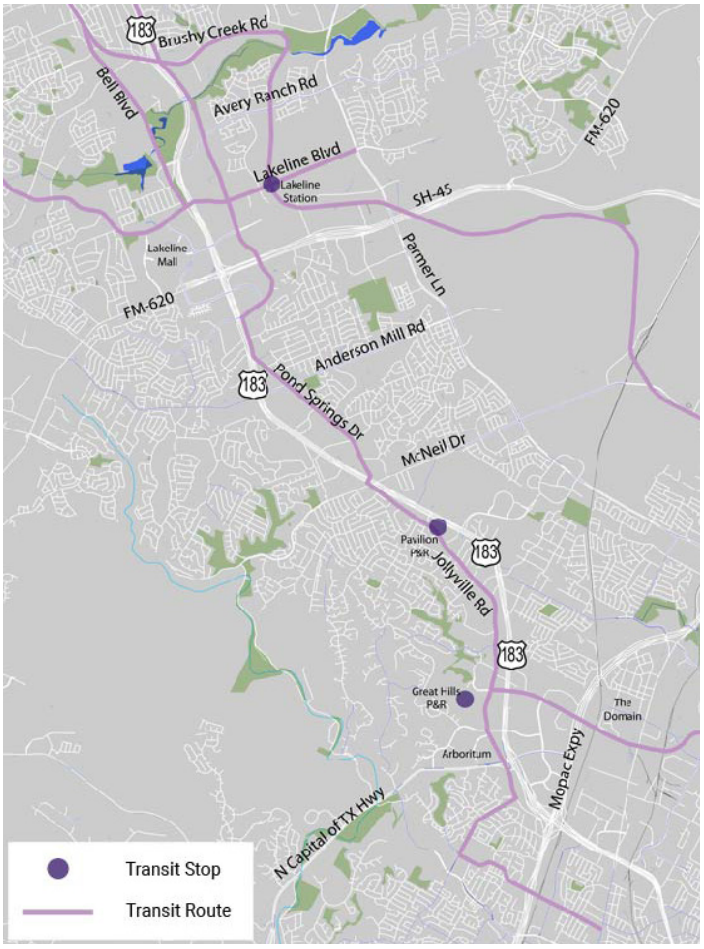
One of the barriers in the corridor is the crossing of North Capital of Texas Highway. This Study recommends adjusting the turn radius at the intersection of North Capital of Texas Highway and Research Boulevard. As part of a larger needed intersection upgrade, a tighter turn radius (112 degrees) would increase visibility for motorists to see oncoming vehicles and pedestrians. The diagrams show examples of a tighter turn radius.





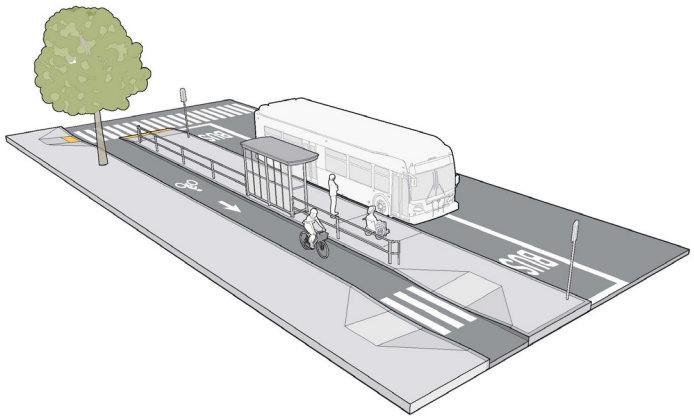
TRANSIT CONNECTIONS

The case study prioritizes access to transit stops, including bus stops, park & rides, and the Lakeline Redline Station.



Transit Stop Design

Along bicycle facilities, bus stops should be designed to allows bus passengers a safe place to wait and board transit vehicles. The bus waiting area can be used as the buffer for bicyclists, as shown in the graphic below.



CHAPTER 5

DEVELOPMENT CHARACTERISTICS

The purpose of the Near Northwest Corridor Connections Case Study is to provide recommendations and concepts that will result in a multimodal corridor that supports and encourages active transportation. These recommendations include improvements to street connectivity, bicycle and pedestrian connectivity, safety, transit access and the built environment.

INTRODUCTION

This Case Study recommends corridor development and redevelopment within the study area that supports walking and biking. Investments in sidewalks and bicycling facilities are most effective when destinations are located close together, there is a mix of residential and non-residential land uses, and buildings are oriented toward sidewalks and designed with pedestrians in mind.

Short-, medium-, and long-term redevelopment of property in the Near Northwest Corridor should result in "pedestrian nodes" of increased development intensity, as well as "activity corridors" between nodes. Taken together, these redevelopment scenarios are intended to support multi-modal transportation systems where transit and active transportation modes are viewed as attractive methods of mobility. Study recommendations correspond with the varying policy documents adopted by the cities of Austin and Cedar Park, particularly with the principles promoted in Imagine Austin, and the Bell Boulevard Redevelopment Master Plan.

This section of the Near Northwest Corridor Connections Case Study presents a series of essential building and site design features that facilitate the desired redevelopment patterns previously identified in the Study.

The section is divided into three (3) main parts:

- **Corridor Development Context.** A brief synopsis of existing corridor characteristics that influence the scale and pace of redevelopment activity in the corridor.
- **Built Form and Function.** Emphasizes preferred site development elements. Considers the arrangement of buildings, parking areas, and other accessory components of the development site, and how these components relate to adjacent street rights-of-way.
- **Building Character and Design.** Building elements that provide a desirable pedestrian scale, support pedestrian accessibility, and complement abutting streetscape elements which promote active mobility.

Efforts have been made to ensure that the recommended study area development characteristics either directly promote, or are otherwise consistent with, adopted municipal policy. The incorporation of these recommended design features into municipal land development regulations should assist in facilitating redevelopment activity that supports proposed bicycle and pedestrian infrastructure investment and increases corridor efficiency for area motorists.

The City of Austin has facilitated redevelopment within Activity Centers and Corridors the compliments bicycle and pedestrian infrastructure investments. Guadalupe Street (4600 block) is pictured above.

REGULATORY TOOLS

Consistent with national land use and growth management practices, the cities of Austin and Cedar Park rely on a mix of subdivision regulation, zoning, and associated land development codes to manage development patterns in their areas of jurisdiction. (This includes the application of municipal subdivision regulations to portions of Travis and Williamson Counties that lie within Austin's or Cedar Park's extraterritorial jurisdictions.) These regulatory tools are also supplemented by various design guidelines and manuals to influence development character and quality throughout the community, or within focused corridors, districts, or neighborhoods.

In developing the recommendations in this section, consideration was given to the applicable land development regulations, design guidelines, and land use policies of Austin and Cedar Park. Some of the key documents reviewed include:

City of Austin

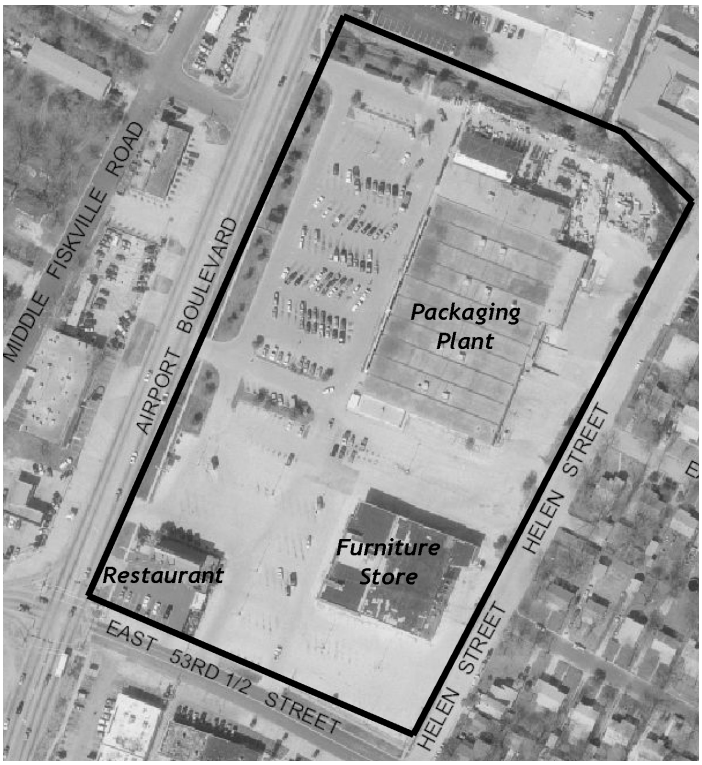
- Code of the City of Austin, Title 25, Land Development
- Land Development Code
- Traditional Neighborhood District Criteria Manual
- Transportation Criteria Manual[1]

City of Cedar Park

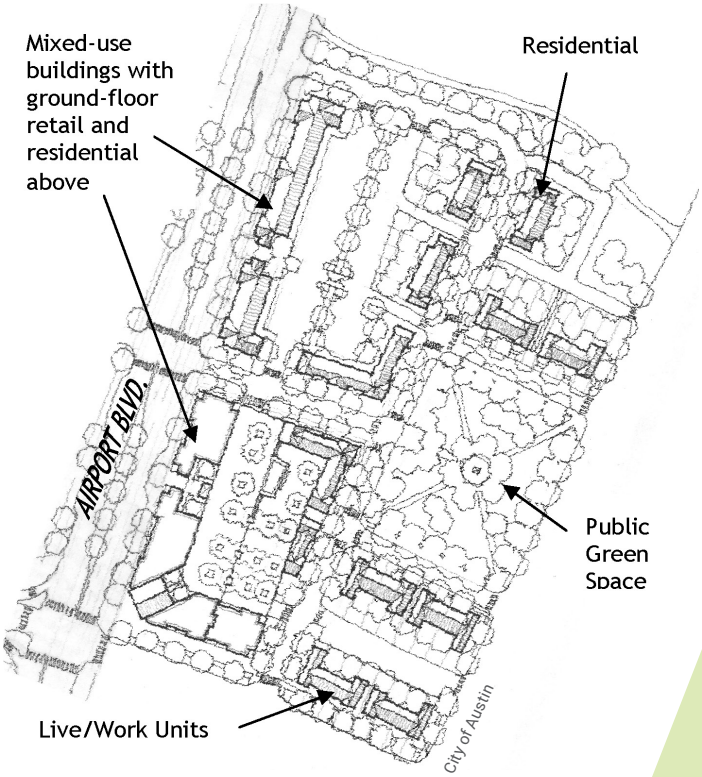
- Code of Ordinances, Chapter 3, Building Regulations
- Code of Ordinances, Chapter 11, Zoning
- Code of Ordinances, Chapter 12, Subdivision Regulation
- Code of Ordinances, Chapter 14, Site Development

The City of Austin's land development regulations already contain tools that could be applied to implement many of the development characteristics recommended in this case study. For instance, Jollyville Road is identified as a future "core transit corridor[2]" - a designation which requires new development to exhibit a stronger relationship between the buildings and the street than standard City site development requirements. The application of these and other existing City provisions to the Near Northwest Corridor however, will require more detailed sub-area planning in the future.

The cities of Austin and Cedar Park are also preparing comprehensive updates to their zoning ordinances. These ongoing activities provide a timely opportunity to incorporate the design recommendations contained in this section of the case study.



The City of Austin's regulatory tools are augmented by a series of design guidelines and construction specifications. These images from the City's design guide for Neighborhood Planning Combining Districts provide a conceptual example of a neighborhood urban center.



1 Also utilized by the City of Cedar Park.

2 City of Austin, Code of Ord., Chapter 25-2 Zoning

CORRIDOR DEVELOPMENT CONTEXT

The recommended development characteristics contained in this section should be applied in a manner that respects two key elements of the existing built environment along the corridor: **transitional development scale**, and **auto-urban environments**.

TRANSITIONAL DEVELOPMENT SCALE

Redevelopment activity along the corridor is intended to produce contrasting areas of "high-intensity development" and "low-intensity development." The high intensity development should occur in the proposed pedestrian nodes, while the low-intensity develop would occur in between nodes. See pages 91-94.

As areas of higher and lower development intensities emerge over the course of a 25 year (or more) build-out period, many of the neighborhoods flanking the principal study area corridor will retain low density suburban characteristics. **This Study does not propose a specific development intensity for any proposed pedestrian node or activity corridor within the study area.** It acknowledges the need to calibrate corridor redevelopment intensities to provide smooth transitions in form and scale from adjacent residential areas.

"Creating the compact and connected city envisioned by this plan requires establishing harmonious transitions between different types of land uses, such as retail and residential areas or buildings of different heights and scales. New and redevelopment along corridors and at the edges of centers should complement existing development such as adjacent neighborhoods."

Transitions Between Land Uses, Imagine Austin

Higher residential development densities will be required within pedestrian nodes (above left) to support a concentration of accessible shops, restaurants, and services. The intensity of new development should be compatible and complementary as nodal development extends to existing and adjacent suburban neighborhoods along the corridor (above right).

AUTO-URBAN ENVIRONMENTS

In addition to providing context-sensitive development transitions between the corridor and surrounding neighborhoods, case study redevelopment activities outside of identified pedestrian nodes will occur gradually, and in a manner that respects the market realities of a long-standing auto-centric built environment and tradition along US 183. The predominant built environment on this corridor may best be described as auto-urban:

> *"Auto-urban environments are characterized by land where automobiles, parking, and roads consume more land than do buildings. The building masses differ from traditional urban areas by largely being one-story, often freestanding uses surrounded by a sea of parking.*[3]*"*

Initial redevelopment efforts on the majority of the corridor (corresponding with low-intensity development areas) should emphasize those elements of built form that improve bicyclist and pedestrian comfort while allowing properties to retain those characteristics that accommodate high volumes of motor vehicle activity. For instance, access management principles should promote the consolidation of driveways and cross-access easements, while less emphasis could be placed on the development of mixed use buildings, or elimination of drive-through facilities.

Both of these contextual considerations – transitional development scale and auto-urban environments - are consistent with guidance provided in Imagine Austin (regarding Activity Centers and Corridors) and are considered throughout the subsequent recommendations presented within this section of the case study.

Businesses along the US Highway 183 corridor are designed to accommodate motor vehicle traffic (top). Auto-urban environments can be re-designed to meet the needs of active commuters, while still meeting the needs of the motorists (center and bottom).

3 Lane Kendig and Bret Keast, *Community Character: Principles for Design and Planning* (Washington, DC: Island Press, 2010), 88.

BUILT FORM AND FUNCTION

The arrangement of buildings, parking, and other accessory elements on a development site will influence the usefulness and comfort of associated bicycle and pedestrian network facilities. This section provides guidance on essential site development characteristics that promote pedestrian-friendly environments. Some recommendations distinguish between pedestrian nodes identified within this case study, and intervening auto-urban corridors.

BUILD-TO ZONES

Buildings within pedestrian nodes should be constructed close to the street. Build-to zones should establish minimum and maximum setback requirements for all street facing building facades (which may vary by street type). Build-to-zones along auto-urban corridors may allow for greater setbacks to account for the design speeds of adjacent roadways and motor vehicle queueing at access points.

- Build-to zones along principal thoroughfares in pedestrian nodes may establish maximum setbacks ranges of 0 feet to 5 feet to allow for variation in building frontage. Greater build-to zone depth may be permitted along freeway frontages or major arterial roadways.
- Build-to zones for residential buildings may establish maximum setbacks of up to 10 feet where the additional space provides for private courtyards, patios, or landscaping treatments that increase the privacy of ground-floor occupants.
- Build-to zones along auto-urban corridors should apply to those portions of principal and out-parcel buildings that are arranged to meet recommended frontage requirements (see next subsection). Greater maximum setbacks (up to 15 feet) may be permitted to accommodate outdoor dining areas, or other public gathering spaces

Typical build-to-zones in pedestrian nodes should not exceed 5 feet in depth (top); although, greater setbacks may be considered where the face of the building and pedestrian way is not buffered from motor vehicle traffic by parking lanes, wide planting strips, etc. (center). Similarly, build-to-zones on auto-urban corridors (bottom) may be deeper to promote pedestrian comfort.

FRONTAGE REQUIREMENTS

Streets within pedestrian nodes should be framed by building façades to create defined public space. Building frontage requirements on principal streets may be greater than on secondary streets, and should be broken only by drives accessing rear parking areas or structures, or public gathering spaces such as plazas, courtyards, etc. Frontage requirements on auto-urban corridors may be less than in pedestrian nodes, but should be augmented by appropriate screening to maintain the street edge.

- Minimum building frontage requirements within pedestrian nodes should exceed 75 percent (Exceptions provided for civic buildings).
- Minimum building frontage requirements for principal buildings fronting auto-urban corridors may range between 50 and 60 percent. Minimum frontage requirements may be greater where the site will also incorporate out-parcel buildings.
- In meeting frontage requirements on auto-urban corridors, the long edge of principal buildings should front the street.

Building facades should form at least 75 percent or more of the lot frontage in pedestrian nodes. Building frontage requirements in auto-urban corridors should form the majority of a lot's street frontage, but may be augmented by greater percentages of screening (hard or soft-scape) and landscaping materials.

BUILDING COVERAGE

Mixed-use buildings, and associated structured parking, within core portions of pedestrian nodes may account for 80 percent or more building coverage on a development parcel. Building coverage may account for a smaller percentage of a lot area as the scale of structures decreases and the proximity to surrounding residential areas increase, but surface area parking will occupy other remaining portions of the parcel. High percentages of building coverage on individual parcels should be accommodated in pedestrian nodes, but be offset by open space provisions that apply to a development area as a whole.

- Regulating plans should identify the intended intensity of building development on each block of proposed pedestrian nodes.
- Maximum building and impervious surface coverages in pedestrian nodes should vary according to intended intensity by block, but may range from no defined standard in urban core areas, to 75 percent maximum coverage in fringe areas of the node.
- Portions of pedestrian nodes without defined impervious surface requirements must be able to meet standards for on-site or off-site public gathering space and storm water retention.

Impervious surface coverages may exceed 75 percent on individual lots within pedestrian nodes, but should be off-set by pre-defined on- and/or off-site open spaces identified during the master planning process.

- Maximum impervious surface coverages on auto-urban corridors may adhere to base zoning requirements until alternative mixed-use zoning is applied to the site.

OUT-PARCELS

Development patterns outside of pedestrian nodes are expected to retain many of their auto-urban characteristics for the next several years. This includes the development of contemporary strip-retail centers, the construction of single-story structures, and continuation of single-use out-parcel developments. These parcels and buildings should be arranged to promote the placement and frontage objectives that are intended to frame and define the street space.

Community Impact Newspaper

Out-parcel buildings should be positioned to frame the street edge along auto-urban corridors - particularly where setback provisions allow portions of principal buildings to be set back from the right-of-way.

- Out-parcels must be subdivided so that their location and depth (minimum 300') allows for access drives throughout the parent site to mimic the spacing and arrangement of street blocks within pedestrian nodes.
- Out-parcel buildings should front the street and adhere to minimum and maximum build-to zones prescribed for principal buildings on the development site.
- Build-to zones should be applied to out-parcels that are adjacent to or overlap adjacent entry drives serving a larger development site.
- Drive-through queueing lanes should be arranged so that they do not encroach between the building and adjacent streets or entry drives serving the larger development site.

PARKING LOCATION AND ARRANGEMENT

The arrangement of buildings and green spaces on development sites within the corridor should serve to maximize their exposure to the public street space and other public properties. By extension, parking areas should be placed to the rear of buildings in conjunction with other site utilities. On segments of the corridor where building densities will not conceal parking areas, landscaped buffers and walls should provide separation between parking lots and the public street.

- Parking structures should be placed in the interior of a block, and wrapped by the buildings that they serve. Where structured parking must abut the street, ground floor space should be reserved for commercial uses, and the façade should meet other building design features. Vehicular access should be from secondary streets where possible.
- Parking lots within pedestrian nodes should be placed to the rear of buildings. Within lower density auto-urban corridors, parking areas may be located in side yards. All parking areas should be screened from the street right-of-way with a combination of walls and landscaping.

Where possible, structured and surface parking should be concealed from the street. Where structured parking must abut the street right-of-way, design features should mimic surrounding buildings and the ground floor should be reserved for active space

- Landscaped islands should separate parking areas from principal access drives throughout the development site, and may be designed to meet bio-retention needs.

ACCESS MANAGEMENT

The function of pedestrian-friendly development nodes and auto-urban corridors will be equally influenced by the flow of motor vehicles to and from a development site. Frequent driveway cuts within urban development nodes disrupt the comfort of the pedestrian realm and fracture enclosed spaces along the edge of the street right-of-way. On corridors with high traffic volumes, repetitive driveway cuts also disrupt traffic flow and reduce the level of traffic service on major thoroughfares. Motor vehicle access points to development sites should be consolidated and cross-access promoted.

- Alley or driveway access to streets within pedestrian nodes should not exceed one to two per block (assuming 300 to 600 foot block length and depth). Two or alley or driveway access points may be permitted where blocks exceed 600 feet in length or depth.
- Driveways on auto-urban corridors should be consolidated in favor of cross-access easement easements to the rear of buildings. Cross access easement agreements should provide for the closure of pre - existing driveway cuts over time. Out-parcels should not be provided with direct vehicular access to the public street.

Building and driveway placement in auto-urban corridors should mimic street spacing standards applied to pedestrian nodes. The driveway above provides access to a large grocery store and surface parking area.

- Within auto-urban redevelopment areas, internal driveway arrangement should mimic the spacing requirements for public streets located within proposed pedestrian nodes.

PUBLIC GATHERING SPACE

Development intensities within pedestrian nodes will result in high percentages of building and other impervious surface coverages. Defined public gathering areas (plazas, squares, greens, etc.) within pedestrian nodes will create positive architectural space within street grids and important activity centers. In contrast, public gathering areas in auto-urban corridors can reduce large expanses of surface parking and provide intervening green destinations between nodes.

- Establish level of service goals for civic space and neighborhood parks within identified pedestrian nodes.
  - Size. Between 1/4 acre and 5 acres depending on development scale.
  - Distribution. Maximum 5 minute walking radius.
- Require mixed-use and commercial developments exceeding 50,000 gross square feet to incorporate one or more public gathering areas into the site plan. Areas will be placed at high visibility locations.
- Public gathering space or other open space within pedestrian nodes may account for anywhere between 5 and 15 percent of the parcel.
- Within shopping centers, establish requirements for pedestrian zones between buildings and parking areas that mimic recommended streetscape treatments.

Space should be set-aside within pedestrian nodes for public gatherings, civic activities, and passive recreation (above). Reservations for public gathering spaces can be funded in advance or retroactively through park land dedication ordinances or other development fees.

CONNECTIVITY

STREET CONNECTIVITY

Pedestrian-friendly environments require street and driveway networks that disperse motor vehicle traffic while offering pedestrians multiple options for accessing destinations. Within pedestrian nodes, a consistent range of street spacing should be applied to meet these functional needs, while also providing aesthetic benefits defined by breaks in building facades, strategically placed vistas, and a greater density of corner properties (which serve as magnets for interaction and activity).

- Develop street grids in pedestrian nodes with block widths and depths that average between 300 and 600 feet. Variation from a rigid grid should be permitted to allow skewed street alignments that create sequential spaces, or to better conform to site-specific topography.
- Where block lengths must exceed 600 feet in urban nodes, provide intervening pedestrian promenades. (Urban block lengths in excess of 600 feet should be infrequent, while those exceeding 1,000 feet should be discouraged.)
- Driveway spacing in auto-urban environments should mimic the preferred spacing and arrangement of streets in pedestrian nodes (see “Access Management”).

Ideal street spacing in pedestrian nodes is between 300 and 600 feet. Frequent street interconnectivity disperses traffic, increases exposure to adjacent businesses, and creates enhances pedestrian comfort.

ON-SITE PEDESTRIAN CONNECTIVITY

Street and building arrangements within urbanized development nodes create a direct interface between the pedestrian realm within public street rights-of-way and adjacent structures. Access to and within the development site should not be inhibited by large parking areas or a predominance of motor vehicle access points. The lower building coverages and higher volumes of motor vehicle traffic in auto-urban corridor environments require a more extensive system of on-site pedestrian pathways to link buildings, parking areas, public gathering spaces, streets and adjacent development sites.

- In auto-urban redevelopment areas, designated pedestrian pathways should be required from the public street and parking areas to all buildings and public gathering areas.
- On-site pathways and sidewalks should adhere to applicable AASHTO and NACTO guidelines for pedestrian facilities.
- Pedestrian pathways should be grade separated from motor vehicle drives and parking areas and, where possible, incorporated into landscape treatments.
- The pedestrian realm in front of shopping centers should be designed in the same manner as urban streetscapes, providing clear distinctions between edge, buffer, throughway, and building frontage zones.
- On large retail sites, designated or separated bicycle facilities may also be required on some internal access drives subject to thresholds identified as part of traffic impact analyses.

Clear pathways between parking areas and buildings can increase pedestrian comfort in auto-intensive environments (top). Building frontages that face parking areas in auto-urban areas (center) should incorporate pedestrian features that mimic a downtown street (below).

BUILDING CHARACTER AND DESIGN

The character and design of individual buildings will impact the degree to which adjacent streets serve the dual functions of conveying travelers, while serving as vital public activity spaces. Absent the consideration of building scale, accessibility, and aesthetics (and other features), the mere presence of a building at the edge of a street right-of-way does not guarantee that adjacent streetscapes will be transformed into lively and engaging places. This section highlights building elements that provide a desirable pedestrian scale, support pedestrian accessibility, and complement abutting streetscape elements which promote active mobility.

BUILDING ORIENTATION AND ACCESS

Full use of the public space within street right-of-ways requires that buildings be oriented to provide direct pedestrian access from street-facing facades. There should be multiple pedestrian access points between the building and the street within each block. Ground floor retail spaces should be provided with individual pedestrian access points to each leasable space and the internal arrangement of each space should result in a street facing orientation (rather than an orientation toward rear parking).

BUILDING HEIGHT, MASSING, AND SCALE

Redevelopment of the Near Northwest Corridor will result in mixed-use areas of varying intensity. Development within auto-urban corridors and neighborhood sub-districts of pedestrian nodes may range from 1 to 3 stories in height. Building heights for properties fronting on Research Boulevard may exceed 3 stories in height. Development within core areas of pedestrian nodes should exceed 3 stories in height to ensure a sufficient intensity of development that will attract a mix of residential, retail, and offices uses to the districts.

Building height should vary between adjacent structures. Because building (height) to thoroughfare (width) ratios of 1:2 and 1:3 as measured from the building facade are cited as providing a comfortable human scale[1], portions of buildings exceeding 3 to 5 stories in height should be setback from the street to avoid creating a canyon effect at street level. The height at which the building setback increases within pedestrian nodes should be determined at the sub-district level, and consider the proximity of the block to surrounding low-density residential development.

Street-facing mixed-use buildings should incorporate multiple pedestrian access points to generate activity (top). Building, height, massing, and scale (center) should transition between surrounding low-density residential areas and urban nodes. The scale of urban development can be reduced by street designs that widen the distance between facing building facades through the incorporation of functional elements such as wider sidewalks, on-street parking, and landscaped medians (bottom).

1 *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (Washington, DC: Institute of Transportation Engineers, 2005), 43

FAÇADE TREATMENTS

Street-facing building facades must be engaging to pedestrians in order to generate an active and exciting street environment. Façade articulation should vary within the build-to zone to avoid monotonous wall expanses. Façade variations may occur vertically along a block to delineate between distinct building quadrants or bays, and horizontally to distinguish ground-floor space from upper stories. Building elements such as awnings, canopies, balconies, and others should be encouraged, and may project into the street right-of-way. The depth and placement of these building elements should not inhibit the use and enjoyment of the pedestrian realm.

Buildings should also incorporate window openings along street-facing facades. Window openings for commercial and mixed-use structures should encompass no less than 40 to 50 percent of ground story facades, while the percentage of fenestration on upper stores – or for other building types may be less. Fenestration requirements should also consider the maximum allowable spacing of window openings. Window openings at street level should be transparent to visually link (and thereby expand) the internal and external building space. Upper story windows within most building types should also be visually transparent.

Vertical changes in building materials, variation in facade alignments, and projecting building elements delineate distinct bays in the building facade (top). Minimum fenestration requirements (center) break up large wall expanses, while variations in building materials can subdivide monotonous facades into vertical and horizontal quadrants and define public versus private spaces (bottom).

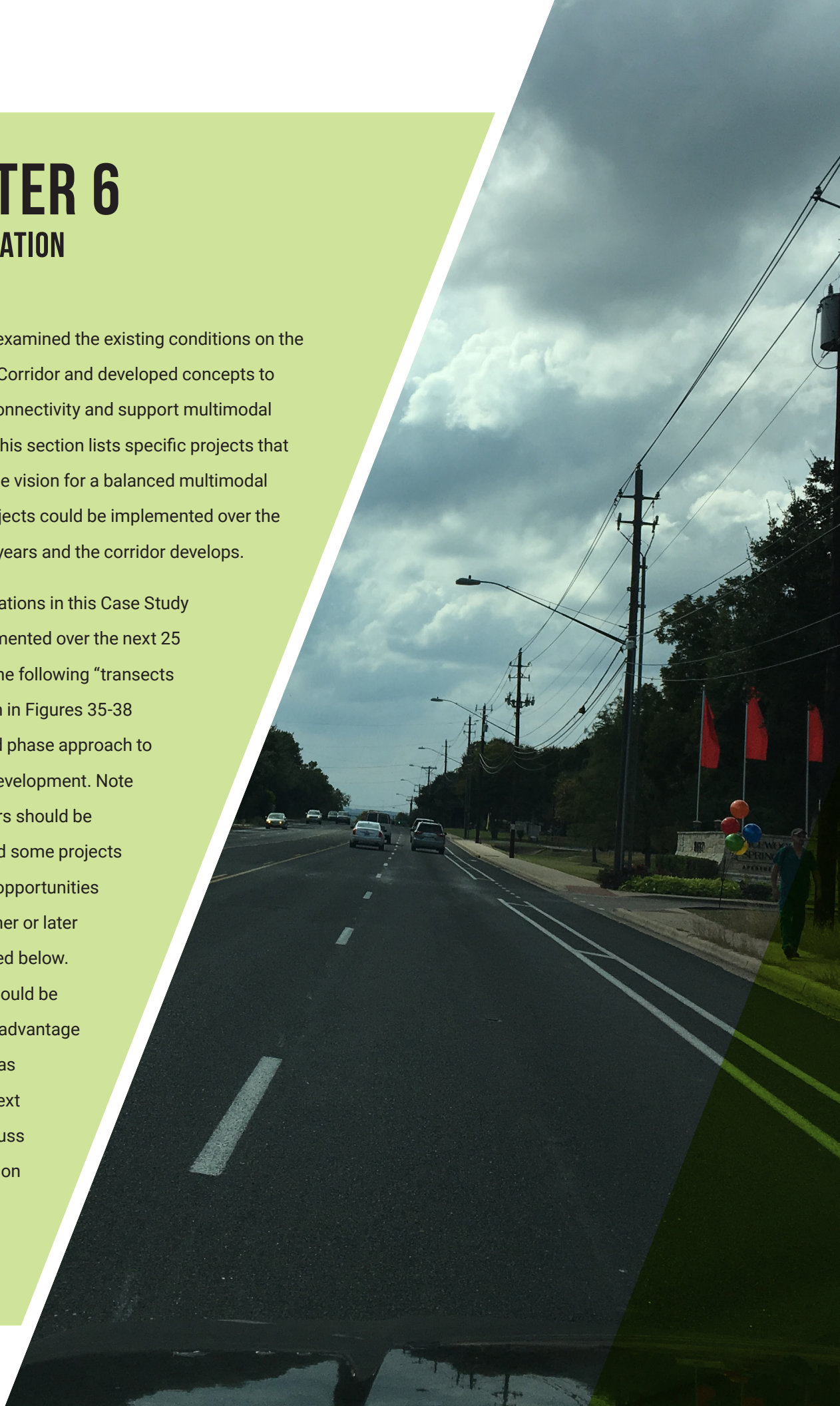
BUILDING MATERIALS

Buildings constructed within the Near Northwest Corridor should mix regional materials that reflect the area's geographic and cultural heritage, with modern materials that represent the area's dynamic growth in information, art, and technology. For examples, façade treatments with natural stone and wood products may be selectively combined with finished or processed materials such as brushed metals. Horizontal transitions in building materials, with heavier materials laid at lower facade elevations, can add visual interest and delineate transitions between floors. Similar material transitions in vertical elements can emphasize articulation between facade bays and parapets, and enhance columns and building corners.

CHAPTER 6
IMPLEMENTATION

This case study examined the existing conditions on the Near Northwest Corridor and developed concepts to improve street connectivity and support multimodal transportation. This section lists specific projects that would support the vision for a balanced multimodal corridor. The projects could be implemented over the next 25 or more years and the corridor develops.

The recommendations in this Case Study should be implemented over the next 25 or more years. The following “transects over time” shown in Figures 35-38 show a proposed phase approach to projects and redevelopment. Note that implementers should be opportunistic and some projects or development opportunities may appear sooner or later than that indicated below. Implementers should be flexible and take advantage of opportunities as they arise. The next Chapter will discuss the implementation approach.



PROJECT LIST

For distinct project segments, the attached project spreadsheet contains the following information:

TYPE

Projects are identified as part of the spine, rib, fabric network (see chapter 4 for details).

PROJECT TYPE

The project type columns describes whether a road segment is new or an improvement and the whether it is a shared use path, major crossing, or multi-modal improvement. Since the project list describes the whole network, some rows indicate "no change." These are instances in which the roadway already contains adequate accommodation for all modes.

FACILITY/PROJECT NAME

Each project is given a name. This is typically the name of the existing road. For proposed new road segments, a name is given based the road that is being extended or the nearest road.

LIMITS

This column indicates the geographic boundaries of the segment – generally the roadways on either end of the segment.

RECOMMENDED FACILITY TYPE

The specific improvement is described. For example, if the proposed facility is a bridge, separated bike lane, sidewalk, shared use path, or a new street.

COST

Construction cost estimates were developed for the recommendations by identifying pay items and establishing rough quantities. Unit costs are based on 2016 dollars and were assigned based on historical cost data from TXDOT and other sources. The construction estimates do not include any costs for engineering analysis and design, easement or Right-of-Way acquisition, or the cost for ongoing maintenance. Rough costs were assigned to some general categories such as utility relocations, however these costs can vary widely depending on the exact details and nature of the work. The overall estimates are intended to be general and used for planning purposes. Construction costs will vary based on the ultimate project scope (i.e. potential combination of projects) and economic conditions at the time of construction.

Separate estimates were provided for some projects excluding the cost of signal changes and burying utilities.

ESTIMATED PHASE

Each project is assigned an approximate timeframe for implementation according to the following:

1. Short-Term – 2 to 4 years
2. Medium-Term – 5 to 10 years
3. Long-Term – 11 to 25 years
4. Vision – 26 years or more

The number in the spreadsheet corresponds to the number next to the timeframe above (e.g. 1 = short-term). The case study also makes recommendations improvements in the immediate term (within one year). These include items such as bicycle detection at intersections and bicycle parking at transit stations.

POTENTIAL IMPLEMENTERS AND PROJECT PARTNERS

A draft project list was presented to the Active Transportation Advisory Committee (ATAC) sub-committee on March 31, 2017. The committee discussed how to identify potential project implementers and funding sources. The project list was then updated with this information. In general, potential project implementers are based on the jurisdiction where the project is located and whether TxDOT or the CTRMA controls the road.

POTENTIAL FUNDING SOURCES

Potential funding sources are broadly identified based on project location and improvement type. The broad categories listed are local, regional, state, and Federal.

INTERSECTIONS

The following tables lists specific intersection projects, including costs and improvements.

PROJECT NUMBER	TYPE	PROJECT TYPE	FACILITY/PROJECT NAME	FROM LIMIT	TO LIMIT
1	Spine	New - Shared-use path	183A Frontage Road - Northbound	Brushy Creek Road (N)	Avery Ranch Boulevard (S)
2	Spine	New - Multimodal	183A Frontage Road Northbound	Brushy Creek Trail (N)	Avery Ranch Boulevard. [Lakeline Boulevard (S)]
3	Spine		183A Frontage Road Southbound	Brushy Creek Trail (N)	Avery Ranch Boulevard (S)
4	Rib	New - Crossing	360 N Capital of Texas Highway at Jollyville Road	Loop 360 at Jollyville South	
5	Spine	New - Multimodal	360 N Capital of Texas Highway	Jollyville Road	Great Hills Trail
6	Spine	New - Multimodal	360 N Capital of Texas Highway	At US 183	
7	Rib	Improvement - Multimodal	Anderson Mill Road	US 183	to Spicewood Pkwy (West of US 183)
8	Rib	Improvement - Multimodal	Anderson Mill Road	Spicewood Pkwy	Ranch Road 620 N (West of US 183)
9	Rib	Improvement - Multimodal	Anderson Mill Road	US 183	Saddlebrook Trail (East of US 183)
10	Rib	Improvement - Multimodal	Anderson Mill Road	Saddlebrook Trail	Parmer Lane (East of US 183)
11	Rib	New - Crossing	Angus Road Overpass	Research Boulevard / 183 (W)	Angus Road (E)
12	Spine	Improvement - Multimodal	Arboretum Boulevard	360 N Capital of Texas Hwy.	Jollyville Rd.
13	Spine	Improvement - Multimodal	Bell Boulevard	W. Park Street (N)	Lakeline Boulevard (S)
14	Spine	New - Shared-use path	Brushy Creek Road	Shared Use Path	Bell Boulevard
15	Fabric	New - Multi-modal	Fathom Circle - Barrington Way Connector	Fathom Circle (NW)	Barrington Way (SE)
16	Fabric	New - Multi-modal	Fathom Circle - Barrington Way Connector - Research Boulevard / US 183 Connector	Fathom Circle - Barrington Way Connector (W)	Research Boulevard/183 (E)
17	Support	Improvement - Multimodal	Hymeadow Drive - Pond Woods Road Intersection Realignment	Hymeadow Drive (N)	Pond Woods Road (S)

RECOMMENDED FACILITY TYPE	COST	COST WITHOUT SIGNAL CHANGES AND BURYING UTILITIES	ESTIMATED PHASE	POTENTIAL IMPLEMENTERS/ PARTNERS	POTENTIAL FUNDING SOURCE
10' Shared Use Path on one side	$227,000*		2	CTRMA/Cedar Park	Local/Regional/State
Northbound frontage road with shared use path	See CTRMA cost estimate		4	CTRMA/Cedar Park	Local/Regional/State
Southbound frontage road with shared use path	See CTRMA cost estimate		4	CTRMA/Cedar Park	Local/Regional/State
Grade separation, separated intersection with sidewalks			4	TXDOT/CTRMA	Regional/State/Federal
6' Bike Lanes on each side of N. Capital of TX Hwy. Mill existing stripes and restripe roadway with bike lanes.	$117,000		4	City of Austin/TxDOT	Local/State/Federal
Separated Intersection			4	City of Austin	Regional/State
Separated bike lanes	$6,120,000	$3,600,000	1	Williamson County/ City of Austin	Local/State
Separated bike lanes	$4,800,000	$2,760,000	1	Williamson County/ City of Austin	Local/State
Install separated bike lanes with intermittent raised barrier	$310,000		1	Williamson County/ City of Austin	Local/State
Separated bike lanes	$3,643,000	$2,100,000	1	Williamson County/ City of Austin	Local/State
2-lane overpass with separated bike lanes and sidewalks	$19,440,000		2	City of Austin/ Travis County	Regional/State/Federal
Mill existing striping and paint bike lanes.	$133,000		1	City of Austin/ Travis County	Local
Continue to construct and connect 6' sidewalks as required through code, however the Cedar Park could encourage or require the construction of a 10' Shared Use Path on one or both sides.	$461,000		1	Cedar Park/ TxDOT	Local/State
10' Shared Use Path on one side	$140,000		1	CTRMA/ Cedar Park	Local/Regional/State
A-street section: 2-lane street with bike lanes and on-street parallel parking, street trees, sidewalks	$1,425,000		4	City of Austin	Local
B-street section: 2 lane street with on street parking, street trees, sidewalks	$97,000		4	City of Austin	Local
Construct A-street type extension of both streets with new intersection. The new street segments construction is limited to only realigning the streets and "T"ing the intersection.	$495,000		3	City of Austin/ Williamson County	Local

*Cost of shared use path only

PROJECT NUMBER	TYPE	PROJECT TYPE	FACILITY/PROJECT NAME	FROM LIMIT	TO LIMIT
18	Rib	New - Crossing	Hymeadow Drive Overpass	Hymeadow Drive (W)	Hymeadow Drive (E)
19	Spine	Improvement - Multimodal	Jollyville Road	360 N Capital of Texas Hwy. (N)	Mesa Drive (S)
20	Spine	Improvement - Multimodal	Jollyville Road - 3 lane option (rebuild)	Barrington Way (N)	Great Hills Trail (S)
21	Spine	Improvement - Multimodal	Jollyville Road - 5 lane option	Barrington Way (N)	Great Hills Trail (S)
22	Rib	New - Crossing	Jollyville Road - Angus Road Overpass	Jollyville Road (W)	Angus Road Overpass (E)
23	Spine	Improvement - Multimodal	Jollyville Road - 3 lane option (resurfacing/restriping)	Barrington Way (N)	Great Hills Trail (S)
24	Spine	Improvement - Multimodal	Lake Creek Parkway	Lakeline Boulevard (N)	183 (S)
25	Spine	Improvement - Multimodal	Lake Creek Parkway	183 (E)	N FM 620 (NW)
26	Spine	Improvement - Multimodal	Lake Creek Parkway	Research Boulevard	Lakeline Boulevard
27	Spine	New - Multimodal	Lake Creek Parkway Extension	Avery Ranch Road (N)	Lakeline Boulevard (S)
28	Rib	Improvement - Multimodal	Lakeline Boulevard	US 183	Indigo development (East of US 183)
29	Rib	Improvement - Multimodal	Lakeline Boulevard	Indigo development	Parmer Lane (East of US 183)
30	Rib	Improvement - Multimodal	Lakeline Boulevard	US 183	Rivera Drive W (West of US 183)
31	Rib	Improvement - Multimodal	Lakeline Boulevard	US 183	Buttercup Creek Boulevard (West of US 183)
32	Rib	Improvement - Multimodal	McNeil Drive	US 183	Oak Knoll Drive
33	Rib	Improvement - Multimodal	McNeil Drive	Oak Knoll Drive	Parmer Lane

RECOMMENDED FACILITY TYPE	COST	COST WITHOUT SIGNAL CHANGES AND BURYING UTILITIES	ESTIMATED PHASE	POTENTIAL IMPLEMENTERS/ PARTNERS	POTENTIAL FUNDING SOURCE
2-lane overpass with separated bike lane and sidewalks	$21,168,000		3	City of Austin/ Williamson County	State/Regional
Construct 10' shared use path on east side of roadway, adjacent to existing sidewalk.	$67,000		2	City of Austin/ Travis County	Local/State
Reconstruct and reduce roadway 4 to 2 lanes with center turn lanes, access management, separated bike lanes, and sidewalks	$15,000,000	$11,640,000	2	City of Austin	Local
Reconstruct to 4 lane roadway with median, access management, separated bike lanes, and sidewalks	$42,550,000	$15,650,000	2	City of Austin/ Travis County	Local
2-lane overpass with separated bike lanes and sidewalks	$18,684,000		2	City of Austin/ Travis County	Local/State/Federal
Resurface and restripe roadway from 4 to 2 lanes with center turn lane and separated bike lanes.	$6,600,000	$3,120,000	2	City of Austin	Local
Separated bike lanes on each side and continuous sidewalks, built off the edge of the roadway with a tree lawn buffer and street trees	$1,750,000		2	City of Austin/ Williamson County	Local
Separated bike lanes on each side and continuous sidewalks, built off the edge of the roadway with a tree lawn buffer and street trees	$1,840,000		2	City of Austin/ Williamson County	Local/County
Separated bike lanes on each side and continuous sidewalks, built off the edge of the roadway with a tree lawn buffer and street trees	$1,932,000		2	City of Austin/ Williamson County	Local/County
4 lane divided arterial with Separated bike lanes and sidewalks. Bike lanes are added on each side adjacent to the existing sidewalk	$442,000		2	Williamson County/ City of Austin	Local/State
Separated bike lanes	$665,280		1	City of Austin/ Williamson County	Local/County
Shared use path	$1,442,000		1	City of Austin/ Williamson County	Local/County
Separated bike lanes	$920,000		1	City of Austin/ Williamson County	Local/County
Separated bike lanes	$2,495,000		1	City of Austin/ Williamson County	Local/County
Separated bike lanes	$5,520,000	$3,360,000	1	City of Austin/ Counties	Local/County
Separated bike lanes	$2,280,000	$1,314,000	1	City of Austin/ Williamson County	Local/County

PROJECT NUMBER	TYPE	PROJECT TYPE	FACILITY/PROJECT NAME	FROM LIMIT	TO LIMIT
34	Rib	No change	McNeil Drive	Parmer Lane	McNeil Round Rock Road
35	Fabric	New - Multimodal	McNeil Drive - Oak Knoll Drive Connector	McNeil Drive (NW)	Oak Knoll Drive (SE)
36	Spine	No change	Mesa Drive	Spicewood Springs Road	Jollyville Road
37	Spine	No change	Metric Boulevard	Gold Wing Drive (connection to North Star Greenbelt)	W. Braker Lane
38	Spine	Improvement - Multimodal	New shared Use Path/Trail segment	Lakeline Boulevard	Brushy Creek Trail
39	Rib	New - Crossing	Oceanaire Boulevard - Hunters Chase Drive Overpass	Oceanaire Boulevard (W)	Hunters Chase Drive (E)
40	Spine	Improvement - Multimodal	Pecan Park Boulevard	S. Lakeline Boulevard (N)	SH45 N FM 620 (S)
41	Spine	Improvement - Multimodal	Pecan Park Boulevard	SH45 N FM 620 (N)	183 (E)
42	Spine	Improvement - Multimodal	Pecan Park Boulevard	183 (W)	Lake Creek Parkway (SE)
43	Fabric	New - Multimodal	Pecan Park Boulevard - SH45 Connector	SH 45 (N)	Pecan Park Boulevard (S)
44	Fabric	New - Multimodal	Pecan Park Boulevard - SH45 Connector - Lake Creek Parkway Connector	Pecan Park Boulevard - SH 45 Connector (W)	Lake Creek Parkway (E)
45	Spine	Improvement	Pond Springs Road	183 (N)	San Felipe Boulevard (S)
46	Spine	Improvement	Pond Springs Road	Research Boulevard	Research Boulevard
47	Fabric	New - Multimodal	Pond Woods Road Extension	Copper Creek Drive (N)	Shady Oaks Drive (S)
48	Fabric	New - Multimodal	Research Boulevard / 183 - San Felipe	Research Boulevard / 183 (SW)	San Felipe Boulevard (NE)
49	Fabric	New - Multimodal	Research Boulevard / 183 - San Felipe (extension to Los Indios)	Research Boulevard / 183 (SW)	San Felipe Boulevard/Los Indios extension (NE)
50	Spine	Improvement	Research Boulevard Shared Use Path	Pond Springs Road	Lake Creek Parkway
51	Rib	New - Crossing	Riata Trace Parkway Overpass	Pavilion Boulevard (SW)	Riata Trace Parkway (NE)
52	Support	New - Multimodal	Riata Trace Parkway Realignment	Research Boulevard / 183 (W)	Alameda Trace Circle (E)
53	Fabric	New - Multimodal	San Felipe Boulevard - Connection to Los Indios Trail	Research Boulevard (SW)	San Felipe Boulevard & Los Indios Trail (NE)
54	Fabric	New - Multimodal	San Felipe Boulevard - Lobelia Drive Extension / Connector	San Felipe Boulevard (SW)	Lobelia Drive (NE)
55	Fabric	New - Multimodal	San Felipe Boulevard (extension to Los Indios Trail)	San Felipe Boulevard & Pond Springs Road (W)	Los Indios Trail (E)
56	Spine	Improvement	Shared Use Path adjacent US 183	Barrington Way	Pond Springs Road
57	Rib	Improvement	Spicewood Springs Road	US 183	Scotland Well Drive
58	Spine	Improvement	W. Anderson Lane/Spicewood Springs Road	Shoal Creek Boulevard	Mesa Drive

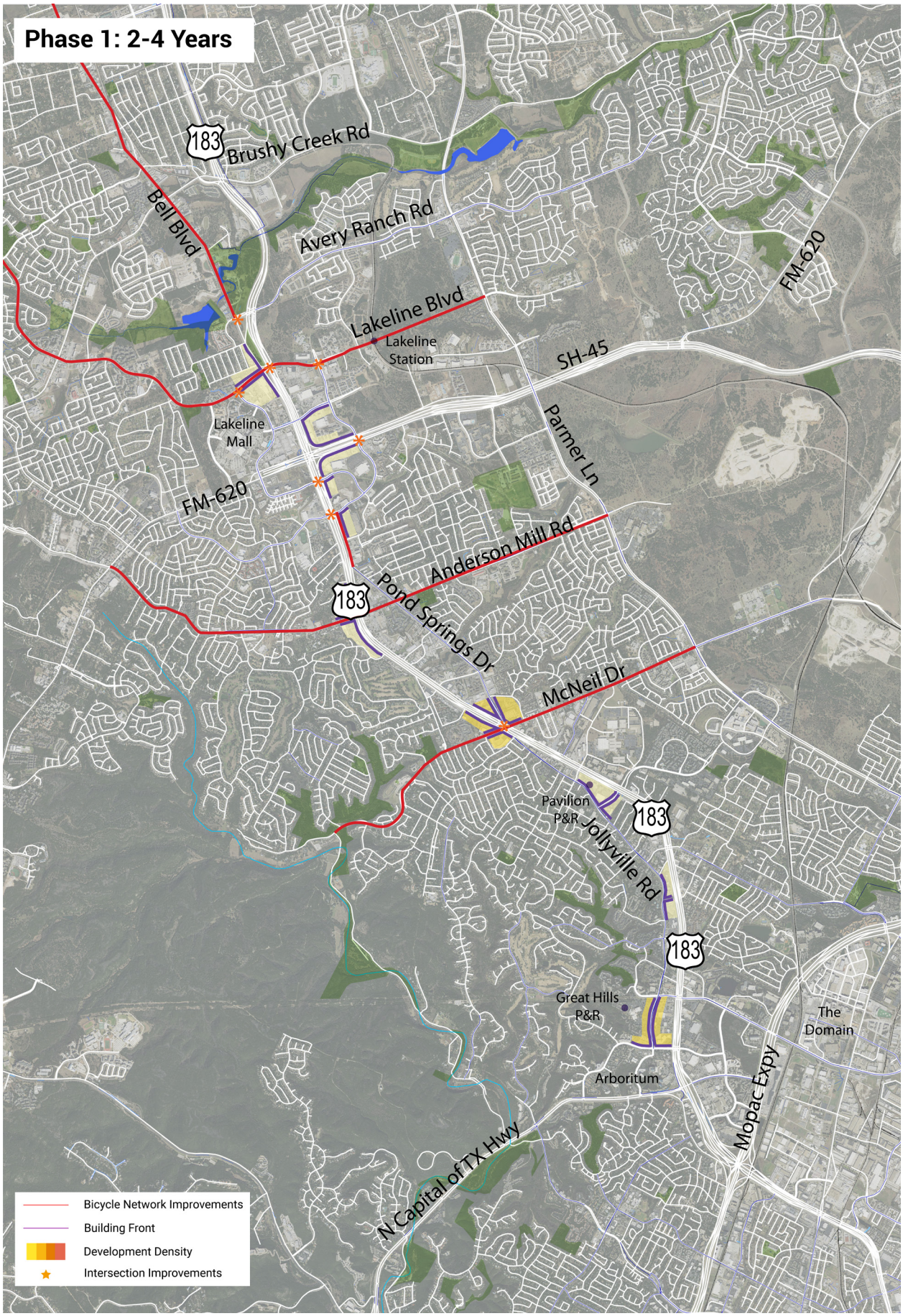
RECOMMENDED FACILITY TYPE	COST	COST WITHOUT SIGNAL CHANGES AND BURYING UTILITIES	ESTIMATED PHASE	POTENTIAL IMPLEMENTERS/ PARTNERS	POTENTIAL FUNDING SOURCE
No change (separated bike lanes)	NA		1	City of Austin and Counties	Local/County
2-lane overpass with separated bike lanes and sidewalks	$3,285,000		3	City of Austin	Local
No change (buffered bike lane)	NA		4	City of Austin/ Travis County	NA
No change	NA		4	City of Austin/ Travis County	NA
Shared Use Path/trail on one side	$665,000		2	City of Austin/ Williamson County	Local
2-lane overpass with separated bike lane and sidewalks	$18,684,000		3	City of Austin/ Travis County / Williamson County	Local/State/Federal
Construct continuous sidewalks on both sides and separated bike lanes	$1,055,000		2	City of Austin/ Williamson County	Local/County
Construct separated bike lanes	$724,000		2	City of Austin/ Williamson County	Local/County
Construct separated bike lanes	$519,000		2	City of Austin/ Williamson County	Local/County
Construct B Street	$366,000		2	City of Austin/ Williamson County	Local/County
Construct B Street	$280,000		2	City of Austin/ Williamson County	Local
Realign and construct 2 lane street with center turn lane, separated bike lanes and sidewalks	$5,925,000		2	City of Austin/ Williamson County	Local/County
Separated bike lane	$8,280,000	$6,820,000	2	City of Austin/ Williamson County	Local/County
Construct continuous sidewalks and separated bike lanes	$160,000		3	City of Austin	Local/Regional/State
Construct B Street	$186,000		3	City of Austin/ Williamson County	Local/County
Construct B Street	$123,000		3	City of Austin/ Williamson County	Local/County
10’ Shared use path on east side	$277,000		1	CTRMA	Regional/CTRMA
2-lane overpass with separated bike lane and sidewalks	$19,440,000		3	City of Austin/ Travis County	Regional/State/Federal
Realign and construct separated bike lanes and sidewalks	$463,000		3	City of Austin/ Travis County	Local/County
Construct B Street	$241,000		3	City of Austin/ Williamson County	Local/County
Construct B Street	$694,000		3	City of Austin/ Williamson County	Local/County
Construct A Street (bike lane and sidewalks)	$2,271,500		3	City of Austin/Williamson County	Local/County
Shared use paths	$167,000		2	CTRMA	Regional
Separated bike lanes	$6,960,000	$4,500,000	1	City of Austin	Local
Separated bike lanes	$1,925,000		3	City of Austin/Travis County	Local/County

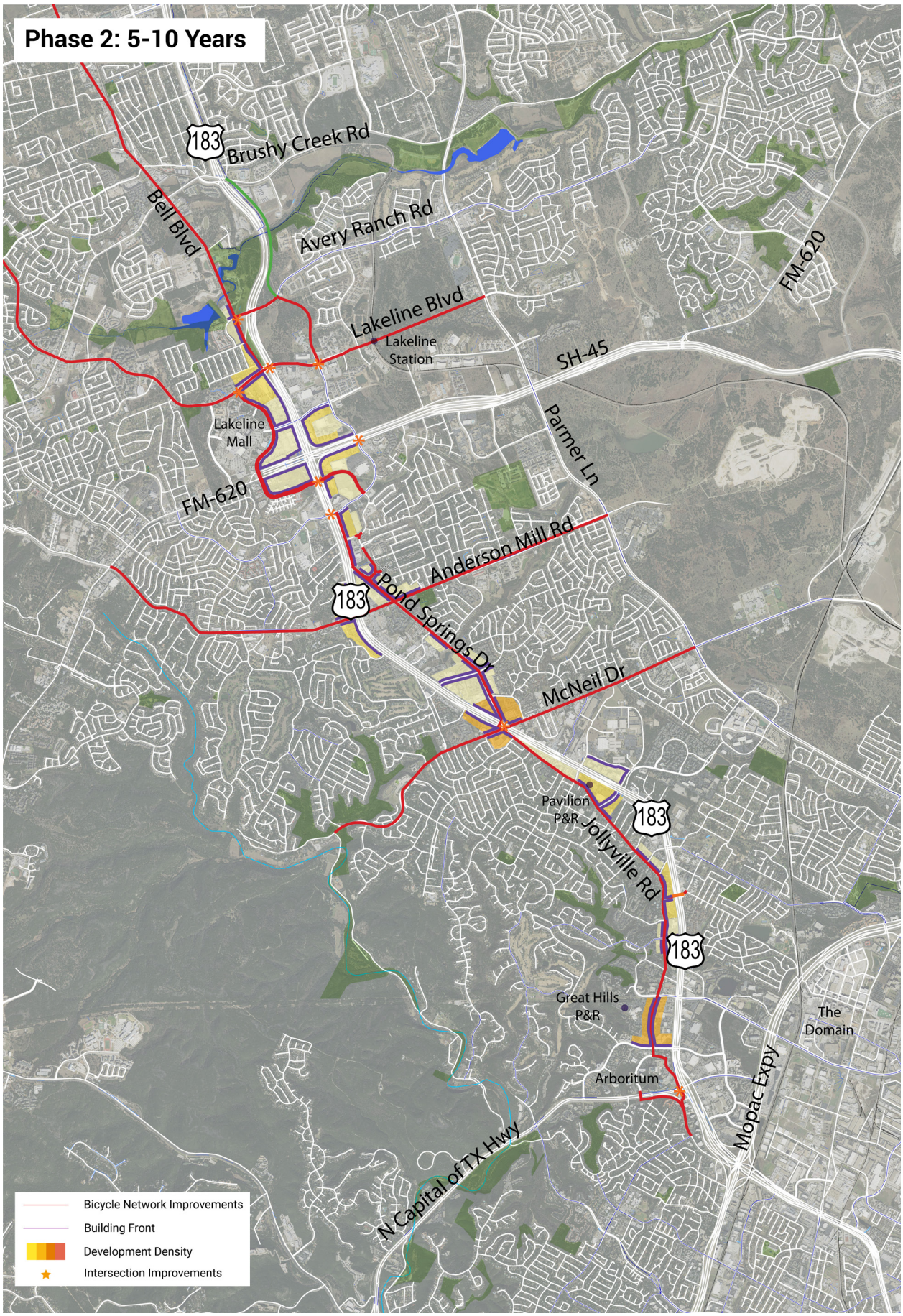
PROJECT NUMBER	TYPE	PROJECT TYPE	FACILITY/PROJECT NAME	FROM LIMIT	TO LIMIT
59	Spine	Improvement - Multimodal	W. Braker Lane	Jollyville Road (W)	US 183 (E)
60	Spine	Improvement - Multimodal	W. Braker Lane	183 (W)	Loop 1 MoPac Service Road (E)
61	Spine	Improvement - Multimodal	W. Braker Lane	Loop 1 MoPac Service Road (W)	Burnet Road (E)
62	Support	New - Multimodal	W. Rundberg Lane Extension	MoPac Expressway (W)	W. Rundberg Lane (E)
63	Spine	New - Multimodal	W. Braker Lane	Metric	US 183

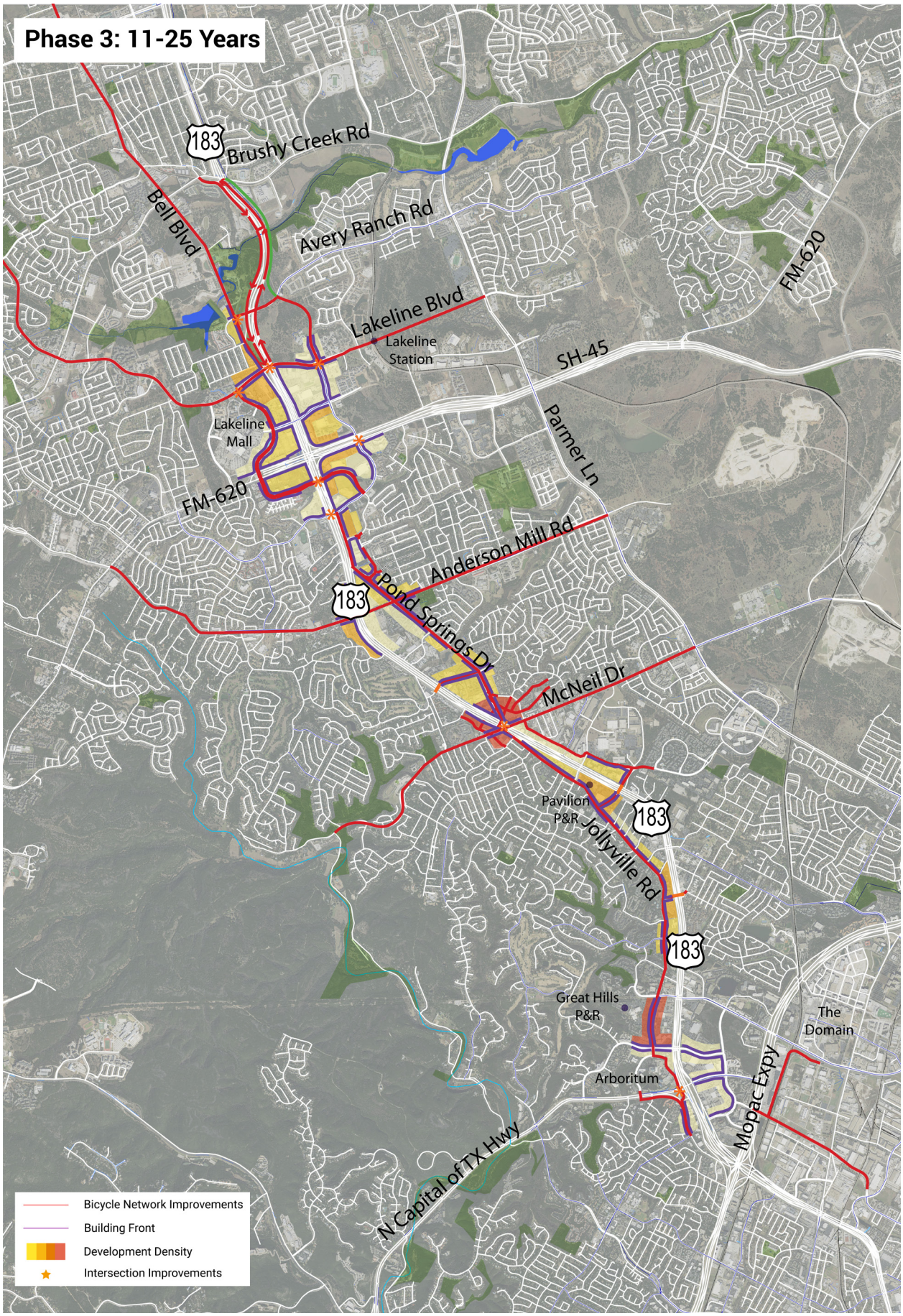
RECOMMENDED FACILITY TYPE	COST	COST WITHOUT SIGNAL CHANGES AND BURYING UTILITIES	ESTIMATED PHASE	POTENTIAL IMPLEMENTERS/ PARTNERS	POTENTIAL FUNDING SOURCE
Construct separated bike lanes	$293,000		4	City of Austin/ Travis County	Local
Continuous sidewalks on both sides; separated bike lanes	$1,256,000		4	City of Austin/ Travis County	Local
Continuous sidewalks on both sides; separated bike lanes	$979,000		4	City of Austin/ Travis County	Local
Construct new 2- 4 lane undivided arterial with continuous sidewalks and separated bike lanes on both sides, and an overpass at MoPac	$1,654,000		3	TXDOT/COA	Regional/State/Federal
Separated bike lane	$3,564,000		4	City of Austin	Local/State

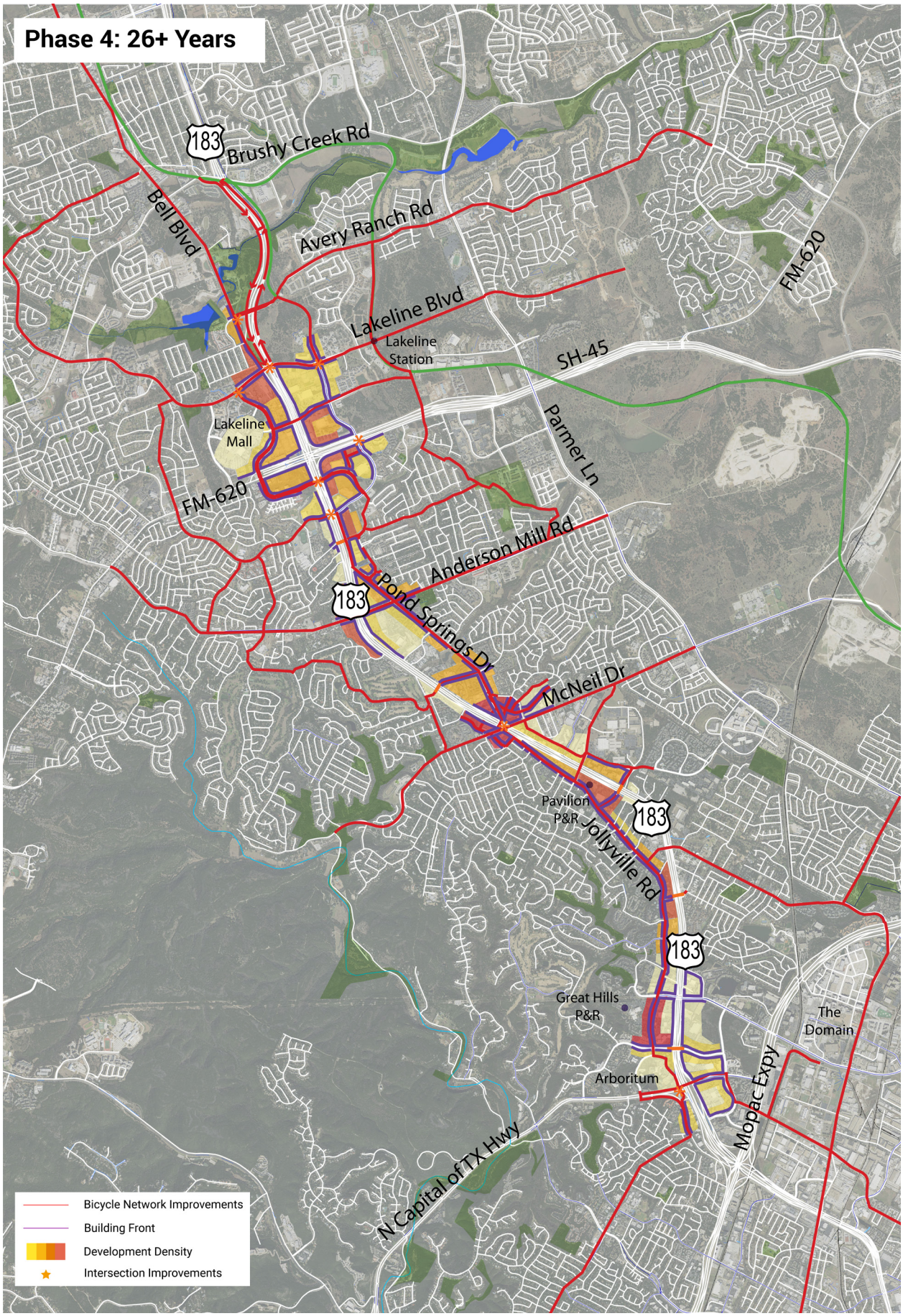
TRANSECT: DEVELOPMENT AND BUILDING FRONTAGE OVER TIME

The recommendations in this Case Study should be implemented over the next 25 or more years. The following “transects over time” shown on pages 91-94 show a proposed phase approach to projects and redevelopment. Note that implementers should be opportunistic and some projects or development opportunities may appear sooner or later than that indicated below.


Phase 1: 2-4 Years
183
Brushy Creek Rd
Bell Blvd
Avery Ranch Rd
FM-620
Lakeline Blvd
Lakeline Station
SH-45
Lakeline Mall
Parmer Ln
FM-620
Anderson Mill Rd
183
Pond Springs Dr
McNeil Dr
Pavilion P&R
183
Jollyville Rd
183
Great Hills P&R
The Domain
Arboritum
Mopac Expy
N Capital of TX Hwy
Bicycle Network Improvements
Building Front
Development Density
Intersection Improvements


Phase 2: 5-10 Years
183
Brushy Creek Rd
Bell Blvd
Avery Ranch Rd
FM-620
Lakeline Blvd
Lakeline Station
SH-45
Lakeline Mall
Parmer Ln
FM-620
Anderson Mill Rd
183
Pond Springs Dr
McNeil Dr
Pavilion P&R
183
Jollyville Rd
183
Great Hills P&R
The Domain
Arboritum
Mopac Expy
N Capital of TX Hwy
Bicycle Network Improvements
Building Front
Development Density
Intersection Improvements


Phase 3: 11-25 Years
183
Brushy Creek Rd
Bell Blvd
Avery Ranch Rd
Lakeline Blvd
Lakeline Station
SH-45
FM-620
Lakeline Mall
Parmer Ln
FM-620
Anderson Mill Rd
183
Pond Springs Dr
McNeil Dr
Pavilion P&R
183
Jollyville Rd
183
Great Hills P&R
The Domain
Arboritum
Mopac Expy
N Capital of TX Hwy
Bicycle Network Improvements
Building Front
Development Density
Intersection Improvements


Phase 4: 26+ Years
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