



CALIFORNIA STATE UNIVERSITY
Stanislaus

CSU Stanislaus Bicycle Master Plan

Prepared by

FEHR & PEERS

January 2016

Acknowledgments

This Plan was made possible through the funding of the California State University, Stanislaus (CSU Stanislaus) and was led by the Facilities Services Department. In addition, many CSU Stanislaus students, faculty, and staff provided critical input on existing conditions and proposed facilities and programs.

Fehr & Peers prepared the plan for CSU Stanislaus.

Facilities Services Staff

Melody Maffei, Associate Vice President

Julia Reynoso, Director of Facilities Planning & Finance

Fehr & Peers Staff

Carrie Nielson

Ellen Poling

Dana Weissman

Brooke DuBose

Table of Contents

EXECUTIVE SUMMARY.....	1
1. INTRODUCTION	3
Background.....	3
Community Outreach.....	5
Focus Groups	5
Campus Open Forums.....	6
2. GOALS & RELATED POLICIES	7
Goals.....	7
Related Plans & Policies	7
CSU Stanislaus Master Plan.....	7
Turlock General Plan and Active Transportation Plan.....	9
StanCOG Non-Motorized Transportation Plan	10
3. EXISTING CONDITIONS	13
Existing Campus Bikeways and Roadways	13
Types of Campus Bikeway Facilities	13
Circulation.....	16
Transit	18
Campus Amenities.....	21
Bicycle Parking.....	21
Signage and Wayfinding.....	21
Personal Safety.....	21
Key Issues and Opportunities	22
Bicycle Issue Areas	22

	Bicycle and Pedestrian Opportunity Areas	23
4.	PROPOSED CAMPUS BICYCLE NETWORK	25
	Bicycle Network Development.....	25
	Proposed Campus Bicycle Network.....	25
	Proposed Bikeway Projects	26
	Bicycle Access Points	30
	Campus Pathway Improvements	34
	Bicycle Parking.....	38
5.	SUPPORT PROGRAMS	41
	Existing Programs	41
	Proposed Programs	41
	Education	41
	Encouragement.....	42
	Enforcement.....	42
	Collaboration	43
	Bicycle Parking.....	43
6.	IMPLEMENTATION STRATEGY	45
	Cost Estimates	45
	Prioritization.....	48
	Prioritization Framework.....	48
	Prioritized Project List.....	48
	Funding Opportunities.....	51
7.	DESIGN GUIDELINES	53
	Bicycle Parking and Support Facilities.....	53
	Bicycle Fix-It Stations.....	55
	Bicycle Facilities	55

Shared-Use Paths.....	55
Bicycle Lanes.....	56
Bicycle Routes with Sharrows.....	56
Wayfinding.....	57
Crossings.....	57
Crosswalks.....	57
Curb Ramps.....	58
Crosswalk Signage.....	58
APPENDIX A Project Prioritization Scoring	59

List of Figures

Figure 1-1	Existing Bicycle Circulation Network	4
Figure 2-1	Campus Master Plan.....	8
Figure 2-2	City of Turlock Existing and Proposed Bikeways	11
Figure 3-1	Bicycle Facilities and Typical Cross-Sections.....	15
Figure 3-2	City of Turlock Blast Transit Bus Lines	19
Figure 3-3	StaRT Transit Map	20
Figure 4-1	Campus Bicycle Circulation Network	28
Figure 4-2	Bicycle Network Improvements.....	29
Figure 4-3	Geer Road/Monte Vista Avenue Gateway Treatment Concept Plan	31
Figure 4-4	Calaveras Way/Merced Way/Mariposa Drive Roundabout Concept Plan	32
Figure 4-5	The Quad/University Circle Pathway Treatment Concept Plan	37

List of Tables

Table 3-1: Bicycle Facilities	13
Table 4-1: Proposed Project List	26
Table 6-1: Project Cost Categorizations	46
Table 6-3: Project Prioritization Summary	49
Table 7-1: Bicycle Parking Facilities.....	53
Table A-1: Prioritization Framework	59
Table A-2: Project Prioritization Breakdown	60



EXECUTIVE SUMMARY

The goal of the California State University, Stanislaus (CSU Stanislaus) Bicycle Master Plan (the Plan) is to develop and implement a bikeway system that applies the following guiding principles:

- Improve safety for bicyclists and pedestrians;
- Provide on-campus amenities that provide students, faculty, and staff the opportunity to efficiently travel through campus by bicycle;
- Coordinate with the City of Turlock to provide bicycle enhancements to the roadways adjacent to campus;
- Accommodate bicyclists through a combination of off-street paths and improved on-street routes;
- Provide support facilities such as secure bike parking and wayfinding signage; and
- Build on existing education and encouragement efforts by campus groups.

The Plan sets forth a blueprint for a campus bicycle network and support facilities such as bike parking, wayfinding signs, and education and encouragement programs. This Plan reflects direct outreach and input from the campus community, including students, staff, and faculty.

The Plan includes:

- An evaluation of existing conditions;
- A prioritized list of recommended bicycle improvements for both on- and off-street facilities;
- Recommended support programs and policies; and
- Design guidelines for bicycle facilities.

CSU Stanislaus currently enjoys an internal pathway system that connects the campus buildings in the east-west direction but need additional north-south pathways. The mild year-round climate and beautifully landscaped grounds of CSU Stanislaus add to its desirability as a great place to bike. Some students, faculty and staff currently bicycle to and from campus, as well as within the campus. In addition, the surrounding City of Turlock has a progressive plan to construct new bikeways around the CSU Stanislaus campus.

Recommendations presented in this report to enhance bicycling facilities include:

- Provide improved campus access across the major surrounding roadways;
- Enhance the existing network of on-campus bikeways by widening sidewalks and pathways; closing gaps in the campus perimeter path; and improving connectivity from the perimeter path, City of Turlock on-street bicycle network, and the campus core;
- Install markings and signs to direct bicyclists and advise motorists of the presence of bicyclists; and
- Provide bicycle educational and encouragement support programs to accompany recommended infrastructure improvements.



1. INTRODUCTION

California State University, Stanislaus (CSU Stanislaus) is well suited for bicycling and walking. The relatively flat landscape and compact size make it ideal for bicycling and walking around the campus. Expanding campus bicycle facilities is an important component for sustainable growth.

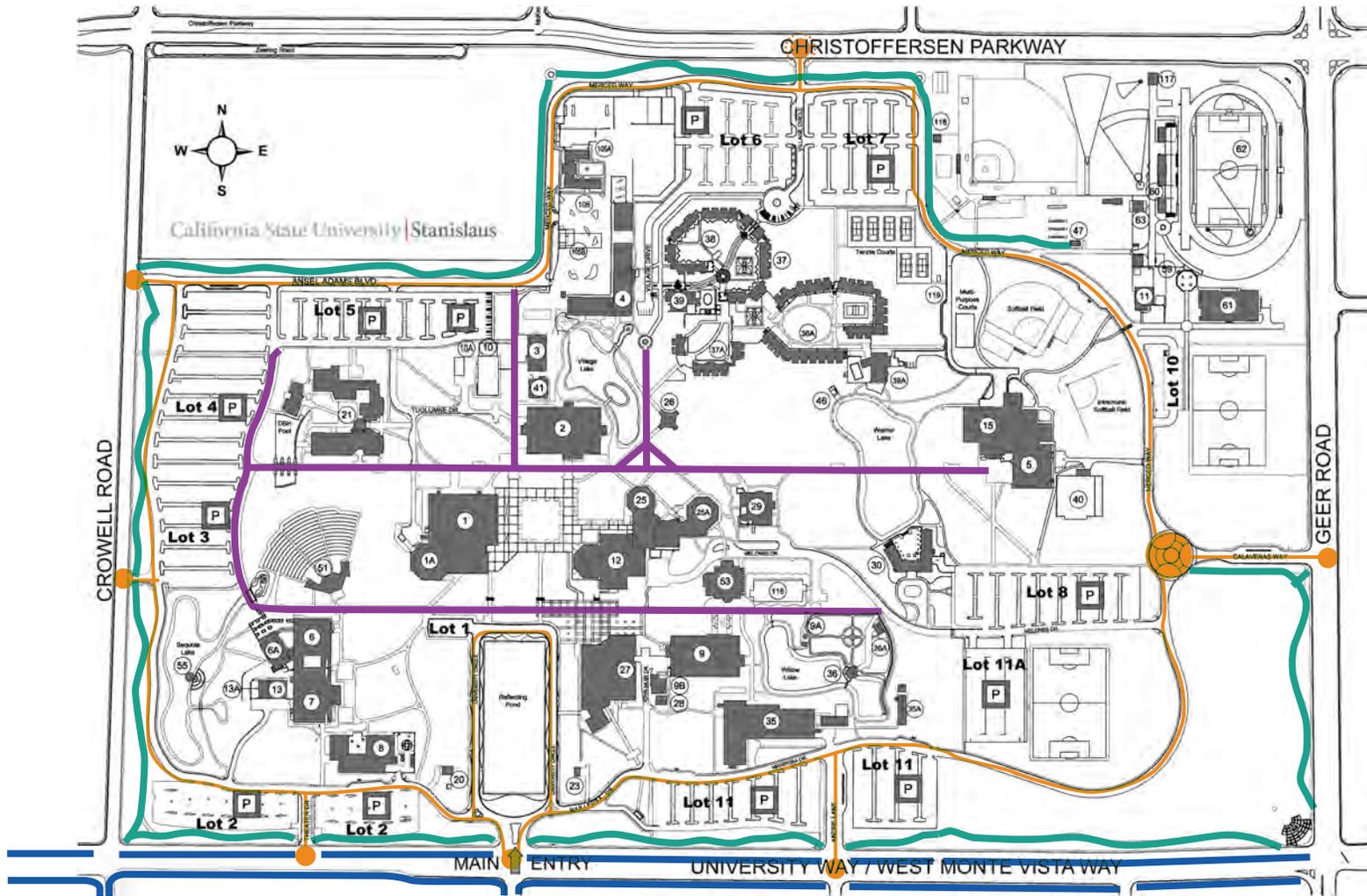
CSU Stanislaus staff, faculty, and students have indicated the need to enhance bicycling opportunities on campus; the core of this evaluation is focused on producing recommendations to meet their needs.

Background

CSU Stanislaus is situated on 228 acres in the City of Turlock, Stanislaus County. In 2014 there were 9,045 registered students attending CSU Stanislaus, with 528 faculty members and over 492 staff members. The mid-size campus's countryside atmosphere blends with Turlock's small-town community. The University strives to encourage the community to actively participate in learning-centered activities on campus.

CSU Stanislaus is located less than two miles north of Downtown Turlock. The campus is bounded by West Christoffersen Parkway to the north, Monte Vista Avenue / University Way to the south, Geer Road to the east, and Crowell Road to the west. The campus can be accessed regionally by State Route 99, approximately 1.5 miles to the west. Approximately 84% of students attending CSU Stanislaus are from our six-county service region - Stanislaus, San Joaquin, Merced, Mariposa, Calaveras and Tuolumne, with 48% of students from within Stanislaus County. The primary mode of transportation to and from the campus is by automobile, although bicycling and walking continue to grow in popularity due to their health benefits, recreational values and are the only mode of transportation for some students.

CSU Stanislaus opened at its current location in 1965 with two buildings; since then, the campus has significantly expanded its academic buildings and student facilities. **Figure 1-1 Existing Bicycle Circulation Network** shows the existing pedestrian paths and bikeways, on a site plan that includes existing buildings. As the University continues to develop its campus, completing a safe and convenient bicycle network will be critical to reducing the number of vehicle trips and encouraging healthy and convenient modes of travel on campus.



LEGEND

Bicycle & Pedestrian

- Bike Perimeter Path (8' wide)
- Main Pedestrian Path (12' wide)
- Existing Class II Bike Lane

Vehicular

- Primary Vehicular Circulation
- Existing Vehicle Gateway
- Future Vehicle Gateway with Completion of Master Plan

Buildings

- Existing Buildings
- Future Buildings
- Temporary Buildings
- Existing Buildings Not in Use

Parking

- P Existing Lot
- P Future Lot
- Existing Structure
- Future Structure

Boundary

- Existing
- Future



Figure 1-1

Existing Bicycle Circulation Network

Community Outreach

Through this planning process, the University convened four focus groups to target four key campus groups:

1. Students
2. Faculty
3. Staff
4. GIS Students

These four groups consisted of bicyclists, non-bicyclists, student researchers in bicycle planning, and campus staff involved in maintenance and enforcement activities.

In addition to the focus group outreach, a campus workshop was held in November 2014, at which students, faculty, and staff had an opportunity to comment on the draft Plan document and proposed projects and programs. The individual outreach events are summarized in the chapters below.

Focus Groups

In May 2014, four focus group meetings were held to understand key bicycle issues and opportunities on and adjacent to campus from the perspective of students, faculty and staff. Four key themes were identified through the focus group discussions:

- **Enhanced bicycle parking and support facilities:** Need for secure, long-term parking with bicycle maintenance stations, as well as increased education on available support facilities like showers and lockers.
- **Improved connectivity between City of Turlock roadways and CSU Stanislaus campus:** Need for improved connections between campus bicycle facilities and City of Turlock facilities, including reduced spacing between and better design of crossings of perimeter roadways.
- **Increased bicycle/pedestrian wayfinding:** Need for increased legibility of primary campus bicycle routes and pedestrian priority areas.
- **Enhanced visibility of education and encouragement programs:** Need for enhanced awareness of and inclusion in existing education and encouragement programs for entire campus community (i.e., students, faculty, staff, and visitors).

Student and GIS Student Group

Focus group participants included the GIS student group. This organization had previously studied bicycling on campus through a survey of the campus community's preferred bicycle routes to and through campus. They found that the majority of their 600 respondents live within two

miles of campus and still drive. The GIS student group concluded that some of these car trips could be shifted to bicycling if the connection between campus and city streets were improved.

Faculty Group

Most of the faculty participants in the focus groups were daily bicycle commuters. Several were occasional bicycle commuters or potentially interested bicycle commuters who desired additional information and/or infrastructure enhancements around campus. Overall, the faculty participants supported bicycle improvements and favored increasing bicycling on campus.

Staff Group

Staff participants in the focus groups highlighted the challenges of accessing campus from the surrounding residential neighborhoods. Many used sidewalks instead of the roadway on the high speed arterials immediately surrounding campus. Some took longer, more circuitous routes to campus on lower-volume and lower-speed roadways in order to avoid these arterials altogether.

Campus Open Forums

In November 2014, the draft Plan was presented to the campus community at two Open Forums on campus. The Open Forum was attended by students and faculty in addition to City of Turlock staff. Each Open Forum included a presentation of existing issues and opportunities for biking on the campus, the proposed campus bicycle circulation network, and three priority projects. Following the presentation, attendees were invited to ask any questions they may have, and then participants circulated through open-house style stations that presented the campus bicycle network, project list, and concepts for the priority projects. Students, staff, and faculty provided both general and site-specific comments to draft Plan and priority projects.



2. GOALS & RELATED POLICIES

Goals

The creation of the CSU Stanislaus Bicycle Master Plan is driven by a number of important goals for improving the campus bicycle network. The following five key goals will be achieved through the implementation of the programs and projects contained in this Plan:

1. Establishing safe and convenient bicycle connections from the City's bicycle network and the perimeter bicycle path to the center of campus.
2. Balancing the needs of pedestrians and bicyclists along campus pathways and key activity areas.
3. Creating safe and accessible bicycle crossings at roadways and parking lots.
4. Improving and increasing the existing bicycle parking on campus.
5. Completing the periphery bicycle loop path.

Related Plans & Policies

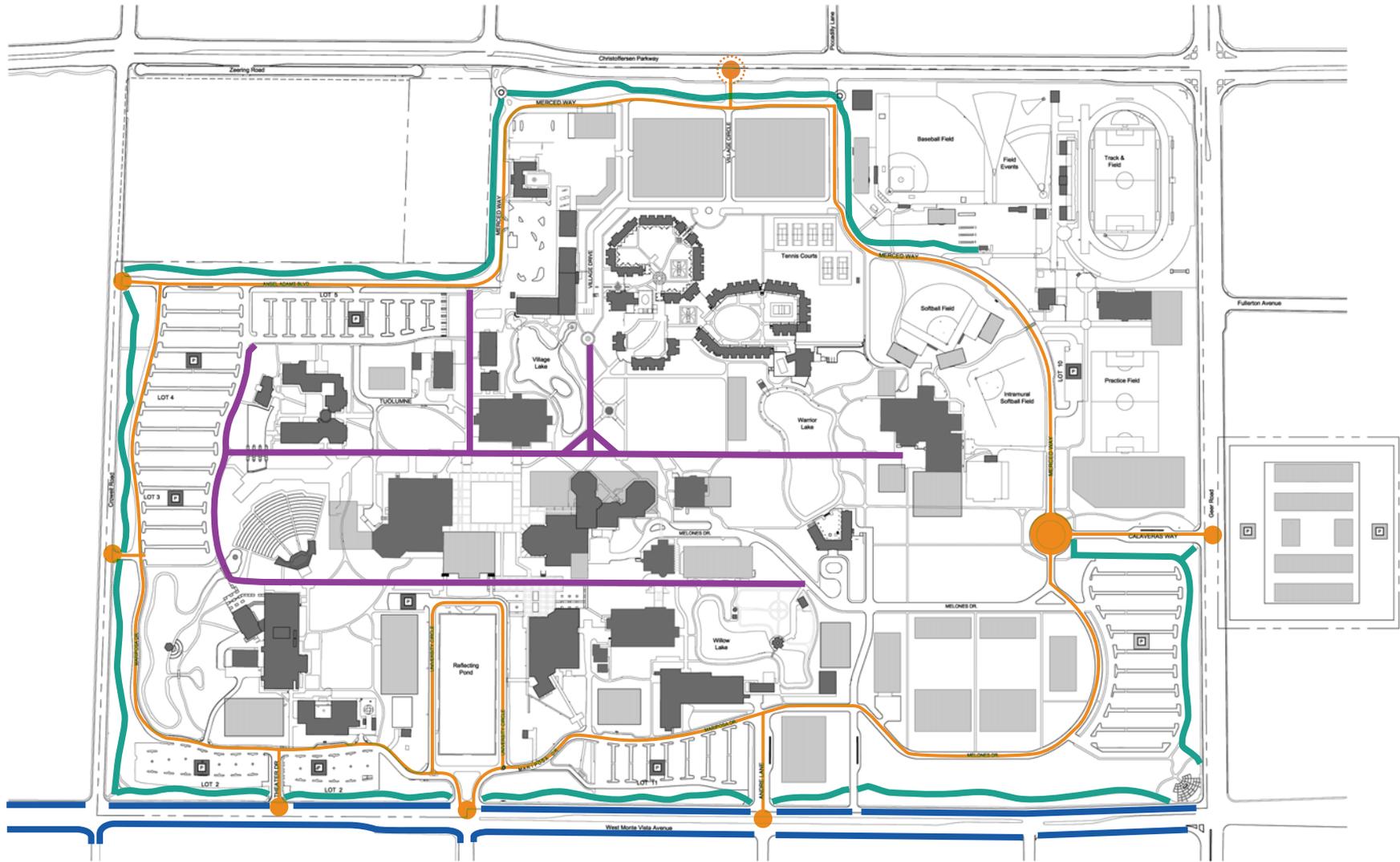
The CSU Stanislaus Bicycle Master Plan will have a significant positive impact on bicycling on campus and between the campus and adjacent neighborhoods. However, this document is not the only effort aimed at improving conditions for bicyclists in the area, nor is the University the only entity working toward such a goal. This Plan will build on and coordinate with the plans, projects and policies of the CSU Stanislaus Master Plan, as well as other agencies' plans, as described below.

CSU Stanislaus Master Plan

The purpose of the *CSU Stanislaus Campus Physical Master Plan* is to provide the University with a vision to develop the campus and reach its ultimate goals as described in the *1968 Physical Master Plan*. The 2009 updated Physical Master Plan evolves the original by incorporating new technological advances unanticipated in the original plan. The University seeks to incorporate needed changes while maintaining the positive campus character of an attractive, welcoming environment that supports the delivery of quality higher education.

Planned improvements, according to the *Campus Master Plan Update*, include developing multi-story student housing facilities and multi-level parking structures. **Figure 2-1 Campus Master Plan** illustrates planned future building projects on the CSU Stanislaus campus. As part of the development process, nighttime lighting will be installed on all pathways for safety and security. Future improvements to the bicycle and pedestrian network include additional signage on main pathways to direct students to the right facilities, and

WC10-2774.01_1_ExCon



LEGEND

Bicycle & Pedestrian

- Bike Perimeter Path (8' wide)
- Main Pedestrian Path (12' wide)
- Existing Class II Bike Lane

Vehicular

- Primary Vehicular Circulation
- Existing Vehicle Gateway
- ⊙ Future Vehicle Gateway with Completion of Master Plan

Buildings

- Existing Buildings
- Future Buildings
- Temporary Buildings
- Existing Buildings Not in Use

Parking

- Existing Lot
- Future Lot
- Existing Structure
- Future Structure

Boundary

- Existing
- Future



Figure 2-1

Campus Master Plan

installing more bicycle racks and related facilities throughout the campus to promote alternate means of reaching destinations and circulating on campus.

Turlock General Plan and Active Transportation Plan

The *Turlock General Plan* encourage walking and bicycling. Turlock's flat topography and mild rainfall are ideal for commuting and recreational bicycle riding and walking. The plan recognizes three classes of bikeways used throughout the city.

Bike Path (Class I Bikeway). Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized.

Bike Lane (Class II Bikeway). Provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through-travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.

Bike Route (Class III Bikeway). Provides right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

In 2015, the City adopted its first Active Transportation Plan. **Figure 2-2 City of Turlock Existing and Proposed Bikeways** shows the long-term vision for bikeways and trails for the City of Turlock. Existing or proposed bikeways located adjacent to or near the campus include:

- Monte Vista Avenue/University Way*
- Dels Lane*
- Crowell Road*
- West Christoffersen Parkway*
- Walnut Road
- Fosberg Road
- Minnesota Avenue
- Ferreira Ranch Drive
- Fosberg Road
- Olive Avenue
- Minnesota Avenue

Streets followed by an asterisk (*) signify bikeways that provide access to the University.

StanCOG Non-Motorized Transportation Plan

The *Stanislaus Council of Governments Non-Motorized Transportation Plan* (StanCOG NMTP) reviews the bicycle facilities within the county, which includes the City of Turlock. The StanCOG NMTP's purpose is to increase bicycle and pedestrian access and increase bicycle and pedestrian activity. **Figure 2-2 City of Turlock Existing and Proposed Bikeways** illustrates the StanCOG NMTP with existing bikeways and proposed routes for the City of Turlock. The existing routes in the StanCOG NMTP are identical to the City of Turlock's General Plan.

Figure 6-3: Long Term Bicycle Network Vision

City of Turlock Active Transportation Plan

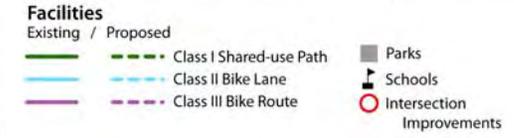
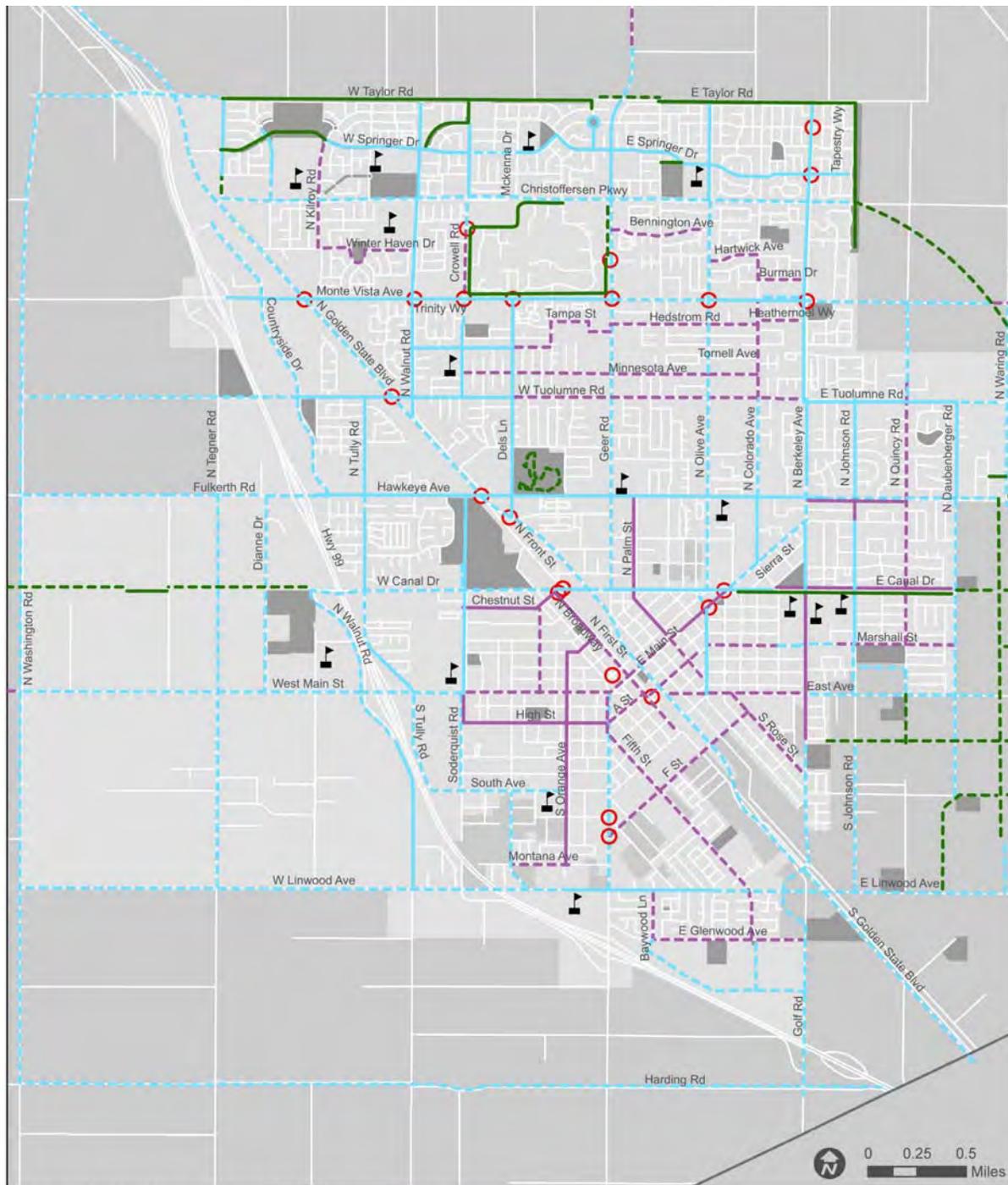


Figure 2-2

City of Turlock Existing & Proposed Bicycle Network

This page left intentionally blank



3. EXISTING CONDITIONS

The CSU Stanislaus Bicycle Master Plan sets forth a blueprint for completing a system of bikeways and support facilities on the CSU Stanislaus campus. It builds upon the existing system of pathways throughout the campus, focusing on connections from the perimeter to the center of campus and a series of north-south and east-west routes. This chapter focuses on an evaluation of the existing transportation conditions on- and off-campus.

Existing Campus Bikeways and Roadways

Types of Campus Bikeway Facilities

Bikeway planning and design in California typically relies on the guidelines and design standards established by Caltrans as documented in “Chapter 1000: Bikeway Planning and Design” of the *Highway Design Manual* (5th Edition, California Department of Transportation, January 2001). Chapter 1000 follows standards developed by the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA), and identifies specific design standards for various conditions and bikeway-to-roadway relationships. Caltrans standards provide for three distinct types of bicycle facilities, as generally described in **Table 3-1 Bicycle Facilities** below and illustrated in **Figure 3-1 Bicycle Facilities and Typical Cross-Sections**.

Table 3-1: Bicycle Facilities

Class I: Bike Path/Shared-Use Path

These facilities provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicles cross-flow minimized.

Class II: Bike Lane

Bike lanes provide a restricted right-of-way and are designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.

Class III: Bike Route

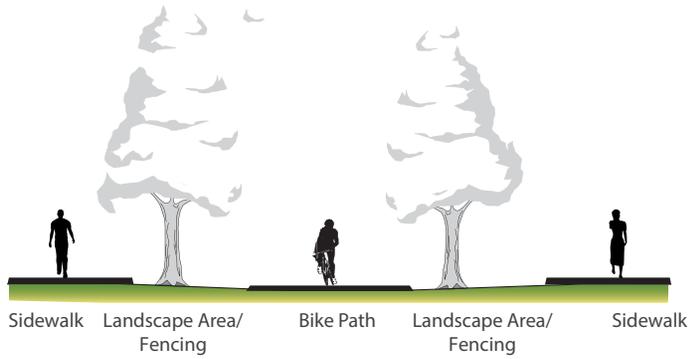
Bike routes provide a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles. While a basic Class III route may simply have signs and markings, a **Bicycle Boulevard** is a special type of shared route that optimizes bicycle travel. Bike boulevards can have a variety of traffic calming elements to improve safety and comfort for bicyclists.

Class I paths are the predominant facility for the existing and proposed CSU Stanislaus campus bikeway network, and they can either be shared or separated from pedestrians.

Separated bike paths are bikeway facilities on exclusive rights-of-way that are reserved for bicycle use only. The pathway should be 12-14 feet wide, with a minimum width of 10 feet. In circumstances where the right-of-way is constrained or bicycle volumes are low, a width of eight feet may be considered. Separated paths are designed to serve high volumes and/or longer-distance bicycle travel. Separated paths are planned for routes that have a combination of moderate to high bicycle volumes (e.g., one way bicycle volumes ranging from 300 to 600 bicycles per hour) and moderate pedestrian volumes (e.g., pedestrian volumes greater than 100 per hour).

Shared-use paths are facilities on exclusive rights-of-way that are used by both bicyclists and pedestrians. Shared-use paths are appropriate for areas where lower bicycle and pedestrian volumes occur, and/or unobstructed space is severely restricted. The path should be 12-14 feet wide, with a minimum width of 10 feet. In circumstances where the right-of-way is constrained or bicycle and pedestrian volumes are low, a width of eight feet may be considered.

Cross traffic by motor vehicles should be minimized along bike paths and shared-use paths to avoid conflicts. Shared-use paths can offer opportunities not provided by the road system by serving as both recreational areas and/or desirable commuter routes on campus. Sidewalks are usually not appropriate to serve as bike paths because they are primarily intended to serve pedestrians and do not minimize vehicle cross-flows.



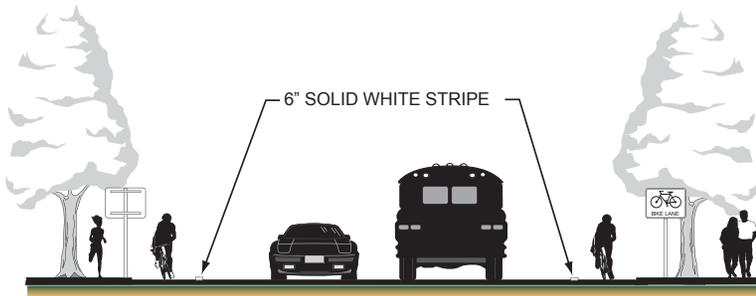
CLASS I BIKEWAY (Separated Path)

Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow minimized.



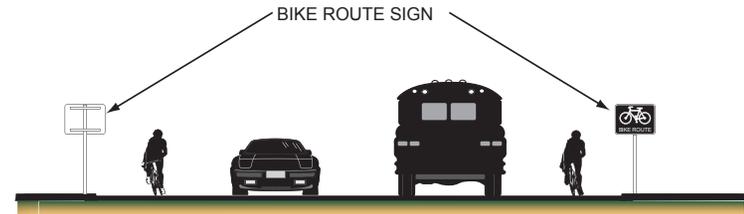
CLASS I BIKEWAY (Shared-Use Path)

Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow minimized.



CLASS II BIKEWAY (Bike Lane)

Provides a striped lane for one-way bike travel on a street or highway.



CLASS III BIKEWAY (Bike Route)



Figure 3-1
Bicycle Facilities and Typical Cross-Sections

Circulation

Adjacent Roadways

The CSU Stanislaus campus is bounded by the following streets:

- Monte Vista Avenue is a four-lane arterial that runs east-west along the south side of campus. It provides access to the main campus entrance. Bike lanes are striped from North Golden State Boulevard to Geer Road. Wide intersections and high vehicle volumes and speeds affect bicycle access and safety.
- Crowell Road is a two-lane collector that runs north-south along the west side of the campus. It provides access to Parking Lots 3, 4 and 5 (via Ansel Adams Boulevard). There are no existing bike facilities on Crowell Road.
- West Christoffersen Parkway is a four-lane arterial that runs east-west along the north side of campus. A new north entrance from the parkway to campus is complete. High vehicle speeds and a lack of signalized crossings create a challenging environment for both bicyclists and pedestrians. West Christofferson Parkway has room for bike lanes that the City of Turlock plans to paint.
- Geer Road is a four-lane arterial with center-turn lanes that runs north-south along the east side of campus. Geer Road provides access to the east entrance of campus via Calaveras Way. The City of Turlock has plans for on-street bicycle facilities on Geer Road.



Internal Campus Roadways

The CSU Stanislaus campus is designed to limit vehicle access to the periphery, with a perimeter road that circles the core campus. Melones Drive provides vehicle access to the University Union and Cafeteria, and it is primarily used by delivery vehicles. A series of surface parking lots are located around the campus, connecting to an internal pedestrian pathway system.

Bicycle Network

The CSU Stanislaus campus core was designed primarily for pedestrian access, though the campus is ideal for bicycling, and many areas are easily accessible by bicycle. An eight-foot bicycle path skirts the outer perimeter of the campus. Bicycle access between the perimeter path and center of campus is limited in several locations. To access the center of campus, bicyclists must travel through parking lots and across the perimeter road, where there are few dedicated bicycle facilities and multiple conflict points with vehicles.



Bicycles are currently allowed on all pedestrian pathways. The existing primary pedestrian pathways identified in the Campus Master Plan are 12 feet wide, and in some locations even wider, which can comfortably accommodate both bicyclists and pedestrians on the shared path. Two exceptions are the pathway connection on the south side of the center quad and access to the south side of the library, which are only accessible by stairs or a narrow pathway with tight angles. Both the current and projected levels of pedestrian and bicycle activity are moderate and do not present any notable conflicts. The center quad has the highest amount of pedestrian activity.

The secondary pedestrian pathways that connect key walking and bicycling routes to campus buildings are typically narrower, with most ranging between five to eight feet wide. While eight feet may be adequate in certain circumstances, the recommended minimum width for a shared-use path is 10 feet.

Transit

Both Stanislaus Regional Transit and the City of Turlock provide transit service to the CSU Stanislaus campus. The Bus Line Service of Turlock (BLAST) serves campus with the B and C bus routes. Service hours for BLAST are 6:40 am to 5:30 pm Monday through Friday, and 9:25 am to 4 pm on Saturdays. There is no service on Sundays or holidays. Bike racks with capacity for two bikes are provided on BLAST buses. **Figure 3-2 City of Turlock Blast Transit Bus Lines** shows the BLAST Bus Route map.

Stanislaus Regional Transit (StaRT) provides public transit to the CSU Stanislaus campus via the Route 10 Express, Route 15, and Route 45 East. StaRT buses provide bike racks with capacity for two bikes. The campus bus stop is located at Dels Lane and Monte Vista Avenue, which connects directly to the perimeter bicycle path. **Figure 3-3 StaRT Transit Map** shows the current StaRT system map.



Figure 3-2
City of Turlock Blast Transit Bus Lines

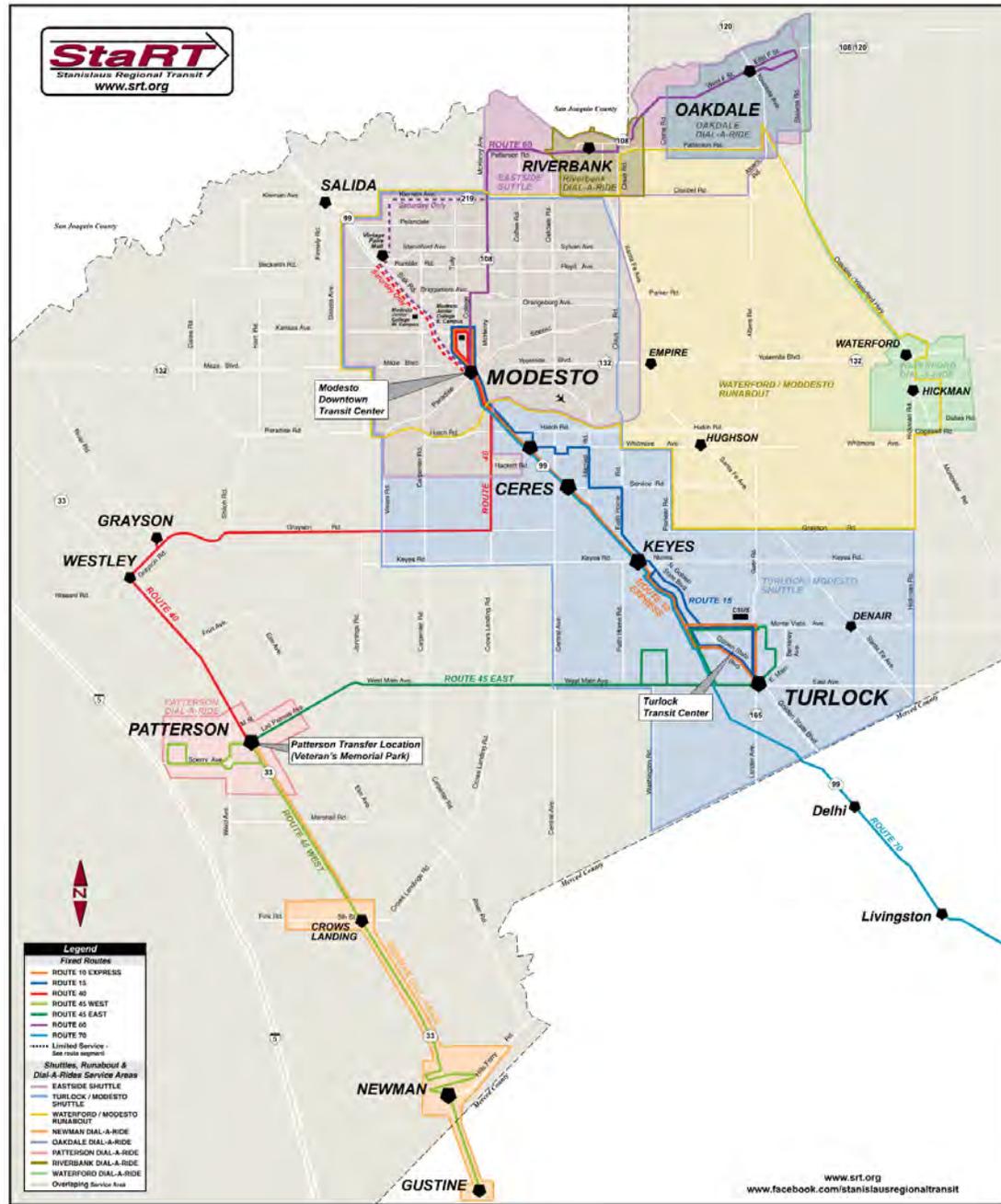


Figure 3-3
StaRT Transit Map



Campus Amenities

Bicycle Parking

There are a variety of bicycle racks on the CSU Stanislaus campus, ranging from older “toaster” style racks to new high design U-racks. Bicycle racks around campus are well maintained and well-used. In a few locations, such as at the Art Building, bike parking may be relocated to improve security and increase use.

Bizzini Hall, Vasche Library and Naraghi Hall of Science are the most popular destinations for bicycle access. There is enclosed bike parking at the student housing on the north side of campus. Naraghi Hall of Science has showers for students and faculty, but their existence is not well known by the public and are therefore underused.

Bicycle parking racks serve students who are in class for a short period of time, but long-term bicycle parking, such as lockers or bicycle parking cages, is needed to provide secure bicycle parking for longer periods of time. This parking could serve staff who are frequently on campus all day or students who drive to campus but would use a bicycle to circulate around campus between the parking lots and the heart of campus. Residential buildings are also ideal locations for long-term bicycle parking.

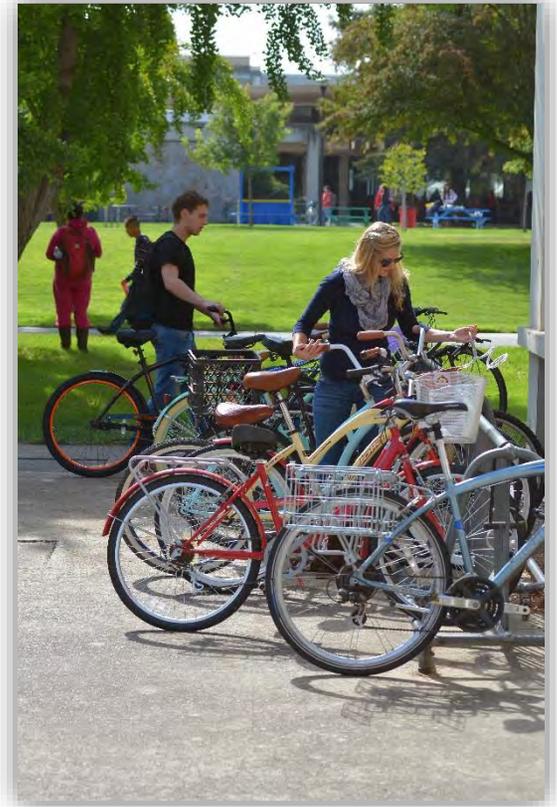
Skateboarding is becoming an increasingly popular mode of transportation on campus and parking rack amenities for skateboards should be considered at key destinations.

Signage and Wayfinding

CSU Stanislaus has signage along the perimeter road that provides direction to parking lots and nearby buildings. This signage is primarily for drivers. Additional signage and wayfinding specifically for bicyclists and pedestrians will help students, faculty, and staff navigate around the campus.

Personal Safety

The pathways across the campus open spaces and lakes present personal safety concerns. These areas are more remote and have fewer “eyes on the street.” Opportunities for better lighting, blue light phones and improved sightlines by trimming or removing landscaping along these pathways should be considered.



Enhanced lighting along these corridors would improve safety, as well as the comfort of cyclists and pedestrians when traveling at night.

Key Issues and Opportunities

The key issues related to bicycling on campus set the groundwork for the CSU Stanislaus Bicycle Master Plan recommendations. This chapter discusses those issues and the opportunities that they present.

Bicycle Issue Areas

University staff, faculty, students, focus groups, and detailed field review helped identify the bicycle issue areas adjacent to and on campus. “Issue areas” are places that are troublesome for bicycle mobility.

Boundary Roadways

The campus is bordered by major arterial roadways. The roadways are all at least four lanes wide with relatively high speeds of travel. These roadways are likely perceived as obstacles to novice bicyclists and present barriers even to experienced bicyclists traveling to and from the campus. Only one of the large boundary roadways (Monte Vista Avenue) currently has on-street bicycle facilities, and roadway crossings are spaced a large distance apart from one another.

Bicycle Access Points

There are multiple opportunities to establish safer and more convenient bicycle connections from the periphery to the center of campus and to improve bicycle access from the surrounding street network. To access campus, bicyclists cross the boundary roadways and perimeter path, as well as surface parking lots in some locations. Consideration should be given to create safe and visible bicycle crossings that provide a clear understanding of the right-of-way at each location.

Campus Network Connectivity

CSU Stanislaus campus currently has a few high-quality shared-use paths that function well for internal east-west bicycle circulation. However, north-south connections between these paths are poor, and campus paths often do not directly connect to the city roadway network.

Elevation Change

There are significant elevation changes in the southern portion of campus. The current lack of north-south bicycle paths in this area makes direct bicycle access difficult, and bicyclists must use a circuitous route to travel among southern campus buildings and the Quad.

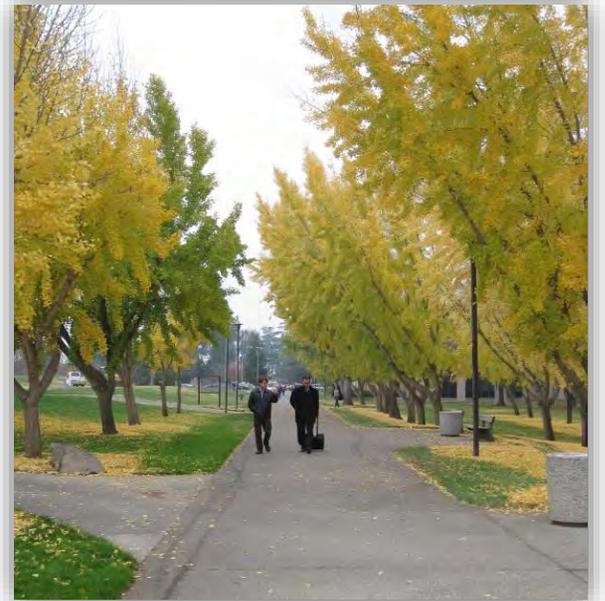
Bicycle Parking

Short-term bicycle parking on campus is currently insufficient to meet the needs of students, faculty and staff. Existing rack types are outdated and under-supplied, and there are no options for secure long-term bicycle parking.

Bicycle and Pedestrian Opportunity Areas

Through field visits and discussions with CSU Stanislaus staff, multiple opportunity areas for enhancing bicycle and pedestrian facilities were noted. The areas listed have not been evaluated for their implementation feasibility but have been identified in this chapter as areas that should be considered when planning future bicycle facilities. The bicycle recommendations in a later chapter of the plan include aspects of these areas.

- Establish on-campus bikeways.
- Enhance bicycle “gateway” entrances to campus.
- Provide bicycle connections through parking lots (including utilizing landscaping areas for pathways and linkages).
- Link on-campus housing to key destinations.
- Provide enhanced bicycle access between the north and south sides of campus.
- Continue to work with City of Turlock, specifically relating to coordinating bicycle plans.
- Provide bicycle wayfinding signage.



The CSU Stanislaus campus has a well-designed network of pedestrian pathways, many of which are wide enough to accommodate bicyclists as well. The core pedestrian circulation network set forth in the Campus Master Plan will also serve as the backbone to the CSU Stanislaus Bicycle Master Plan campus bikeway network. Those pathways are 12 feet wide and will be able to accommodate bicyclists and pedestrians as the campus and student body continues to grow.

There are opportunities to improve secondary pathways that provide connections between buildings. Most of these paths are between five and eight feet wide and are too narrow for bicycles. In addition, some paths meander or have angled turns that are difficult to navigate by bicycle. A number of campus paths could be upgraded to accommodate bicyclists. New pathway opportunities, especially north-south routes, should also be considered.





4. PROPOSED CAMPUS BICYCLE NETWORK

This chapter presents recommendations for new and enhanced bicycle facilities on the CSU Stanislaus campus. The main goals of the recommendations are to enhance bicycle connectivity and improve bicyclist safety.

Bicycle Network Development

The recommended bicycle network was developed based on field visits, meetings with staff, focus groups with staff, faculty and students, City of Turlock staff, and review of related plans. Data collection included multiple field visits during different times of the day and different times of the year to better understand bicycling activity on campus and on the surrounding roadways. Campus visits occurred by foot, by bicycle, and by car to understand the viewpoint of each user.

CSU Stanislaus Facilities Services key staff helped to guide the development of recommendations. The committee reviewed existing conditions, issue areas, and potential recommendations.

Proposed Campus Bicycle Network

The bicycle circulation network is intended to enhance campus-wide bicycle and pedestrian accessibility, designed to provide bicyclists seamless access from City streets to the campus as well as to improve connections within the CSU Stanislaus campus. The goal is to organize users and create a well-connected, intuitive system that is inviting for bicyclists.

- There are four key issues that the proposed network seeks to address:
 - Closing gaps in the existing path network
 - Improving north-south connectivity across campus
 - Providing gateway and connections from the City bicycle network to campus
 - Connecting the campus perimeter path to the campus core, via on-street routes in parking lots and off-street paths

Figure 4-1 Campus Bicycle Circulation Network presents the proposed bicycle network. Each project in the network is prioritized based on key criteria including safety, demand, and feasibility, as described in **Chapter 6 Implementation Strategy**. As new campus buildings are constructed, new bicycle connections to those locations should be prioritized.

Proposed Bikeway Projects

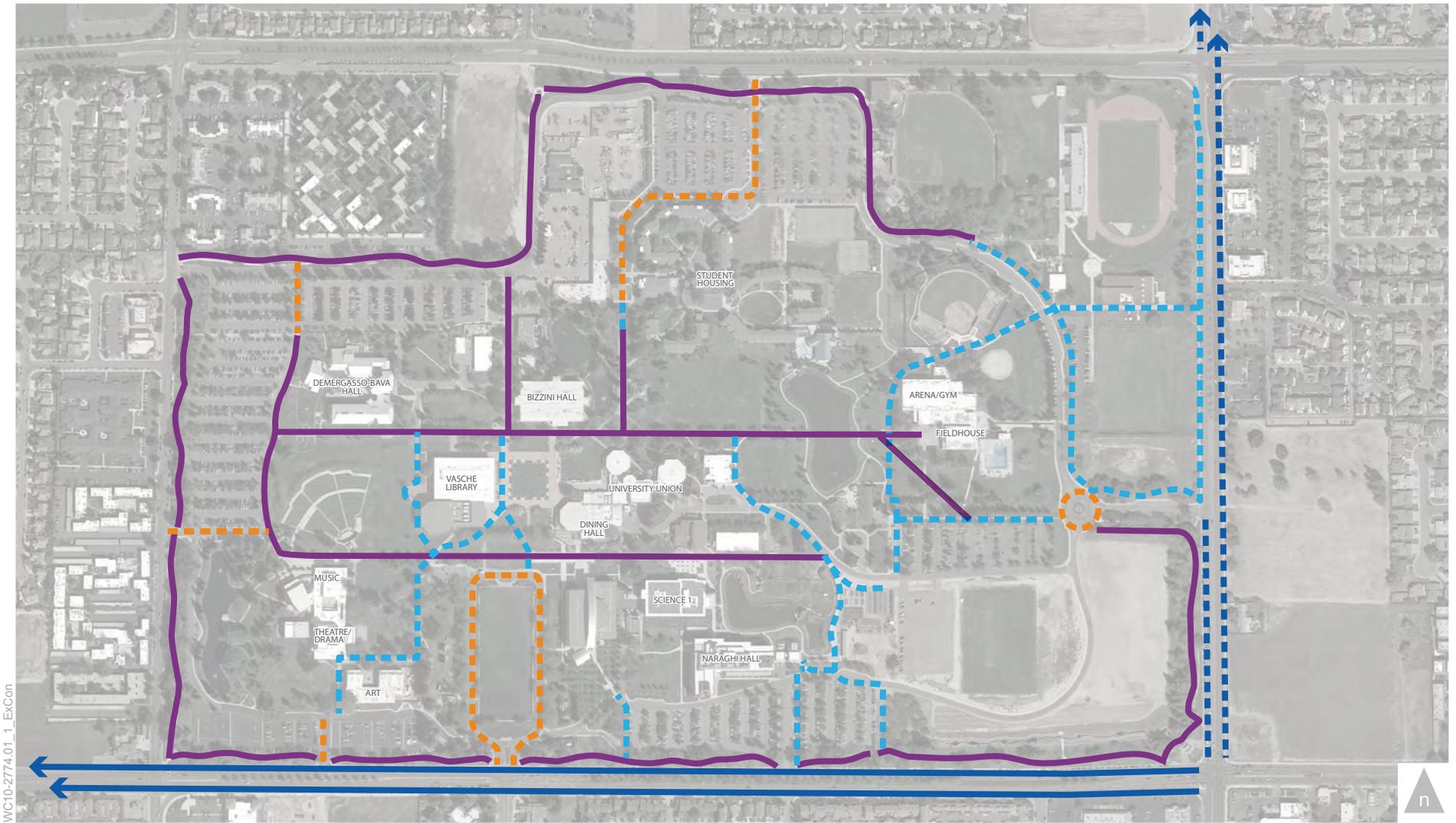
Figure 4-2 Bicycle Network Improvements presents a map of proposed bikeway projects across campus. This map corresponds to **Table 4-1 Proposed Project List**, which shows all of the proposed projects that enhance the campus bicycle network.

Table 4-1: Proposed Project List

Project Number	Project Location	Project Description
1	Geer Road/ Monte Vista Avenue	Widen sidewalks/paths approaching the northwest corner of the intersection; widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk and wider crossings
2	Crowell Road/ Monte Vista Avenue	Widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk
3	Calaveras Way/ Merced Way/ Mariposa Drive	Redesign roundabout on Calaveras to a single lane roundabout. Narrow roundabout to maximize landscape plantings in center of intersection and install gateway and place making treatments to create a gateway to campus from Geer Road.
4	Monte Vista Avenue/ University Circle	Install curb extensions, bicycle ramps, and bicycle loop detection in southbound through and left turn lanes
5	Crowell Road/ Bittern Way	Install crosswalk with curb extensions (City improvements completed at this location)
6	Geer Road/ Calaveras Way	Work with City of Turlock to signalize intersection; install high visibility pedestrian and bicycle crossings at each leg with median refuge and curb extensions where on-street parking permitted
7	Parking lots on south side of campus	Improve bicycle access through parking lots with designated off-street paths - Theatre Drive path, John Muir Drive extension path, and Andre Lane path
8	Parking lots on west and north sides of campus	Improve bicycle access through parking lots with designated on-street routes with "sharrow" pavement legends and signs
9	Geer Road between Calaveras Way and Christoffersen Parkway	Work with City of Turlock to widen existing west sidewalk of Geer Road between Calaveras Way and Christoffersen Parkway to create Class I Shared Use Path (recommended 12' width).
10	Path between Geer Road/Fullerton Drive and the Arena/Gym	Extend existing east-west path through athletic fields from Merced Way to Geer Road at Fullerton Drive; consider temporary asphalt material to accommodate future building construction on site. Widen existing path between Merced Way and the Arena/Gym.

Table 4-1: Proposed Project List

Project Number	Project Location	Project Description
11	Merced Way between Calaveras Way and Perimeter Path	Widen east sidewalk to 12' along Merced Way between Calaveras Way and Perimeter Path to close gap in the campus Perimeter Path
12	Lot 8 Sidewalk (north side) and Connection to Warrior Lake Widening	Widen the existing path/sidewalk to 12' path between Calaveras roundabout and Warrior Lake
13	Path through Melones Drive and Mariposa Drive east of Willow Lake	Improve north-south path connection between perimeter bike path on southern edge of campus and central campus east-west path; path to pass east of lot 11, east of Willow Lake across Mariposa Drive and Melones Drive, and east of Health Center
14	Path between the Quad and University Circle	Provide bicycle connection between the Quad and University Circle around flagpole
15	Path along west edge of Library to Theatre/Drama	Provide bicycle connection between campus east-west paths and Theatre/Drama buildings; path to pass west of Library
16	Path between Art and Theatre/ Drama buildings	Provide bicycle ramp adjacent to existing ADA switch-back path and stairs between Art and Theater/Drama buildings
17	Multiple Locations on campus	Install bicycle cage at high use location(s), such as Bizzini Hall, Vasche Library, Fitzpatrick Arena/Gym; Warrior Card access and enhanced security
18	<i>Multiple locations on campus</i>	Install bicycle fix-it station and bicycle equipment vending machine near or in proposed bicycle cages



LEGEND

Existing

-  Shared Use Path
-  Class II Bicycle Lane

Proposed

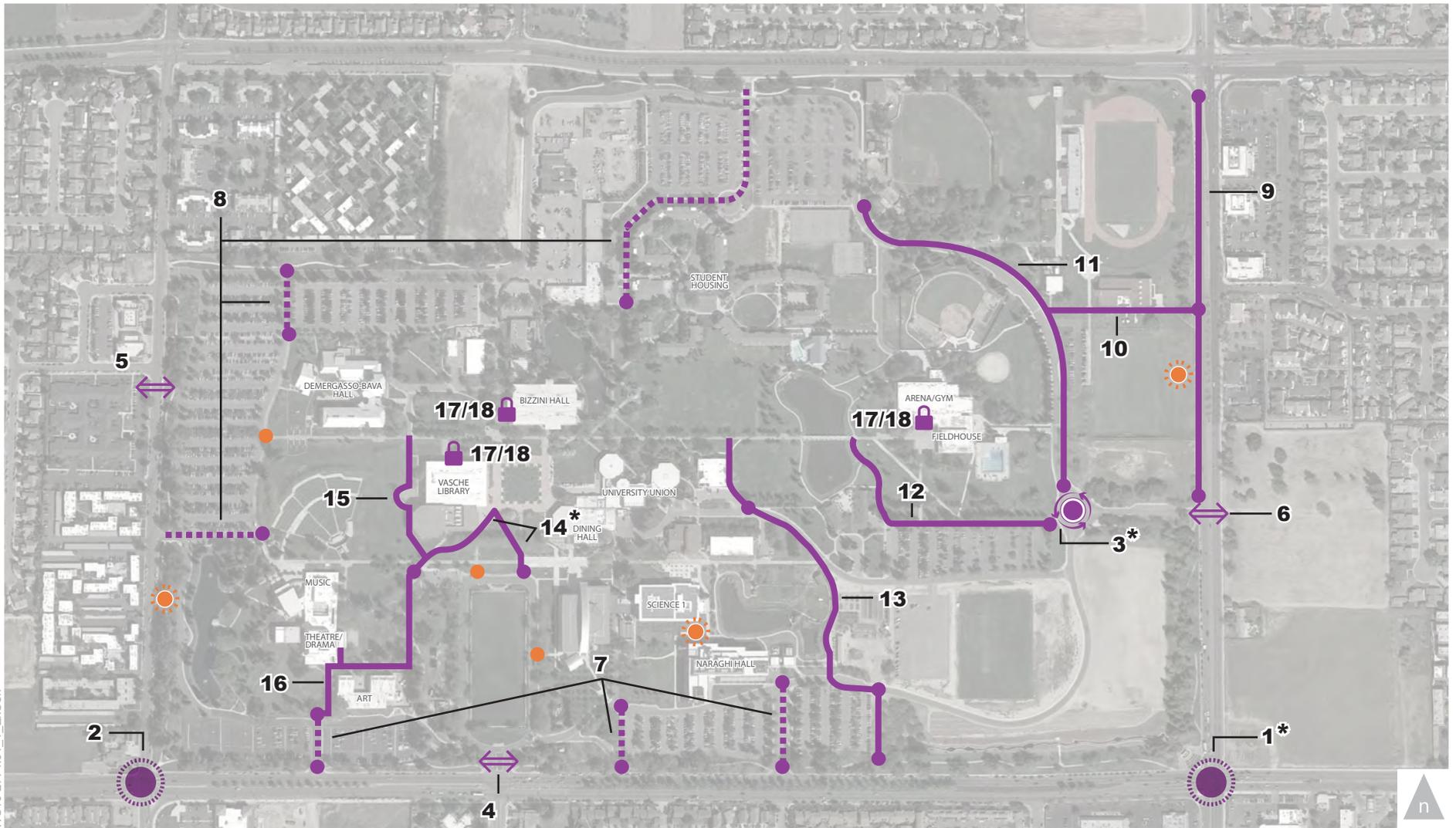
-  New or Widened Shared Path
-  On-Street Bicycle Route with Sharrows
-  Class II Bicycle Lane



Figure 4-1

Campus Bicycle Circulation Network

WC10-2774.01_1_ExCon



LEGEND

Site - Specific Projects

-  Gateway Treatment
 -  Pathway Treatment
 -  Crossing Treatment
 -  Roundabout
 -  Improved Parking Lot Access with Curb Ramp
- * CONCEPT PLAN PROJECT

Design Guidelines

-  Enhanced Path Lighting (example location)
-  New Curb Ramp (example location)



Figure 4-2

Bicycle Network Improvements

Bicycle Access Points

One of the primary goals of the CSU Stanislaus Bicycle Master Plan is to establish safe and convenient bicycle connections from the periphery to the center of campus. There are multiple opportunities to improve bicycle connections to the surrounding City on-street bicycle network as well as to the campus perimeter path.

Gateway Treatments (Projects 1, 2, 3)

At the two major southern gateways to campus - Geer Road/Monte Vista Avenue (northwest corner of intersection) and Crowell Road/Monte Vista Avenue (northeast corner of intersection), gateway treatments improve bicycle and pedestrian comfort and safety by expanding and enhancing waiting areas and crossings. Additionally, a re-design of the East Campus gateway roundabout would improve bicyclist safety and comfort through the intersection.

Recommendations:

- ◇ *Geer Road/Monte Vista Avenue (Project 1) and Crowell Road/Monte Vista Avenue (Project 2)*
Widen bicycle and pedestrian queuing space on the campus side of the two corners to create paved pedestrian and bicycle gateway plazas, and install directional oversized ADA curb ramps that are wide enough to allow two-way bicycle and pedestrian traffic. Widen campus sidewalks and paths approaching gateways. Work with City of Turlock to provide bicycle and pedestrian accessible push buttons for crossings and to stripe wider crosswalks. These gateway treatments will require coordination with the City of Turlock to secure the necessary permitting for construction at the intersection. **Figure 4-3 Geer Road/Monte Vista Avenue Gateway Treatment Concept Plan** presents a concept plan of the recommended gateway treatments.

- ◇ *Calaveras Way/Merced Way/Mariposa Drive (Project 3)*
Convert the existing oversized roundabout to a true single-lane roundabout to clarify expectations for all modes and to improve bicycle and pedestrian safety through the intersection. Marked crosswalks with refuges are proposed in addition to curb extensions to reduce pedestrian crossing distances. **Figure 4-4 Calaveras Way Roundabout Concept Plan** presents a conceptual design for the proposed roundabout treatment. This project serves an important gateway function for the east side of campus, and the narrowing of the roundabout presents an opportunity for new landscaping, campus signs, and other aesthetic and placemaking treatments.

WC10-2774.01_1_ExCon

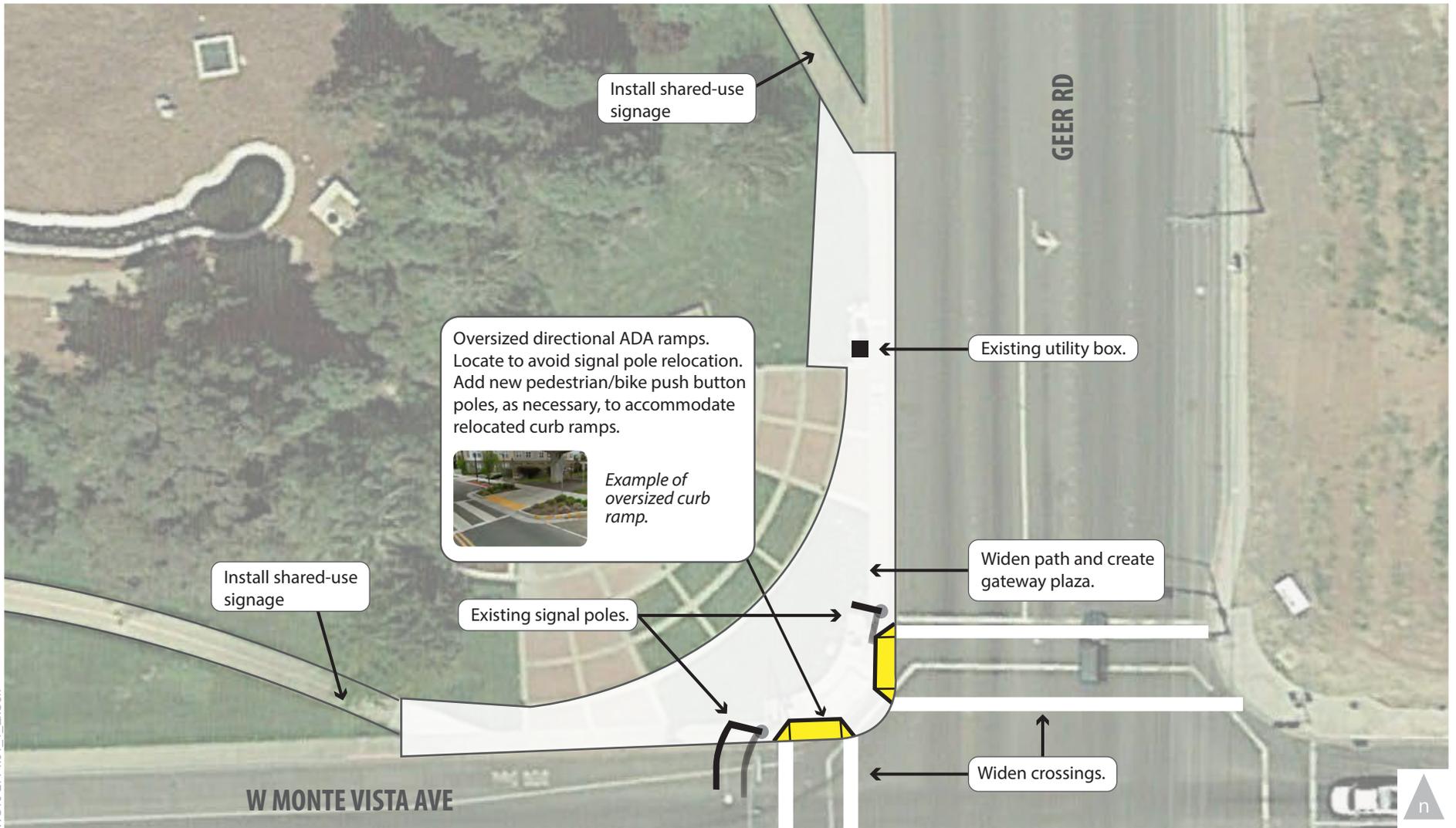


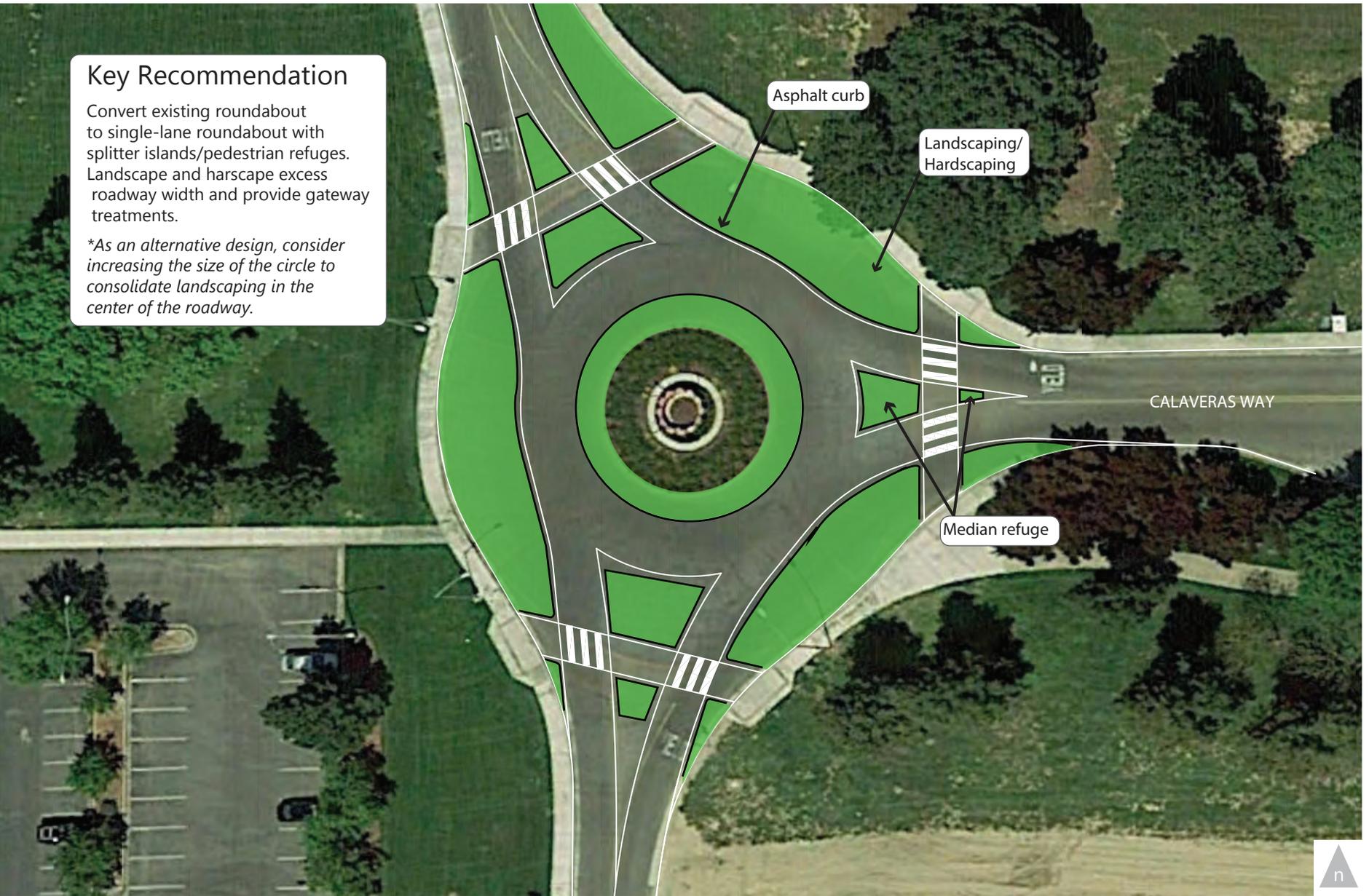
Figure 4-3

Geer Road/Monte Vista Avenue Gateway Treatment Concept Plan

Key Recommendation

Convert existing roundabout to single-lane roundabout with splitter islands/pedestrian refuges. Landscape and hardscape excess roadway width and provide gateway treatments.

**As an alternative design, consider increasing the size of the circle to consolidate landscaping in the center of the roadway.*



Calaveras Way Roundabout Concept Plan
Figure 4-4

Crossing Treatments (Projects 4-6)

Crossing treatments enhance the connection between campus paths and the City of Turlock street network by facilitating bicycle and pedestrian movement across busy arterials on the perimeter of campus.

Recommendations:

- ◇ *Monte Vista Avenue/University Circle (Project 4)*
Install curb extensions and wide bicycle ramps on the northeast and northwest corners of the intersection. Install bicycle loop detection in the southbound through and left-turn lanes to improve bicycle crossings.
- ◇ *Crowell Road/Bittern Way (Project 5)*
Pedestrian crosswalk improvements were completed at this location by the City of Turlock.
- ◇ *Geer Road/Calaveras Way (Project 6)*
Work with the City of Turlock to install a full traffic signal to enhance campus access for all modes on the east side of campus. Mark all crosswalks and install curb extensions (where parking is allowed) and median refuges to reduce crossing distances for pedestrians.

Improved Parking Lot Access (Project 7 and 8)

Parking lot connections enhance access to the on-campus bicycle network from local city streets and the campus perimeter path by constructing shared-use path spurs and striping bicycle routes through parking lots with sharrow pavement legends to connect with core campus path network. All of these connections should include wayfinding signs to guide bicyclists to key campus destinations and signs. (See **Chapter 7 Design Guidelines** for more information on sharrow placement and design.) Bicycle curb ramps further facilitate bicycle movement between parking lots routes and campus paths.

Wide shared-use paths between the campus perimeter path and the campus core network of paths should be constructed where space allows, either by widening sidewalks or constructing new paths. Where space is constrained, on-street bicycle routes with sharrows on designated parking lot aisles may be considered.

Recommendations:

- ◇ Designate an on-street east-west route along the southern edge of Parking Lot 3 on the west side of campus to provide enhanced bicycle access from Crowell Road to the campus core. Stripe with sharrows and designate as a route to campus through bicycle wayfinding to key destinations.
- ◇ Designate an on-street north-south route through Parking Lot 4 in the northwest corner of campus at Demergasso-Bava Hall to provide enhanced bicycle access from the perimeter path and Ansel Adams Boulevard. Stripe with sharrows and designate as a route to campus through bicycle wayfinding to key destinations.
- ◇ Designate an on-street north-south route between Parking Lots 6 & 7 and along the western edge of the student housing area to provide on-campus residents with enhanced bicycle access from West Christoffersen Parkway and Merced Way. Stripe with sharrows and designate as a route to campus through bicycle wayfinding to key destinations.
- ◇ Widen the existing sidewalk on the east side of Theatre Drive to connect the Monte Vista Avenue/University Way bicycle lanes and campus perimeter path with the Arts & Theatre buildings.
- ◇ Widen the sidewalk extending south from John Muir Drive through Parking Lot 11 to provide a shared-use path connection between the campus perimeter path and the Mary Stuart Rogers and Science I buildings.
- ◇ Widen the sidewalk on the east side of Andre Lane to provide a shared-use path connection to Naraghi Hall from the campus perimeter path and the Monte Vista Avenue/University Way bicycle lanes. Construct wide bicycle ramps and connection to the path system on the north side of Mariposa Drive.
- ◇ Construct a shared-use path on the east side of Lot 11 to connect north to the green house and Melones Drive. Install path crossings and wide bike ramps in support of the path. (See also Project 14 in next section.)
- ◇ Optional: Install green colored pavement behind sharrows through on-street parking lot routes to signify bicycle right-of-way to parking lot users.

Campus Pathway Improvements

Another primary goal of the CSU Stanislaus Bicycle Master Plan is to improve on-campus bicycle circulation by enhancing the quality of the connectivity among campus pathways. There are multiple opportunities to improve bicycle circulation on the campus pathway network.

Gap Closures and Connectivity Improvements (Projects 9-16)

Given the limited north-south routes through campus and the gap in the campus perimeter path, this group of projects enhances connectivity with new path connections and a gap closure project to create a continuous campus perimeter path. Facilities should be enhanced to accommodate bicyclist riding in these areas.

Recommendations:

- ◇ *Geer Road between Calaveras Way and West Christoffersen Parkway (Project 9)*

Work with the City of Turlock to widen the existing west sidewalk to create a Class I shared-use path (recommended 12 feet wide). Install bicycle curbs ramps at the path intersections with West Christoffersen Parkway and Calaveras Way.

 - This path widening would be incorporated into the City of Turlock's plans for new bicycle facilities on Geer Road between Monte Vista Avenue and Taylor Road. The City plans to add bicycle lanes to the roadway, with the exception of the southbound portion between West Christoffersen Parkway and Calaveras Way. The exception is due to the campus community's high utilization of parking on the west side of Geer Road, which results in insufficient width for an on-street bicycle lane. The widened shared-use path would serve bicyclists and pedestrians for this stretch of Geer Road and transition to bicycle lanes south of Merced Way. Bicycle lanes are proposed on northbound Geer Road.

- ◇ *East-west path between Merced Way and Fullerton Drive at athletic fields (Project 10)*

Formalize the existing shared-use path through the athletic fields from Merced Way to Geer Road at Fullerton Drive to provide a convenient link to athletic facilities from campus perimeter. Install a bicycle curb ramp at the path intersection with Geer Road.

 - Consider temporary asphalt material to accommodate future building construction on the site.

- ◇ *Merced Way between Calaveras Way and Perimeter Path (Project 11)*

Widen the existing east sidewalk to 12 feet to close the gap in the campus perimeter path. Install bicycle curb ramps at the path intersections with Parking Lot 5 and Calaveras Way.

- ◇ *North side of Parking Lot 8 sidewalk (Project 12)*

Construct new bicycle pathway on the north side of Parking Lot 8 of 12 feet to create a path between the Calaveras roundabout and Warrior Lake. Install bicycle curb ramps at the path intersection with Calaveras Way and the parking lot on Melones Drive.

- ◇ *North-south path through Melones Drive and Mariposa Drive east of Willow Lake (Project 13)*

Improve the north-south path connection between the perimeter bike path on the southern edge of campus and the central campus east-west path. The path would pass east of Parking Lot 11, east of Willow Lake across Mariposa Drive and Melones Drive, and east of Health Center. Install a bicycle curb ramp at the path intersection with Monte Vista Avenue; install bicycle curb ramps and markings for a bicycle crossing at the path intersections with Mariposa Drive and Melones Drive.

- ◇ *Path between the Quad and University Circle (Project 14)*

Construct a new path between the Quad and University Circle around the flagpole to enhance the north-south bicycle connection. Install bicycle curb ramps at the path intersections with University Circle and its parking lot. See **Figure 4-5 The Quad/University Circle Pathway Treatment Concept Plan** for a concept plan of the recommended Quad-University Circle pathway treatment.

◇ *Path along west edge of Library to Theatre/Drama (Project 15)*

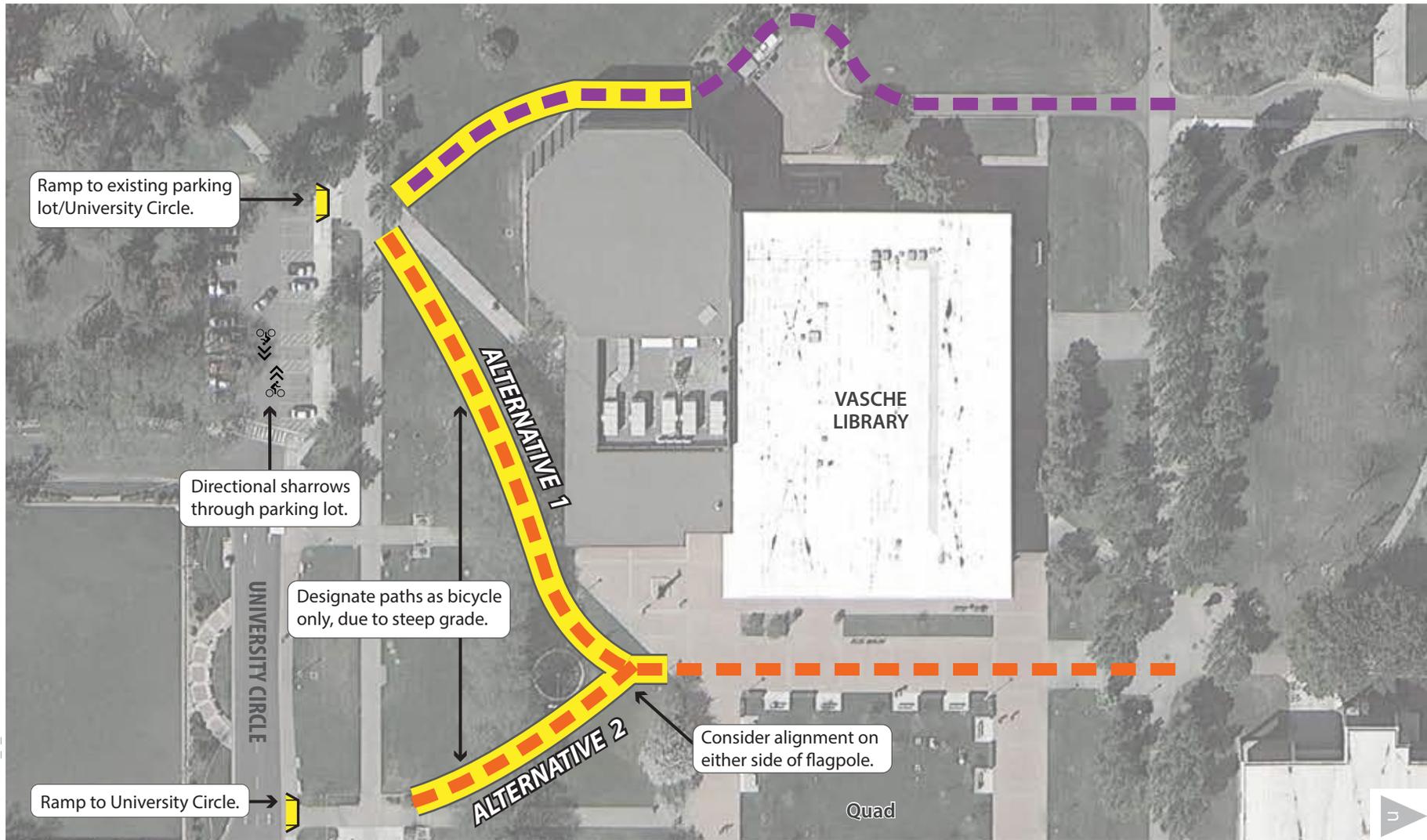
Construct a new path between the campus east-west paths and the Theatre/Drama buildings, passing west of the Library, to enhance the north-south bicycle connection.

◇ *Path between Art and Theatre/Drama buildings (Project 16)*

Provide a bicycle ramp near the stairs between the Art and Theater/Drama buildings to accommodate bicyclists while maintaining an ADA path of travel.

- Alternatively, install stair channels along the stairs between the buildings to accommodate bicycles and provide additional bicycle parking at the base of the stairs and hills where demand exists.

WC10-2774.01_1_ExCon



- Alternative alignments for proposed shared use path between Quad and University Circle
- New shared path



Figure 4-5

The Quad/University Circle Pathway Treatment Concept Plan

Quad Treatment

As the nexus of campus academic buildings and the walking and biking circulation networks, the Quad is a high-demand area of campus. The Quad currently has very wide pathways and also provides a critical north-south and east-west link in the campus bicycle network. Given its importance to the network, maintaining bicycle access through the Quad is recommended. However, special events frequently occur in the Quad and may require that bicyclists be prohibited from riding through the Quad for short periods of time. On such special event days, cyclists should be required to dismount rather than mix with pedestrians. Temporary “Bicyclist Dismount Zone” signs would be located on the fringe of the Quad and would signal to bicyclists the end of the bike facility. The temporary signs should direct bicyclists to the proposed nearby bicycle cages and short-term bicycle parking on the edge of the Quad to ensure that cyclists have a secure and visible place to store their bikes.

Recommendations:

- ◇ Maintain pedestrian-only facilities within the Quad only on special event days.
- ◇ Provide bicycle parking on perimeter of Quad to accommodate special event day bicycle prohibition.

Enhanced Path Lighting and Path User Definition

Pathway lighting should be pedestrian-scale and provide sufficient visibility for users at night. Pathways should be striped and signed to clearly indicate user right-of-way and direction, creating clear expectations between bicyclists and pedestrians.

Recommendations:

- ◇ Install pedestrian-scale lighting on campus perimeter path and other on-campus pathways.
- ◇ Install signs and stencils to indicate bicycle and pedestrian rights-of-way on campus pathways.

Bicycle Parking

Bicycle parking racks serve students who are in class for a short period of time. Long-term bicycle parking, such as bicycle parking cages, is needed to provide secure bicycle parking for longer periods of time. This parking should also serve faculty and staff who are frequently on campus all day or students who drive to campus but would use a bicycle to circulate around campus between the parking lots and the heart of campus.

Bicycle Cages and Fix-It Stations (Project 18)

Recommendations:

- ◇ *Install bicycle cages*
Install a bicycle cage at high use location(s), such as Bizzini Hall, Vasche Library, and Fitzpatrick Arena/Gym to serve long-term bicycle parking needs. Equip cages with Warrior Card access and enhanced security. Bizzini Hall location is recommended as a pilot project. The Vasche Library and Fitzpatrick Arena/Gym locations could be installed as a second phase of the bicycle parking project.

- ◇ *Install bicycle fix-it station*
Install a bicycle fix-it station and/or bicycle equipment vending machine near or in proposed bicycle cages to facilitate basic self-service bicycle maintenance.

This page left intentionally blank



5. SUPPORT PROGRAMS

Support programs that complement and enhance bicycle infrastructure improvements are critical elements for a complete and balanced approach to improving bicycling at CSU Stanislaus. CSU Stanislaus should build on current education, encouragement, enforcement, and collaboration efforts related to bicycling on campus.

Existing Programs

Bicycle network support programs are currently limited to education and encouragement events at the beginning of the school year, when University Police host bicycle lock giveaways and the Student Recreation Complex offers a Bicycling 101 introductory course. However, these efforts are largely marketed towards students; there is currently limited education and encouragement outreach directed towards the rest of the CSU Stanislaus campus community, specifically faculty and staff.

Additionally, students recently organized the Bicycle Advocacy Group, newly formed at the time of publication of this plan, and have designed a bicycling brochure consisting of safety tips and maintenance information.

Three campus buildings, including Naraghi Hall of Science, Mary Stuart Rogers and the Physical Education Facility, provide bicycle support facilities, consisting of showers and/or locker facilities. These are not well publicized and may not be open for general use. There are short-term bicycle parking racks located around campus, but these are often overcrowded, lack sufficient security, and are poorly designed to support two points of connection with the parked bicycle.

Proposed Programs

Depending on staff availability and resources, CSU Stanislaus should consider augmenting existing efforts with the support programs detailed below.

Education

- Distribute a map with recommended bicycle routes to campus and the locations of lockers, showers and bicycle parking around campus to all campus students, faculty and staff. (Distinguish between short-term and long-term parking facilities.)
- Work with the student advocacy group to produce and distribute the bicycle safety brochure and other bicycle information materials in new student orientation packets, including a guide to proper bike locking.
- Include bicycle information, maps, and brochures on the CSU website.

- Engage faculty and staff to participate in and promote Bike to Work Day activities.
- Increase visibility of existing education programs (e.g., Bicycling 101 course) and extend offerings to entire campus community, including faculty and staff.

Encouragement

- Partner with a local bike shop for student discounts and bike repair classes.
- Provide bike light, bike lock and helmet discounts and giveaways.
- Organize bicycle-oriented social events, such as bike mechanic happy hours.
- Develop financial incentives for bicycling to campus, such as a commuter benefits bonus.
- Build a general marketing campaign directed towards students, faculty and staff to share available resources and promote bicycling.
- Establish a bicycle ambassador program to distribute information and guidance. Work with existing organizations, like the Bicycle Advocacy Group or University Student Union, to serve as a liaison to the campus community.
- Establish a bicycle buddy system to pair new riders with experienced riders.
- Sponsor a campus Bike Share program. The program would be intended to provide short-term bicycle rentals on campus and would be aimed towards students, faculty, staff, and visitors who do not own bicycles or choose not to bring a bicycle to campus.

Enforcement

- Work with campus security staff to provide support on enforcement.
- Require bicycle registration to help identify stolen bicycles.
- Utilize public safety officers to monitor bicycle/pedestrian conflicts on shared facilities, and issue citations for unsafe bicycling.
- Provide bicycle safety education classes, and require attendance for bicyclists issued a citation.
- Consider a bicycle dismount zone in the center quad during special events.

Collaboration

- Collaborate with City of Turlock staff to ensure that regional bicycle and pedestrian facility improvements are coordinated with on-campus facilities.

Bicycle Parking

Bicycle racks around the CSU Stanislaus campus are well maintained and well-used; however, CSU Stanislaus should consider the following bicycle parking opportunities:

- Select a preferred design standard for bicycle racks.
- Develop a program to inventory existing bike parking, upgrade old racks to the preferred design standard, and create a maintenance program for new racks.
- Monitor bicycle rack use and identify opportunities to increase bike parking at popular destinations.
- Identify candidate locations for lockers or enclosed facilities and build new parking structures.

This page left intentionally blank



6. IMPLEMENTATION STRATEGY

This chapter presents information on the priority and cost for the recommended improvements. The intent of this chapter is to assist CSU Stanislaus with programming and constructing the projects.

The proposed bikeway system, when fully implemented, will provide a comprehensive system for the campus. However, due to resource constraints, the proposed segments need to be prioritized for implementation. The prioritization provided in this chapter is meant to serve as a guide for implementation, but it should not be a limiting factor if opportunities arise to implement low- or medium-priority projects sooner. CSU Stanislaus should pursue opportunities to implement projects through routine resurfacing or redevelopment projects as they appear, regardless of a project's place in the prioritized list.

Cost Estimates

Table 6-1 Project Cost Categorizations presents cost categorization estimates for the proposed projects. Notes are provided to add detail to the cost estimates. Overall, implementation of the projects recommended in the CSU Stanislaus Bicycle Master Plan would cost approximately \$4 million.

The cost estimates assume soft costs, contingency, and design as follows:

- 15% markup for traffic control, construction management, and mobilization
- 25% markup for contingency
- 15% markup for design and environmental

Table 6-1: Project Cost Categorizations

Project Number	Project Location	Project Description	Estimated Cost Category	Notes
1	Geer Road/ Monte Vista Avenue	Widen sidewalks/paths approaching the northwest corner of the intersection; widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk and wider crossings	\$\$	Includes sidewalk, curb ramps, push buttons, marked crosswalks, and signs.
2	Crowell Road/ Monte Vista Avenue	Widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk	\$\$	Includes sidewalk, curb ramps, push buttons, and signs.
3	Calaveras Way/ Merced Way/ Mariposa Drive	Redesign roundabout on Calaveras to a single lane roundabout. Narrow roundabout to maximize landscape plantings in center of intersection and install gateway and place making treatments to create a gateway to campus from Geer Road.	\$\$\$	Includes sidewalk and curb ramps.
4	Monte Vista Avenue/ University Circle	Install curb extensions, bicycle ramps, and bicycle loop detection in southbound through and left turn lanes	\$\$	Includes curb extension, curb ramps, and loop detectors.
5	Crowell Road/ Bittern Way	Install crosswalk with curb extensions (City improvements completed at this location)	\$	Includes crosswalk and curb extension.
6	Geer Road/ Calaveras Way	Work with City of Turlock to signalize intersection; install high visibility pedestrian and bicycle crossings at each leg with median refuge (permanent) and curb extensions where on-street parking permitted	\$\$\$	Includes traffic signal, median, curb extension, and crosswalk.
7	Parking lots on south side of campus	Improve bicycle access through parking lots with designated off-street paths - Theatre Drive path, John Muir Drive extension path, and Andre Lane path	\$\$	Includes road markings and curb ramps.
8	Parking lots on west and north sides of campus	Improve bicycle access through parking lots with designated on-street routes with "sharrow" pavement legends and signs	\$\$	Includes landscaping and crosswalks.
9	Geer Road between Calaveras Way and Christoffersen Parkway	Work with City of Turlock to widen existing west sidewalk of Geer Road between Calaveras Way and Christoffersen Parkway to create Class I Shared Use Path (recommended 12' width)	\$\$	Includes sidewalk, curb ramps, and signs.
10	Path between Geer Road/Fullerton Drive and the Arena/Gym	Extend existing east-west path through athletic fields from Merced Way to Geer Road at Fullerton Drive; consider temporary asphalt material to accommodate future building construction on site. Widen existing path between Merced Way and the Arena/Gym.	\$\$\$	Includes sidewalk, curb ramps, and signs.

Table 6-1: Project Cost Categorizations

Project Number	Project Location	Project Description	Estimated Cost Category	Notes
11	Merced Way between Calaveras Way and Perimeter Path	Widen east sidewalk to 12' along Merced Way between Calaveras Way and Perimeter Path to close gap in the campus Perimeter Path	\$\$\$	Includes sidewalk, curb ramps, and signs.
12	Lot 8 Sidewalk (north side)	Create a new 12' path between Calaveras roundabout and Warrior Lake	\$\$	Includes sidewalk, curb ramps, and signs.
13	Path through Melones Drive and Mariposa Drive east of Willow Lake	Improve north-south path connection between perimeter bike path on southern edge of campus and central campus east-west path; path to pass east of lot 11, east of Willow Lake across Mariposa Drive and Melones Drive, and east of Health Center	\$\$	Includes sidewalk, curb ramps, crosswalk, and signs.
14	Path between the Quad and University Circle	Provide bicycle connection between the Quad and University Circle around flagpole	\$\$	Includes sidewalk, curb ramps, and signs.
15	Path along west edge of Library to Theatre/Drama	Provide bicycle connection between campus east-west paths and Theatre/Drama buildings; path to pass west of Library	\$\$	Includes sidewalk and signs.
16	Path between Art and Theatre/Drama buildings	Provide bicycle ramp adjacent to existing ADA switch-back path and stairs between Art and Theater/Drama buildings	\$\$	Includes path/ramp and signs.
17	Bizzini Hall	Install bicycle cage at high use location(s), such as Bizzini Hall, Vasche Library, Fitzpatrick Arena/Gym; Warrior Card access and enhanced security	\$\$	Includes bicycle cage.
18	<i>Multiple locations on campus</i>	<i>Install bicycle fix-it station and bicycle equipment vending machine near or in proposed bicycle cages</i>	\$	<i>Includes bicycle fix-it station.</i>

Notes:

Projects are described in **Chapter 4 Proposed Campus Bicycle Network**.

Costs include 15% markup for traffic control, construction management, and mobilization; 25% markup for contingency; and 15% markup for design and environmental.

Prioritization

Prioritization Framework

Project prioritization was based on the following five prioritization criteria, which are further defined in **Table 6-2 Prioritization Framework**.

- Safety/Comfort
- Demand
- Feasibility
- Cost
- Barriers

Projects were assigned scores for each criterion, and criteria scores were aggregated to create an overall prioritization score. **Appendix A Project Prioritization Scoring** presents the detailed criteria and weighting in addition to numeric scores for each project.

Prioritized Project List

Results from the prioritization process are summarized in **Table 6-3 Project Prioritization Summary**. Projects were ranked either “high”, “medium”, or “low” priority. Three of the highest priority projects were selected in consultation with CSU Stanislaus staff for further concept development. These conceptual plans are presented in **Chapter 4 Proposed Campus Bicycle Network**.

Detailed scoring for each project is presented in the appendix to this plan. Based on the prioritization framework, CSU Stanislaus should prioritize site improvements on identified north-south path connections (i.e., along the west edge of the Library, between the Quad and University Circle, and along Geer Road), as well as at the campus entrance at Geer Road and Calaveras Way through a redesigned roundabout and improved Geer Road crossings. Results also indicate that the installation of bicycle cages at strategic locations on campus, the extension of the path between Merced Way and Geer Road at Fullerton Drive, gateway treatments at Geer Road/Monte Vista Avenue and Crowell Road/Monte Vista Avenue, and on-street parking lot access routes would be important bicycle projects to pursue.

All recommendations are intended to enhance the bicycling experience on campus, and many are related. Opportunities to couple multiple recommendations will provide a greater benefit to bicyclists.

Several recommendations will require significant preparation, including coordination with other agencies, grant applications, and additional analysis and design.

Table 6-3: Project Prioritization Summary

Project Number	Project Location	Project Description	Project Goal	Project Timeframe	Project Cost Category	Project Prioritization Score
1	Geer Road/ Monte Vista Avenue	Widen sidewalks/paths approaching the northwest corner of the intersection; widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk and wider crossings	Increase bicycle and pedestrian waiting area and comfort at major campus gateway	Near-Term; Medium-Term	\$\$	Medium
2	Crowell Road/ Monte Vista Avenue	Widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk	Increase bicycle and pedestrian waiting area and comfort at major campus gateway	Medium-Term	\$\$	Medium
3	Calaveras Way/ Merced Way/ Mariposa Drive	Redesign roundabout on Calaveras to a single lane roundabout. Narrow roundabout to maximize landscape plantings in center of intersection and install gateway and place making treatments to create a gateway to campus from Geer Road.	Improve path connections between campus buildings by enhancing bicycle circulation through parking lots	Medium-Term	\$\$\$	Low
4	Monte Vista Avenue/ University Circle	Install curb extensions, bicycle ramps, and bicycle loop detection in southbound through and left turn lanes	Improve bicycle flow on campus perimeter path	Medium-Term	\$\$	Low
5	Crowell Road/ Bittern Way	Install crosswalk with curb extensions (City improvements completed at this location)	Enhance connection between campus paths and City street network	Complete	\$	Medium
6	Geer Road/ Calaveras Way	Work with City of Turlock to signalize intersection; install high visibility pedestrian and bicycle crossings at each leg with median refuge and curb extensions where on-street parking permitted	Enhance connection between campus paths and City street network	Long-Term	\$\$\$	Low
7	Parking lots on south side of campus	Improve bicycle access through parking lots with designated off-street paths – Theatre Drive path, John Muir Drive extension path, and Andre Lane path	Improve path connections between campus buildings by enhancing bicycle circulation through parking lots	Near-Term	\$\$	Medium

Table 6-3: Project Prioritization Summary

Project Number	Project Location	Project Description	Project Goal	Project Timeframe	Project Cost Category	Project Prioritization Score
8	Parking lots on west and north sides of campus	Improve bicycle access through parking lots with designated on-street routes with “sharrow” pavement legends and signs	Improve bicyclist safety and comfort	Medium-Term	\$\$	High
9	Geer Road between Calaveras Way and Christoffersen Parkway	Work with City of Turlock to widen existing west sidewalk of Geer Road between Calaveras Way and Christoffersen Parkway to create Class I Shared Use Path (recommended 12’ width)	Improve path connections between campus buildings by enhancing north-south bicycle circulation	Near-Term	\$\$	High
10	Path between Geer Road/Fullerton Drive and the Arena/Gym	Extend existing east-west path through athletic fields from Merced Way to Geer Road at Fullerton Drive; consider temporary asphalt material to accommodate future building construction on site. Widen existing path between Merced Way and the Arena/Gym.	Improve path connections between campus buildings by enhancing east-west bicycle circulation	Near-Term	\$\$\$	Medium
11	Merced Way between Calaveras Way and Perimeter Path	Widen east sidewalk to 12’ along Merced Way between Calaveras Way and Perimeter Path	Improve path connections between campus buildings by enhancing north-south bicycle circulation	Medium-Term	\$\$\$	Low
12	Lot 8 Sidewalk (north side)	Create a new 12’ path between Calaveras roundabout and Warrior Lake	Improve path connections between campus buildings by enhancing east-west bicycle circulation	Medium-Term	\$\$	Medium
13	Path through Melones Drive and Mariposa Drive east of Willow Lake	Improve north-south path connection between perimeter bike path on southern edge of campus and central campus east-west path; path to pass east of lot 11, east of Willow Lake across Mariposa Drive and Melones Drive, and east of Health Center	Improve path connections between campus buildings by enhancing north-south bicycle circulation	Near-Term	\$\$	Medium

Table 6-3: Project Prioritization Summary

Project Number	Project Location	Project Description	Project Goal	Project Timeframe	Project Cost Category	Project Prioritization Score
14	Path between the Quad and University Circle	Provide bicycle connection between the Quad and University Circle around flagpole	Improve path connections between campus buildings by enhancing north-south bicycle circulation	Near-Term	\$\$	High
15	Path along west edge of Library to Theatre/Drama	Provide bicycle connection between campus east-west paths and Theatre/Drama buildings; path to pass west of Library	Improve path connections between campus buildings by enhancing north-south bicycle circulation	Near-Term	\$\$	High
16	Path between Art and Theatre/ Drama buildings	Provide bicycle ramp adjacent to existing ADA switch-back path and stairs between Art and Theater/Drama buildings	Improve path connections between campus buildings by enhancing north-south bicycle circulation	Complete	\$\$	Medium
17	Bizzini Hall	Install bicycle cage at high use location(s), such as Bizzini Hall, Vasche Library, Fitzpatrick Arena/Gym; Warrior Card access and enhanced security	Improve convenience and security of bicycle parking	Near-Term, Medium-Term	\$\$	Medium
18	<i>Multiple locations on campus</i>	<i>Install bicycle fix-it station and bicycle equipment vending machine near or in proposed bicycle cages</i>	<i>Improve bicyclist convenience and comfort</i>	<i>Near-Term</i>	<i>\$</i>	Medium

Funding Opportunities

There are a number of funding opportunities that CSU Stanislaus could pursue to help fund the projects proposed in the CSU Stanislaus Bicycle Master Plan.

- **Continue use of University parking fines and forfeitures** with generated revenue dedicated to bicycle plan improvements.

- **Utilize state funding for building construction** by incorporating implementation of bicycle network improvements into Transportation Impact Studies for new campus buildings. Bicycle improvements could be integrated into project descriptions as a requirement for building access.
- **Update the campus LOS policy with new significance criteria for future on-campus projects** that emphasizes qualitative impacts to biking and walking. This would help encourage the inclusion of biking and walking improvements into new development projects to avoid findings of significant impact.

- Per the California Environmental Quality Act, Appendix G, Section XVI.d, a project's impact is potentially significant if the project would:

Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

This element would be used to address the conflicts between different users on a given roadway. For example, a project's contribution to increased bicycle traffic would substantially increase the hazards at an already deficient location. Therefore, the project's impact at this location is potentially significant.

- Partner and coordinate with the City of Turlock to seek competitive grant funding to improve last-mile access to the campus from city roadways. Potential grant funding sources may include the Caltrans and StanCOG Active Transportation Program (ATP) and the Highway Safety Improvement Program (HSIP).



7. DESIGN GUIDELINES

This appendix summarizes bicycle facility design guidelines to be used during implementation of the CSU Stanislaus Bicycle Master Plan. The guidelines draw from state of the practice standards for bicycle facilities types including bicycle parking, shared-use paths, bicycle lanes, enhanced on-street routes, crossings, striping, signage, and wayfinding.

Bicycle Parking and Support Facilities

Every bicycle trip has two main components: the route selected by the bicyclist and the “end-of-trip” facilities at the destination, such as safe and secure bicycle parking. As the CSU campus and student body grows, so will the population that chooses to ride a bike. The availability of secure and convenient parking is as critical to bicyclists as it is for motorists. The availability of bicycle parking at each campus building is a vital part of a complete bicycle network.

Parking should be highly visible, accessible and easy to use. Facilities should be located in well-lit areas and covered where possible. Ideally, bike parking should be less than 50 feet from the front door of the adjacent building. A distance of more than 150 feet discourages bicyclists from using the assigned parking. Installation is equally important; for example, a rack that is too close to a wall or other obstruction will not be effectively utilized.

There are different types of parking facilities just as there are different levels of bikeway facilities. Parking facilities fall into one of three main categories, as outlined in **Table 7-1 Bicycle Parking Facilities**.

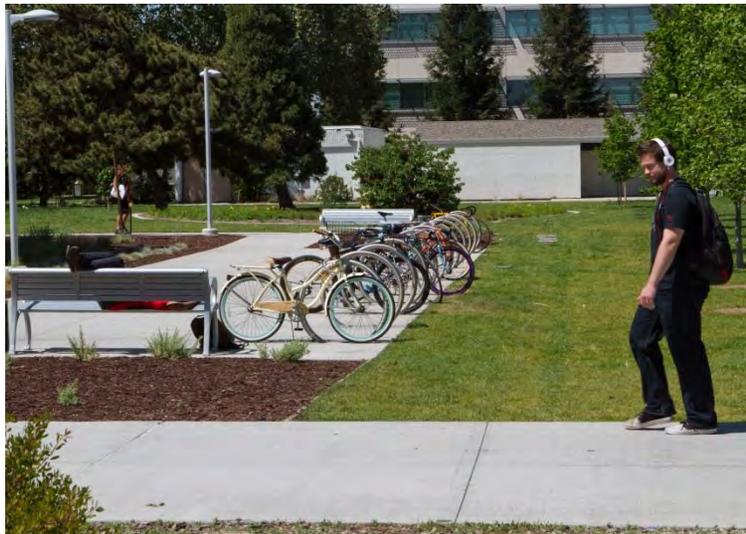
Table 7-1: Bicycle Parking Facilities	
Outdoor Bicycle Racks	
<ul style="list-style-type: none"> Inverted U-Rack or Wave Rack Covered Bicycle Parking Facilities Surface Parking Lot Conversion 	Ideal for short-term parking needs (2-3 hours)
Lockers	
<ul style="list-style-type: none"> Key Lockers Electronic Lockers 	Useful for long-term parking needs, given high level of security (>3 hours)

Table 7-1: Bicycle Parking Facilities

Enclosed Facilities

- Bicycle Cage
- Bicycle Room
- Bicycle Station

Ideal for long-term and over-night parking needs, given highest level of security.



Example of a high-quality outdoor bicycle rack.



Example of a low-quality outdoor bicycle rack.

Surveillance cameras and blue light phones should be installed at all major bicycle parking locations to improve security. Locker room and shower facilities should be enhanced and expanded to improve bicyclist convenience and comfort. Long-term bicycle parking facilities that are key-locked should be integrated with the campus Warrior Card system so that students, faculty, and staff can use their ID cards to access the facilities.

Bicycle Fix-It Stations

Bicycle fix-it stations should be sited at major bicycle parking locations to provide self-service maintenance support. Fix-it stations are a popular amenity among bicyclists, but concerns may arise about their durability and vulnerability to vandalism. To reduce exposure to inclement weather, place fix-it stations in an area sheltered from rain and wind. Bicycle fix-it station manufacturers, such as Dero and Bike Fixtation, are currently developing new models to be more robust in standing up to extreme weather and abuse.



Example bicycle cage at Marshall Station in Victoria.



Example bicycle fix-it station on Twin Bridges State Scenic Bikeway, Oregon.

Bicycle Facilities

Shared-Use Paths

Shared-use paths provide separated right-of-way designated for the exclusive use of bicyclists and pedestrians. Shared-use paths should be a minimum width of 10 feet, with a preferred width of 12-14 feet, depending on anticipated volume. In some circumstances where right-of-way is constrained or low volumes of bicyclists and pedestrians are anticipated, eight feet is acceptable. Shared-use paths should be as direct as possible, with minimal curves. All paths should have accessible curb ramps and should be sized so that bicyclists and pedestrian can pass each other side-by-side.

Striping and signage indicating user right-of-way and direction may be added to paths to further clarify expectations between bicyclists and pedestrians. It is suggested that this be used as an “enhancement” to existing paths where bicyclist and pedestrian conflicts are reported. Path lighting should be pedestrian-scale and provide sufficient visibility for users at night.

On CSU Stanislaus campus, shared-use paths are generally preferred to maximize bicycle and pedestrian connectivity. Existing narrow paths should be widened to 12 feet, where feasible, and plans for new paths should include a width of no less than 10 feet. Where available width is insufficient for a shared-use path, on-street bicycle routes may be considered. For example, on-street facilities would be recommended through the parking lots on the west side of campus, since there is no available space for a quality off-street path. Shared-use paths also limit the need for ongoing enforcement efforts by campus police and keeps the campus active transportation network flexible and accessible to all users.

Where on-campus shared-use paths intersect parking lot aisles that access the campus core or cross driveways, large curb ramps should be provided for bicyclists to connect to other campus roadways and paths. All shared-use paths should have safe and visible crossings at roadways and through parking lots. Good lighting, blue light phones and other safety amenities should also be installed.

Bicycle Lanes

Bicycle lanes provide a restricted right-of-way designated for the use of bicycles on roadways with through motor vehicles traffic. Bicycle lanes should have a six-foot preferred width, with a minimum of five feet. If sufficient space is available, buffered bicycle lanes should be installed to increase the separation between bicyclists in the bicycle lane and motor vehicle traffic in the adjacent lanes.

The City of Turlock currently has plans to install new bicycle lanes on Geer Road between Monte Vista Avenue and Taylor Road.

Bicycle Routes with Sharrows

Sharrows (or “shared lane markings”) are a way to designate shared space between autos and bicyclists. Sharrows also have a wayfinding feature to guide bicyclists along preferred bicycle routes on campus roadways. Sharrows are typically centered on the width of a travel lane to indicate that bicyclists may use the full lane.

The sharrow treatment should be considered to designate bicycle routes through parking lots to connect the campus core with the campus perimeter path and other key routes.



Example of a Sharrow.

Wayfinding

CSU Stanislaus should use signs on campus for wayfinding throughout the campus bicycle network. At decision points, such as at campus gateways, where a bikeway changes direction, or where two bikeways converge, signs pointing to major destinations should be installed. Signs should not be used for regulatory purposes. Signs communicating campus policy should be removed, as they are ineffective and contribute to “sign clutter.”

Crossings

Crosswalks

A uniform crosswalk policy that specifies different treatments for crosswalks at controlled and uncontrolled marked crosswalks is beneficial for bicyclists and pedestrians. While standard crosswalk striping is typically sufficient at controlled locations, high-visibility striping (such as “ladder” striping) is preferable at uncontrolled locations where motorist yielding is required, as ladder striping improves visibility for motorists. Consistent crosswalk striping policies passively alert pedestrians and motorists to uncontrolled crosswalks.

One potential high-visibility crosswalk style is called “triple four,” and it has a set of highly reflective boxes on both sides of the crosswalk. This marking helps channelize pedestrians to the center of the crosswalk. Reflective pavement markers are often used at the lip of the crosswalk to enhance visibility at dusk and dawn. Existing uncontrolled crosswalks should be converted to high visibility striping to create consistency across campus.

Controlled crosswalks should be striped in the “standard” pattern, with solid white lines on both sides of the crosswalk.

High visibility crosswalks should be installed at uncontrolled locations around the campus perimeter to make pedestrian crossings more visible to drivers where City of Turlock is able to accommodate.



Example of “Triple Four” High Visibility Striping.

Curb Ramps

On bicycle paths and shared-use paths where two-way bicycle traffic is anticipated, curb ramps should be over-sized to allow two bicyclists or a bicyclist and pedestrian to pass side-by-side. Curb ramps should be installed where the path network intersects campus or City roadways. An example of a wide bicycle ramp on a path is shown in the accompanying photograph. Marked high-visibility ladder crosswalks should be considered at these locations to highlight the continuation of the path on the other side of the roadway.

Additionally, bicycle ramps that connect to the bicycle lanes on city roadways around the perimeter of campus should be considered opportunistically to enhance connectivity between the campus and city bicycle network.



Example oversize curb ramp on the Ohlone Greenway in El Cerrito.

Crosswalk Signage

Pedestrian and bicycle signs installed on campus and along adjacent roadways should consist of a fluorescent yellow-green color background. The fluorescent yellow-green color signs stand out and alert drivers to upcoming pedestrian and bicycle crossings. The California Manual on Uniform Traffic Control Devices (MUTCD) recommends fluorescent yellow-green pedestrian signs.

Example of bicycle/pedestrian trail crossing assembly (W11-15 with W16-7P).



APPENDIX A Project Prioritization Scoring

Projects were assigned a score of 0, 1, or 2 for each criterion, and criteria scores were aggregated to create an overall prioritization score. **Table A-1 Prioritization Framework** summarizes the prioritization framework with the individual criteria and their scores, and **Table A-2 Project Prioritization Breakdown** presents the scores for each project.

Table A-1: Prioritization Framework		
Prioritization Criteria	Score	Description
<i>Safety/ Comfort</i> Perceived safety/comfort on existing facility	2	Safety/comfort concern identified through outreach (e.g. narrow path, limited queuing area at campus gateway)
	1	Potential safety/comfort concern due to high user volumes and/or constrained facility
	0	No identified or potential safety/comfort concern
<i>Demand</i> Bicycle access to major trip attractors and generators from facility	2	Identified as heavily utilized facility through outreach (e.g. Quad, gym, Naraghi Hall)
	1	Potential heavily utilized facility due to connection to two or more community destinations
	0	Not identified as heavily used facility and limited connection to community destinations
<i>Feasibility</i> Current availability or future feasibility of improvement	2	Minimal challenge to implement - CSU can complete the project and deliver it with available resources
	1	Moderate challenge to implement - CSU can complete the project but may need to identify additional resources
	0	High challenge to implement - City may need to lead the project with CSU's support
<i>Cost</i> Level of investment required for improvement	2	Minimal expense for implementation (\$)
	1	Moderate expense for implementation (\$\$)
	0	High expense for implementation (\$\$\$)
<i>Barriers</i> Difficult area or security concern improved by facility	2	Currently unnavigable route improved by project
	1	Currently difficult route improved by project
	0	Route not currently unnavigable or difficult

Table A-2: Project Prioritization Breakdown

Project Number	Project Location	Project Description	Prioritization Criteria					Project Prioritization Score
			Safety/ Comfort	Demand	Feasibility	Cost	Barriers	
1	Geer Road/ Monte Vista Avenue	Widen sidewalks/paths approaching the northwest corner of the intersection; widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk and wider crossings	2	2	1	1	1	7
2	Crowell Road/ Monte Vista Avenue	Widen queuing space to create a paved pedestrian/bicycle gateway plaza to campus; install directional oversized bike/ADA ramps; work with the City of Turlock to provide bicycle and pedestrian accessible push buttons for crosswalk	2	2	1	1	1	7
3	Calaveras Way/ Merced Way/ Mariposa Drive	Redesign roundabout on Calaveras to a single lane roundabout. Narrow roundabout to maximize landscape plantings in center of intersection and install gateway and place making treatments to create a gateway to campus from Geer Road.	2	1	1	0	1	5
4	Monte Vista Avenue/ University Circle	Install curb extensions, bicycle ramps, and bicycle loop detection in southbound through and left turn lanes	0	1	2	1	1	5
5	Crowell Road/ Bittern Way	Install crosswalk with curb extensions (City improvements completed at this location)	1	1	0	2	2	6
6	Geer Road/ Calaveras Way	Work with City of Turlock to signalize intersection; install high visibility pedestrian and bicycle crossings at each leg with median refuge and curb extensions where on-street parking permitted	2	2	0	0	1	5
7	Parking lots on south side of campus	Improve bicycle access through parking lots with designated off-street paths - Theatre Drive path, John Muir Drive extension path, and Andre Lane path	2	1	2	1	1	7

Table A-2: Project Prioritization Breakdown

Project Number	Project Location	Project Description	Prioritization Criteria					Project Prioritization Score
			Safety/ Comfort	Demand	Feasibility	Cost	Barriers	
8	Parking lots on west and north sides of campus	Improve bicycle access through parking lots with designated on-street routes with "sharrow" pavement legends and signs	2	2	2	1	1	8
9	Geer Road between Calaveras Way and Christoffersen Parkway	Work with City of Turlock to widen existing west sidewalk of Geer Road between Calaveras Way and Christoffersen Parkway to create Class I Shared Use Path (recommended 12' width)	2	2	2	1	1	8
10	Path between Geer Road/Fullerton Drive and the Arena/Gym	Extend existing east-west path through athletic fields from Merced Way to Geer Road at Fullerton Drive; consider temporary asphalt material to accommodate future building construction on site. Widen existing path between Merced Way and the Arena/Gym.	1	1	2	2	1	7
11	Merced Way between Calaveras Way and Perimeter Path	Widen east sidewalk to 12' along Merced Way between Calaveras Way and Perimeter Path to close gap in the campus Perimeter Path	1	1	2	0	1	5
12	Lot 8 Sidewalk (north side)	Create a new 12' path between Calaveras roundabout and Warrior Lake	1	1	2	1	1	6
13	Path through Melones Drive and Mariposa Drive east of Willow Lake	Improve north-south path connection between perimeter bike path on southern edge of campus and central campus east-west path; path to pass east of lot 11, east of Willow Lake across Mariposa Drive and Melones Drive, and east of Health Center	1	1	2	1	1	6
14	Path between the Quad and University Circle	Provide bicycle connection between the Quad and University Circle around flagpole	2	2	1	1	2	8
15	Path along west edge of Library to Theatre/Drama	Provide bicycle connection between campus east-west paths and Theatre/Drama buildings; path to pass west of Library	2	2	2	1	2	9

Table A-2: Project Prioritization Breakdown

Project Number	Project Location	Project Description	Prioritization Criteria					Project Prioritization Score
			Safety/ Comfort	Demand	Feasibility	Cost	Barriers	
16	Path between Art and Theatre/ Drama buildings	Provide bicycle ramp adjacent to existing ADA switch-back path and stairs between Art and Theater/Drama buildings	1	1	1	1	2	6
17	Bizzini Hall	Install bicycle cage at high use location(s), such as Bizzini Hall, Vasche Library, Fitzpatrick Arena/Gym; Warrior Card access and enhanced security	0	2	2	1	2	7
18	Multiple locations on campus	Install bicycle fix-it station and bicycle equipment vending machine near or in proposed bicycle cages	0	2	2	2	0	6