

**THE
UNIVERSITY
OF TEXAS
AT
SAN ANTONIO**

**BICYCLE
MOBILITY
PLAN**



Facilities Planning and Development
One UTSA Circle
San Antonio, Texas 78249
210.458.4933 T
210.458.4266 F
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The University of Texas at San Antonio 2009 master plan incorporates principles for transportation into the design of long term development. Outside loop roads will have on surface bike lanes as will major entrance points. Interior roads will have either bike lanes or multimodal sidewalks. These improvements are meant to be added as new road segments are built. The new Science and Engineering Building, under construction at the time of this proposal, is designed with multimodal 10 foot paths, bike racks and a dismount bicycle parking zone. An effort to improve bicycle mobility on campus more expeditiously has resulted in a Bicycle Facility Planning Project.

This document reviews existing campus bicycle assets in order to propose improvements to bicycle facilities. The document identifies a scope and methodology on page 4.

The intent of this proposal is to provide a plan and estimate of cost for proposed bike shared path, signage to improve the safety of pedestrians, bicyclists, skateboard users and other alternative modes of transportation, and to assess the need for additional bicycle assets such as bike racks, skateboard locks, tool racks and air compression stations.

This document shows examples of signage at entrances, stencils for shared use paths, and lists an estimated cost for the development of signage and shared paths. A series of bike racks are listed and a recommendation for a standard is included.

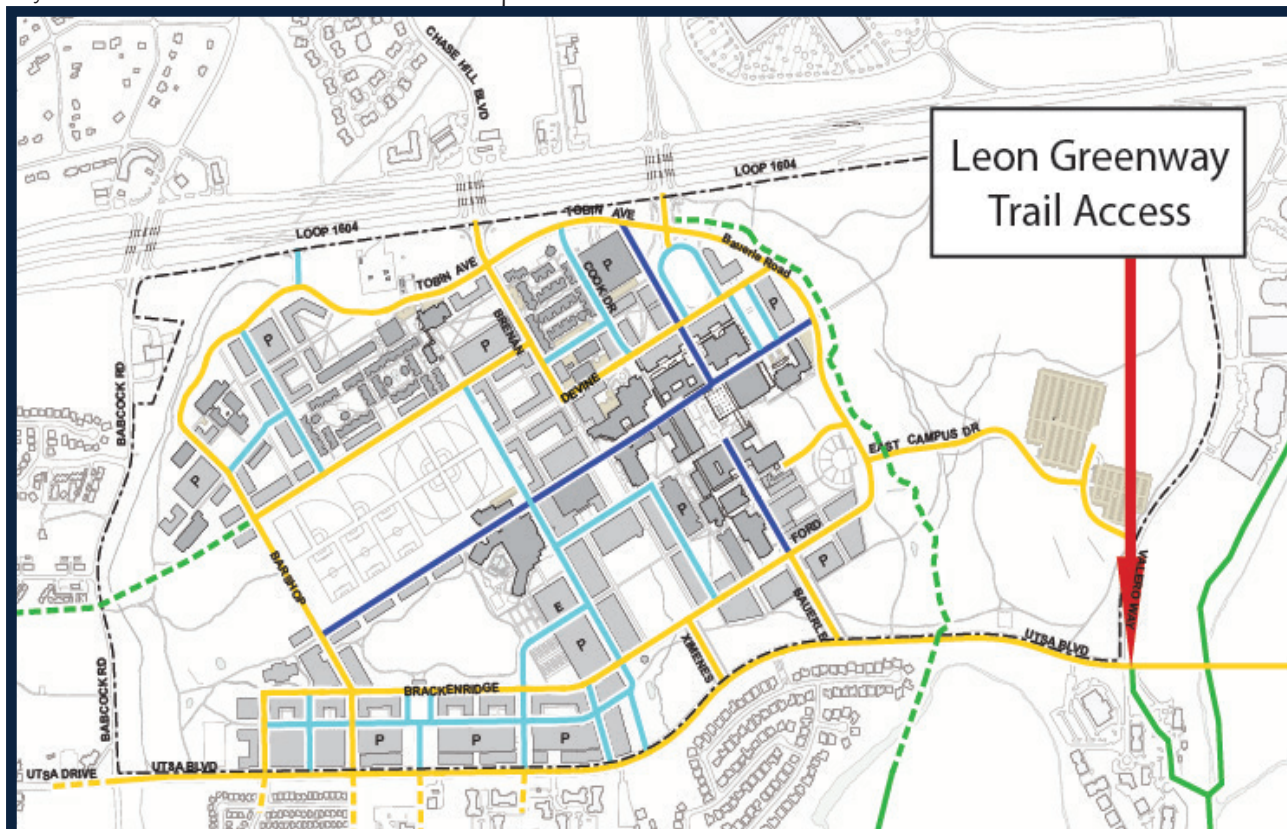
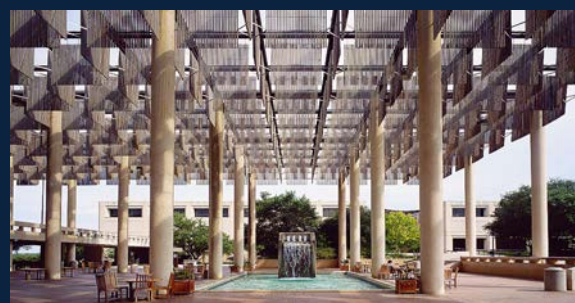


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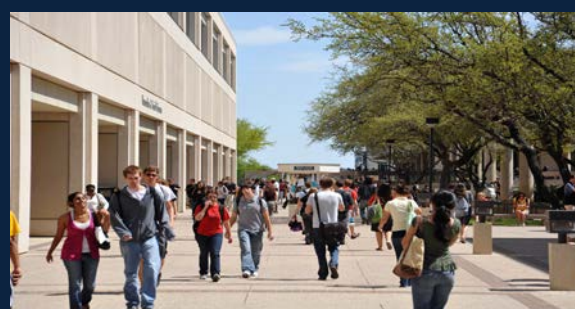
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Growth: Bicycles are a popular transportation mode in college communities. Bicycles provide a means to lower traffic and parking congestion. Bicycle riders are a diverse mix including commuter bicyclists, occasional riders, recreation riders and those who use bicycles as a means of exercise. With the addition of City of San Antonio Greenway pathways and the City's new multimodal sidewalks on UTSA Blvd. and Hausman Road, ridership has grown tremendously on, to, and through, campus. UTSA's bicycle facilities must also grow.



Facilities: University Facilities are assets integral to the quality of campus life. The condition, modernization, quality, number and accessibility of parking, bus stops, sidewalks, lighting, furniture, trees and vegetation, water fountains, signage, etc., cumulatively amount to the livability of the campus environment. All these things impact student retention and student success. This is a study of our assets to plan out proposed improvements in bicycle facilities.



Assessment: Assessment includes: bikeable paths, bikeable streets, multimodal paths around campus, bike racks and bike destinations on campus and who is riding and where they are going. That information was used to determine where bicycle users were headed and to make recommendations on proposed improvements to bike facilities. Along with these proposals, ways to alert drivers of bicycles on pavement were considered. Lastly, shared use pedestrian and bicycle paths through parking lots is proposed.



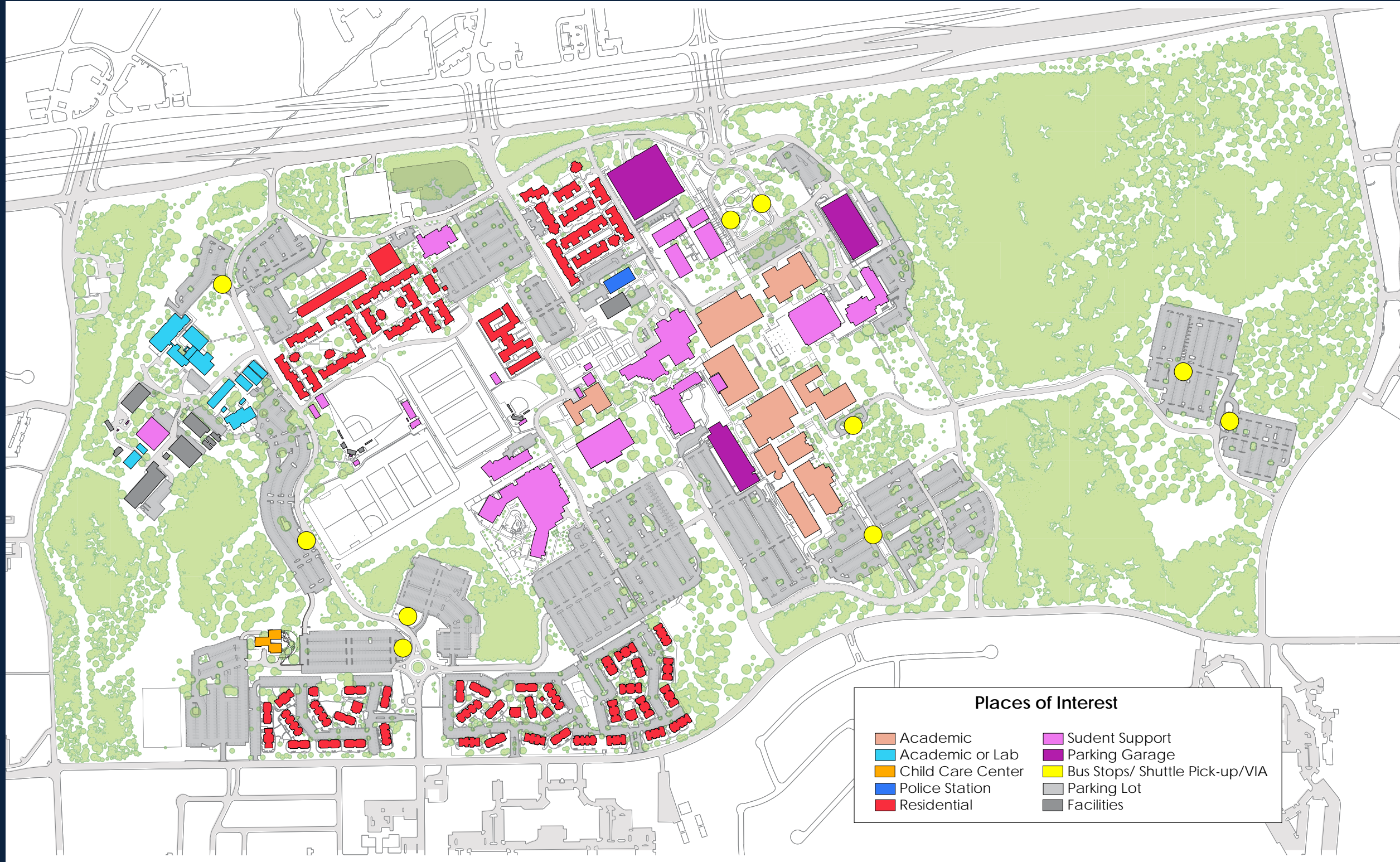
Bike Racks: Bicycle transportation includes bicycle parking. Campus policy requires bikes to be parked in bike racks. The addition of new buildings on campus and the increase in riders requires a need for additional bike racks around campus. Additionally, the standard campus bike rack is a mult-use rack with spaces too tight for today's wide bicycles. This proposal will look at existing bike racks and propose new racks and new bike rack types and propose bike rack standards are added to the Standards for Construction and included on Capital projects.



Master Plan: UTSA's 2009 Master Plan points out that not many students bike to campus. It lists, distance, safety and lack of bicycle accommodations as the primary deterrents. The master plan points out there is an opportunity to improve bicycle connections, facilities and incorporate them into the street network. Recent improvements around campus such as the UTSA Blvd. hike and bike path, and its connection to the Leon Greenway, justify an assessment of UTSA's biking facilities, and this proposal, for shared use lanes on campus.

Bicycle Facility Planning

Campus Destinations & Points of Interest



Destinations: When considering bicycle facility planning, and which roads would be shared, we wanted to account for where bikers would be traveling.

1. This map shows campus facilities by category, student support facilities, residential and academic facilities are located mostly around the core of campus.

2. Biking facilities are primarily to facilitate alternative transportation corridors. The campus destinations evaluation shows us where traffic is headed and offers us information on which segments are most used.

3. Destinations are ranked with academic buildings on the campus core as top destination. Parking garages are ranked lower than student support destinations and academic labs as high as academic core because we felt, what better way to get across campus than biking.

4. Student housing and residence halls are a top destination but sidewalks are likely more used than streets to access.

5. Other points of interest include dining facilities and athletic and recreational sports facilities.

Campus Entrance Points and Roadways

Roadways: This assessment, is to determine if roadways could be used as shared use paths with vehicular traffic. Roads are depicted by use: LOW, MODERATE and MAJOR use.

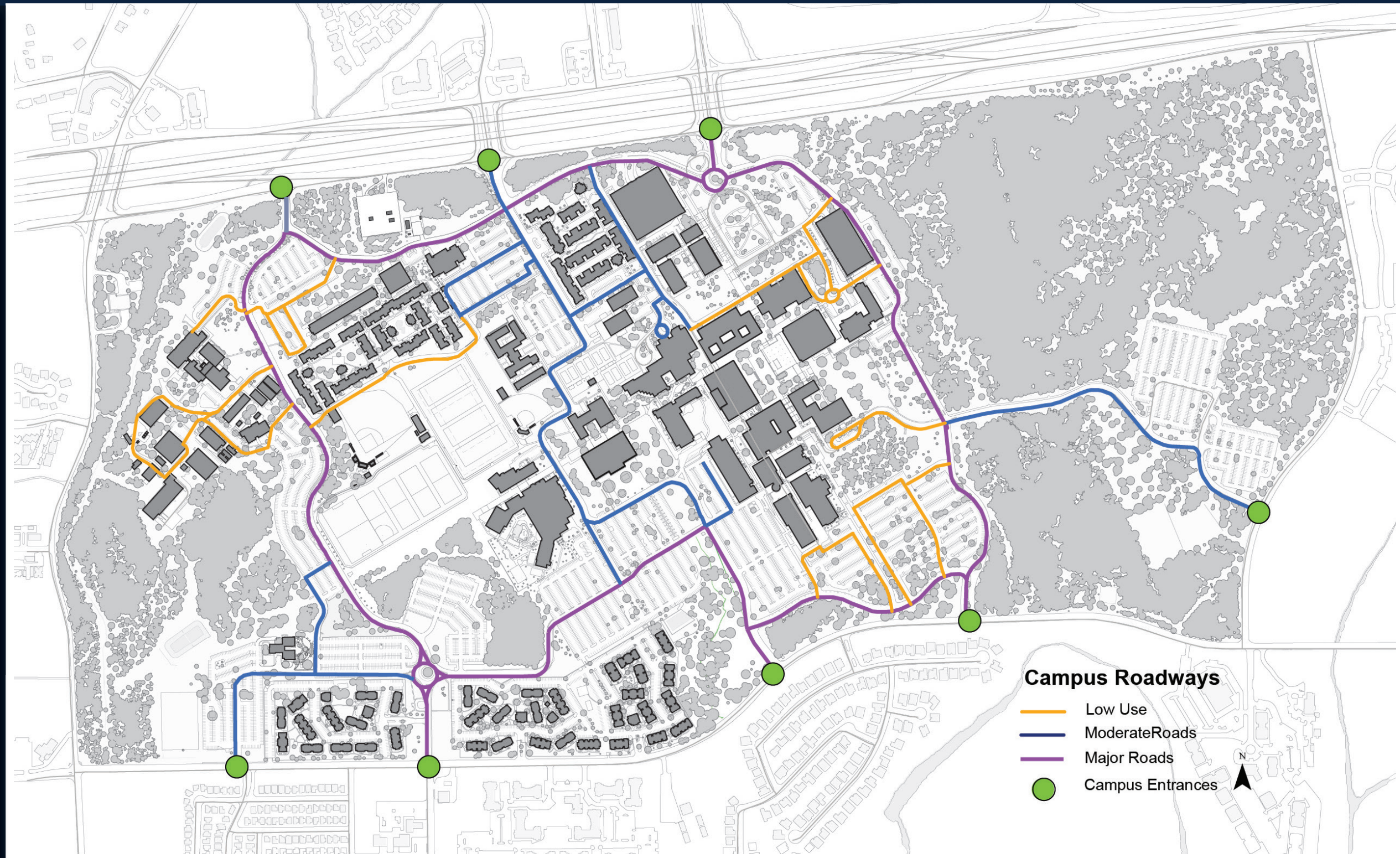
1. Because all roadways are maximum speed of 20 MPH, and parking lots are 10 MPH, all roadways are acceptable shared use.

2. Campus entrance points were weighed with road use. Those roads connected to entrances were thought to have additional importance.

3 Major use roadways are main thoroughfares providing the most direct routes to prime destinations. All Major roadways should be shared use paths.

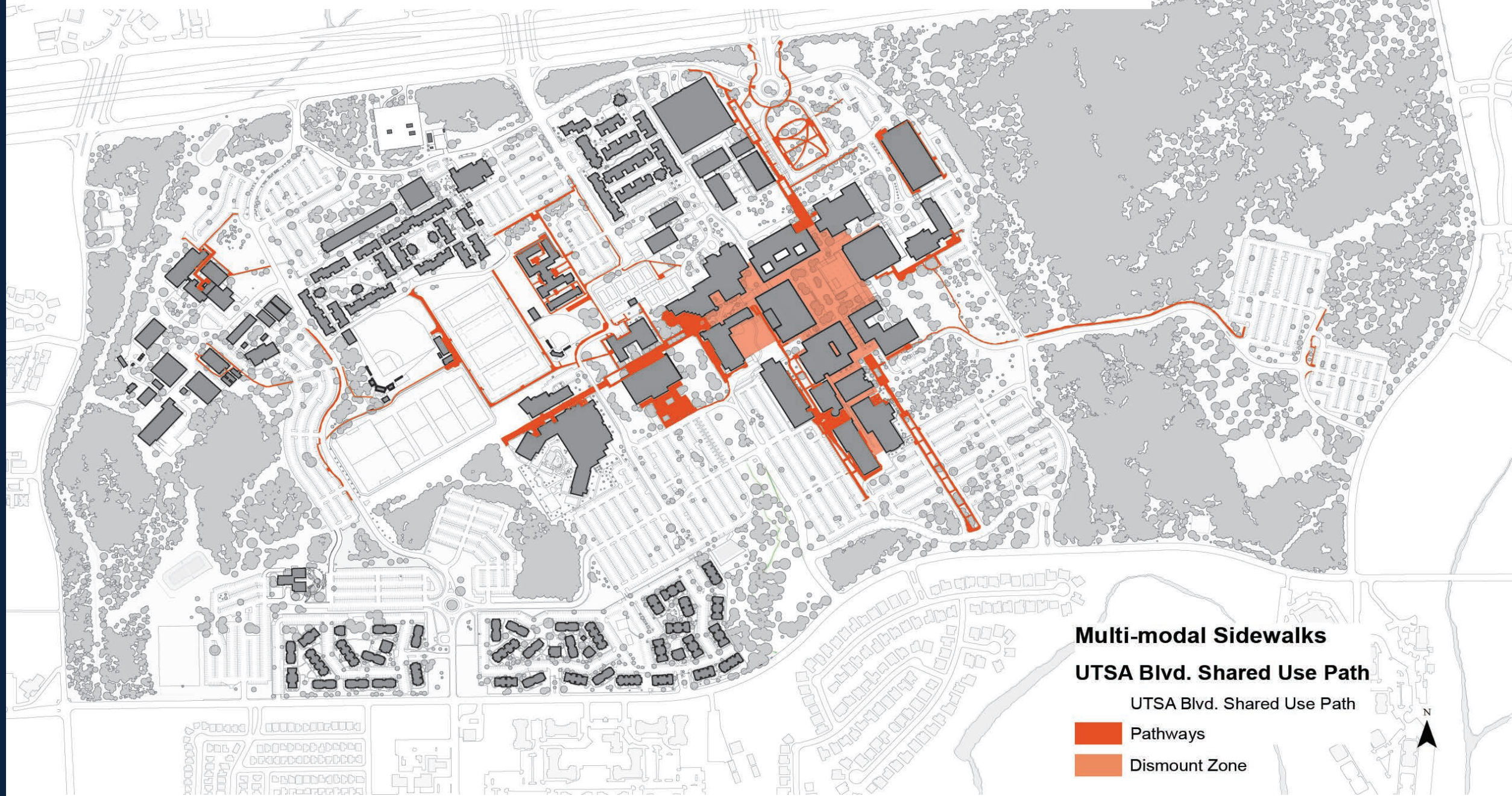
4. Moderate use roadways needed further analysis against destinations and condition to see if multimodal sidewalks were more appropriate avenues for bikes or if the same route is accomplished with Major roadway shared path.

5. Most Low use roadways, when compared to sidewalks, will be excluded from shared use paths. See the resulting proposed shared use path map on page 10.



Sidewalks, Paseos, and Dismount Zone

Campus Core Dismount Zone: This area contains the academic core where most classes are held. Because this area contains the busiest part of the campus with pedestrian activity from early morning throughout the day into the early evening, this area is a dismount zone.



Sidewalks: For this assessment, only sidewalks 6' and wider are appropriate for multimodal pathways. Otherwise, shared use street routes are recommended.

1. Due to the stairs into campus core from JPL, Arts on the Paseo, UC/MS, the upper Central Plaza and Sombrilla areas were determined to be best served by a dismount zone.

2. While sidewalks near housing are heavily used by pedestrians, their size coupled with the number of users on bicycles and skateboards warranted allowing multimodal modes of travel. By-pass sidewalk adjacent to the ARH and the 10' sidewalk from Chapparral to Brenan are examples.

3. Paseos are multimodal paths except in the dismount zone.

4. MUTCD standards prohibit roundabouts from being shared use paths. Sidewalks around roundabouts and in and around the oval bus loop should be multimodal.

Bicycle Facility Planning

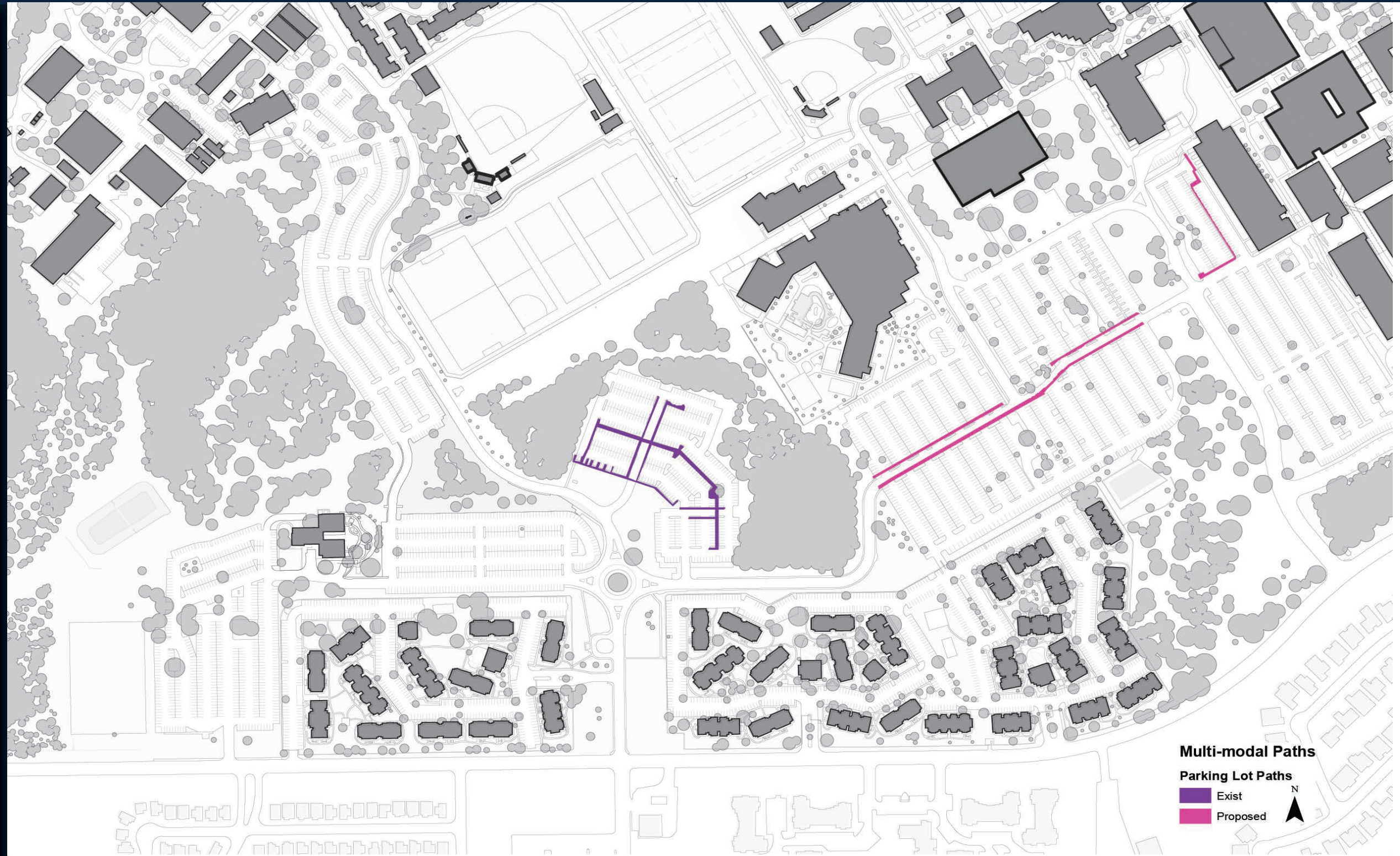
Multimodal Pathways

Multimodal Pathways: Parking is at a premium at UTSA. While shared use paths will assist bikers getting around campus, this assessment identified another long needed pathway. Brackenridge Lot 3 has a 10 foot wide pedestrian striping throughout the parking lot that allows pedestrians to park and walk within a designated pedestrian path-way.

Ximenes Lot has end cap striping on the first row of parking spaces that should be used for this purpose but needs re-striping, signage identifying the intended use, and crosswalk striping. This striping would corral pedestrians into a designed pathway and could alleviate wayward wondering bikers and pedestrians.

Proposed:

1. Striped pedestrian paths become a campus standard in parking lots when sidewalks are not possible.
2. These existing areas are identified and signage is proposed.
3. Brackenridge Lots 1 and 2, also have end cap striping, but need re-striping, crosswalks and signage to designate a multi-use path.



Proposed Multimodal Path in BK 1 & 2



Proposed Multimodal Path:

Currently in BK 1 & 2, the parking lot has existing end cap striping 8' wide. To improve pedestrian and biker's connectivity to the campus; we recommend:

1. The end caps are re-striped in the AASHTO standard biking green.
2. The path is minimum 8' wide.
3. Signage is installed to designate Pedestrians on the Right, Bikers Left, and Pedestrians have the Right of Way.
4. White crosswalk paths are added to the striping.



Proposed Shared Use Paths

Proposed Pathways: At right:

1. The map depicts Green Lanes proposed as shared use pathways. These pathways will utilize existing street segments for both vehicular and biking.

2. Blue is either a shared use street segment in BK 1 and 2 lots, or it would be a continuation of the shared use pathways.

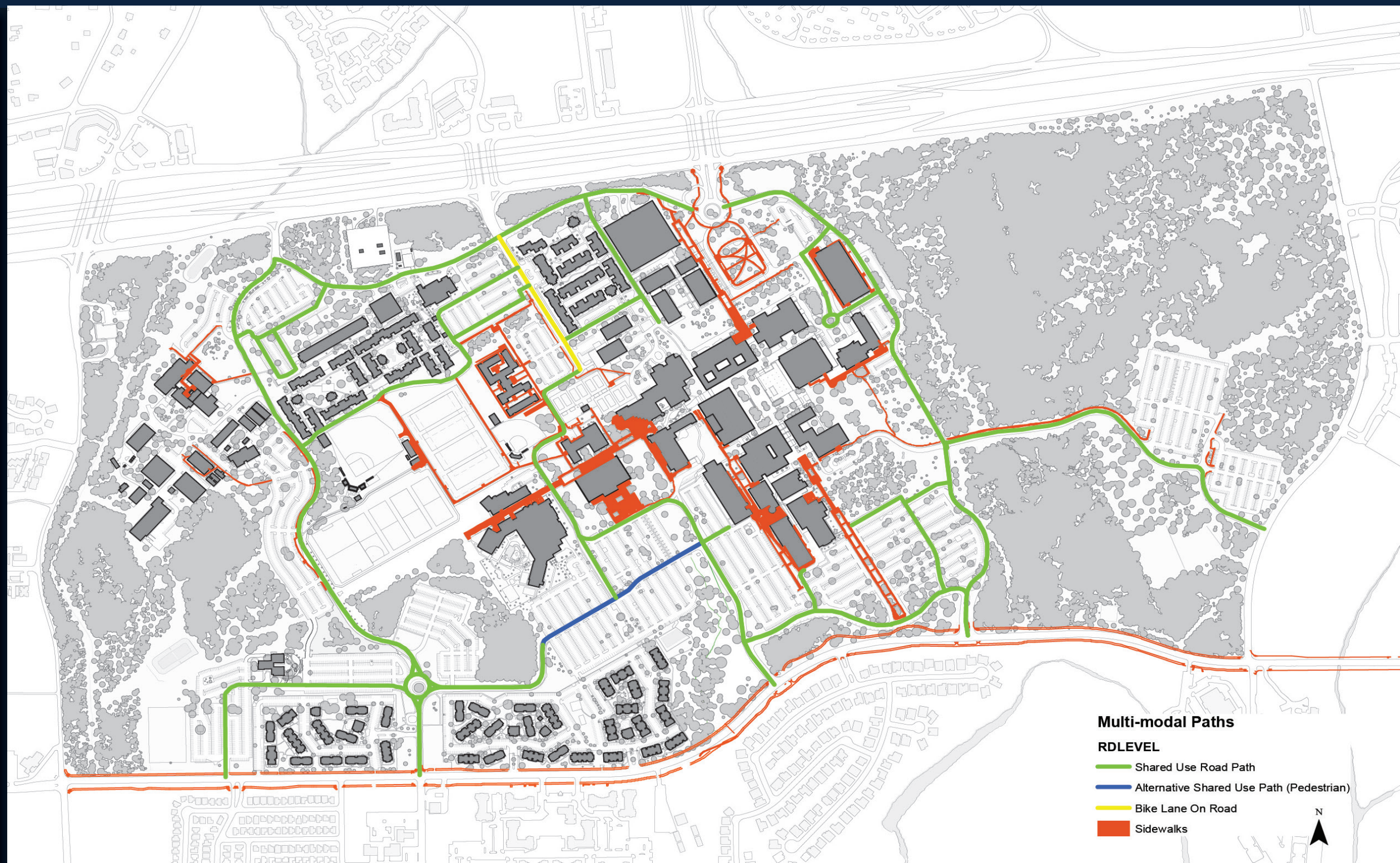
3. Yellow is the addition of a designated on street bike lane. These segments of Brenan Road are 48 feet wide and have enough space to add a center striped designated bike lane. This will slow traffic on Brenan and provide bike lanes where the width of the street allows.

4. Other streets were not proposed as shared use bike lanes where sidewalks allow for biking.

5. East Campus roadway is heavily used by pedestrians. Due to the use and hilly topography, it would be beneficial to have both the multi-modal and shared use pathway.

6. The Oval sidewalks are multimodal.

7. Chapparral Firelane should be closed to thru traffic except biking, pedestrians, and emergency vehicles.



Shared Pathway Examples



Brenan Avenue



Tobin Avenue



Tobin Avenue



Bosque Drive



Brackenridge Avenue



Barshop Road



Brackenridge Lots 1&2



BK 1 & 2 Lot Existing Stripe

Shared Pathways:

The following images show examples of on street shared use pathway markings. While informative, the markings aren't any more distracting from campus aesthetics than signage.

Brackenridge Lots 1 & 2 image depicts striping proposed to replace existing yellow end cap striping shown in image BK 1 & 2 Lots Existing Stripe.

Shared use paths are vehicular street lanes that would allow bicycles to use the full lane.

1. Bicycles would have right of way.
2. UTSA Police would be asked to enforce violations.
3. Slower riders will be instructed to move to the right and allow vehicles to pass.
4. Both Rider and Drive education programs and marketing campaigns to share the road are recommended.
5. Size of striping of shared use stencil and the distance between placement is recommended by MUTCD.

Stencil for Shared Use Lanes

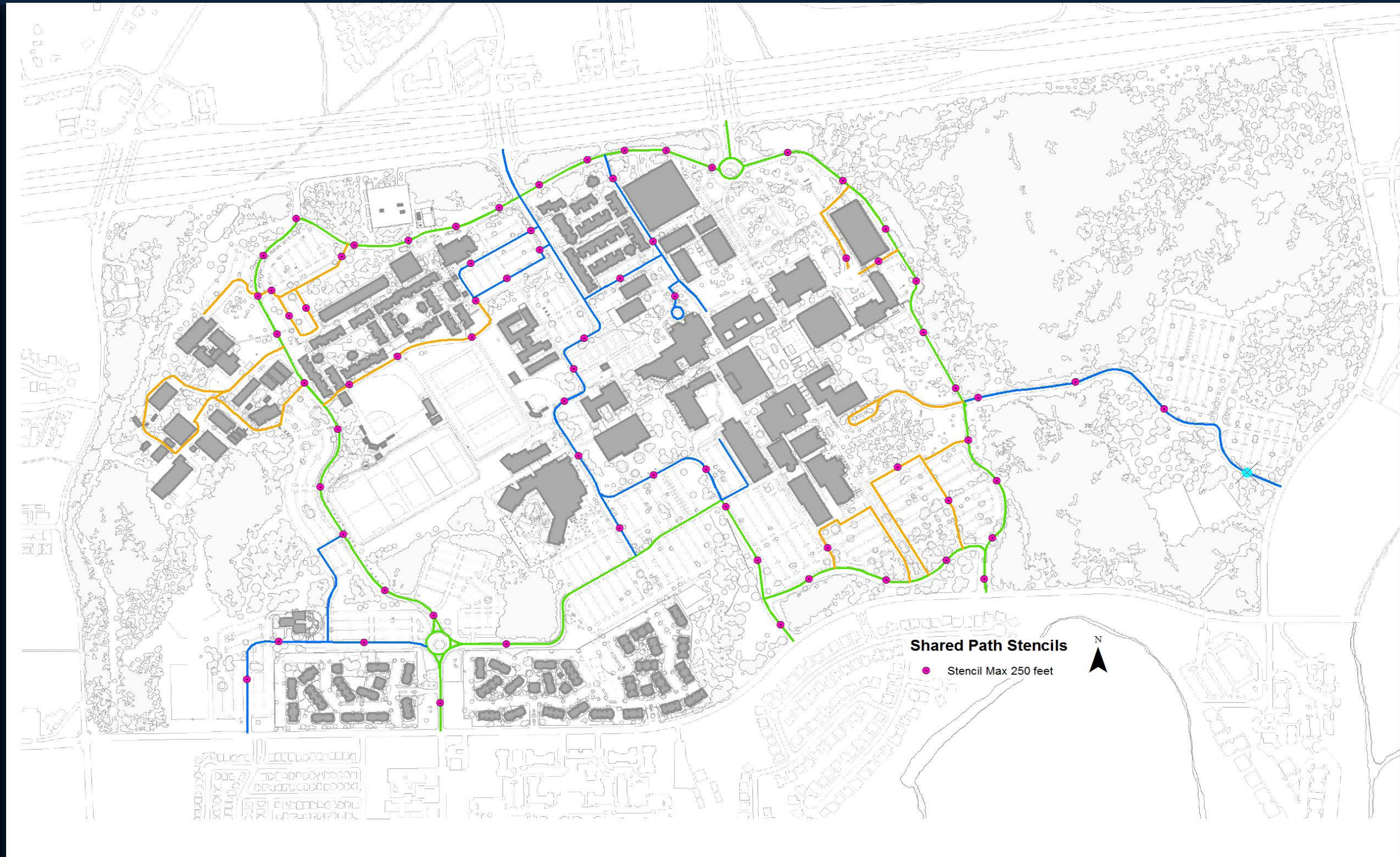
Shared Use Lane Stencil:

Based on the amount of linear roadway that will be used as shared path, 73+/- stencils will be required.

1. MUTCD standards dictate that the signs will be no more than 250 feet apart.

2. There are areas where intersecting roads require more stencils than the maximum 250 feet separation.

3. Roundabouts are not to be designated as shared path, this would be an area where bikers would use the crosswalks.



MUTCD Signage Examples



WHY OPEN SIDEWALKS MATTER?

Safety: Blocked sidewalks force people and pets into the street where drivers do not expect them to be.

Equity: One car blocks the sidewalk for all; a small minority creates a negative impact on the vast majority.



Access: Sidewalks are owned by the public and a significant source of open space allocated to pedestrians and wheelchairs.

Liability: "Going around" requires people to move to the sloped portion of the driveway where they are more likely to fall on your property.

Economy: Walkable sidewalks create neighborhoods where local businesses thrive and property values increase.

Liveability: Unobstructed sidewalks nurture the social fabric of our city as neighbors meet while walking and deter crime through visible activity.

Please help by doing your part to keep the Houston sidewalk grid open and accessible to all.

For more information, visit www.uqic.org

VIOLATION

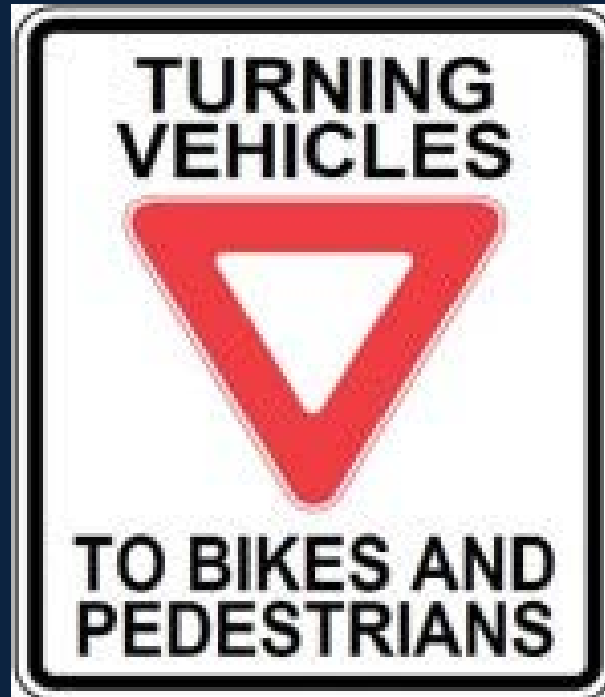
Notice of Illegal Parking

Please keep our city's sidewalks open and clear.

This is not a real ticket. If this were an actual ticket, you would be fined \$200 to \$500 for parking on the sidewalk.

BLOCKED SIDEWALKS ARE ILLEGAL UNDER THE CITY OF HOUSTON ORDINANCE SEC. 40-362:

"It shall be unlawful for any person to place, cause, or allow any impairment or obstruction of a sidewalk or roadway, except as authorized by a permit."



#2 Bikes Have Right of Way



#3 Placed at all Entrances

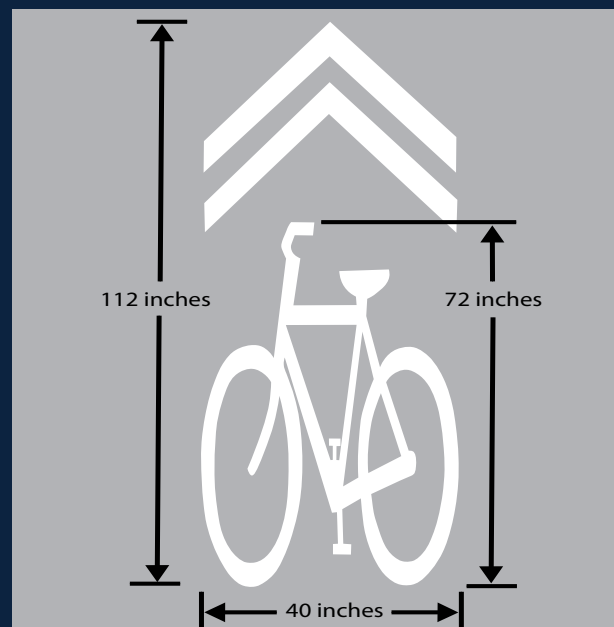


#5 Begin Right Turn Yield to Bikes



#6 Pedestrians Keep Right Bikes Keep Left

#1 Keep grassy pedestrian paths open



#4 Shared Use Lanes

Texas Manual on Uniform Traffic Control Devices (MUTCD) Part 9 lists Traffic control for Bicycle Facilities.

The first step to shared use pathways is to alert drivers that UTSA is a bicycle friendly community.

Sign #1: Parking over sidewalks.

Sign #2: Example of intersection sign.

Sign #3: MAY USE FULL LANE sign is recommended to be placed at each of the 8 entrances to designate UTSA as a bike friendly community. The sign lets drivers know where there is a stenciled bike image, bikes can travel in the vehicular path, and bikes have the right of way.

Sign #4: Shared Use Lane Stencil.

Sign #5: Intersection Sign.

Sign #6: Multimodal pathway Sign.



Bike Racks and Dismount

Bike Racks and Dismount:

Very few bike racks are located in the dismount zone, or located in the upper areas of the academic core. The elevated surfaces of the Sombrilla and Central Plaza, as well as the elevated areas of Arts, and Engineering Building, need bike racks to allow bikers to easily transfer from one building to another without leaving the elevated areas.

1. Recommend an assessment of the elevated areas to located places for new bike racks.

2. Recommend new bike racks are selected that can be surface mounted to the elevated areas so they aren't moved around.

3. The recommended locations will not impede traffic and will be placed to maximize accessibility.



Bike Racks and Tool Stations



Preferred Style
Logo Placement



Easy to attach and detach bikes, clean,
low use of space



Preferred Style

Rationale:

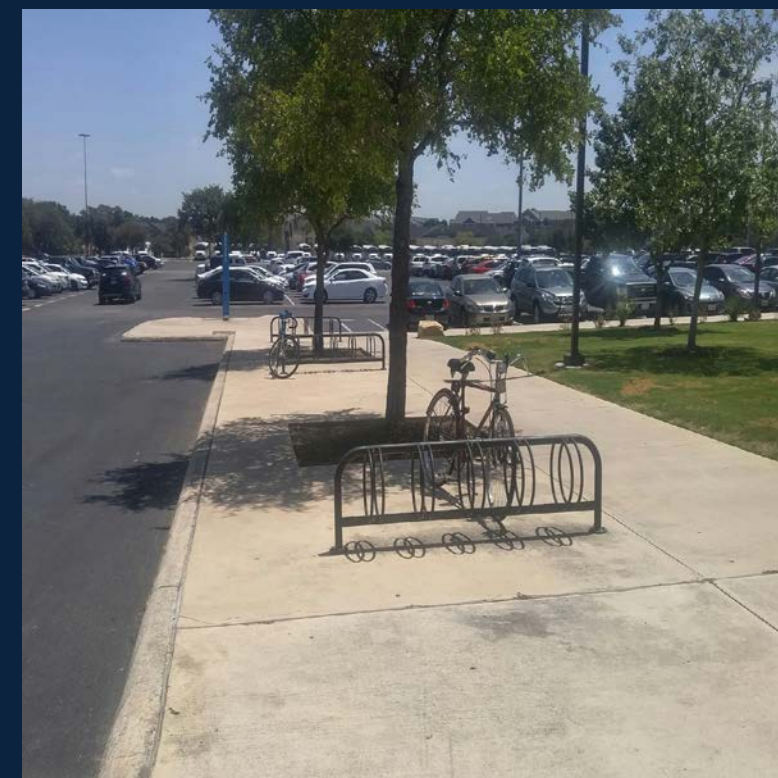
1. Bike Racks should allow bikes to be parked and chained easily.
2. Existing bike racks are often not mounted and are moved to illogical placement sometimes blocking access.
3. Tool Racks should be provided as well as pump stations.
4. The preferred bike rack is the inverted U shape. It allows logo placement.



Existing Bike
Location and Placement will be
reviewed.



Tool Station



Existing Racks at Rec
Wellness



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Recommendations:

1. Fund a project to stripe the BK 1 & 2 Lot to include signage.

NOTE: The Office of Environmental Health and Safety, Risk Management proposes a sister project that will place signage about health and wellness, as part of their Non-Smoking policy. Amount to be determined. Their signage would make statements such as "Just 10,289 steps to the Sombrilla".

2. Bike racks are needed in the upper plazas in and around the core of campus. Locations for permanent bike racks in the dismount zone should be mounted to the ground so that they can't be moved around. The preferred type is inverted U shaped with logo.

3. Stencils are painted on designated roadways to allow bicycle commuters to share the road with vehicular traffic.

4. Tool and pump stations are purchased for the bike facility that will be build adjacent to the new Science and Engineering Building in the parking lot.

5. Signage at each entrance point (8) designates UTSA Main Campus roads as Shared Use.

6. Future Construction should include curb cuts, bike racks, tool stations and stencils in roadways.

7. Facilities should partner with EHSRM to fund healthy signage especially in the BK 1 & 2 lot.

