

UNIVERSITY OF CALIFORNIA, RIVERSIDE
PROJECT NO. 958089

BICYCLE MASTER PLAN STUDY

February 8, 2018



PREPARED BY:
Alta Planning + Design

IN ASSOCIATION WITH:
Walker Macy

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2. INTRODUCTION

COMPOSITION OF THE TEAM

Alta Planning + Design will manage this project through a collaborative process that provides local resources connected to a national network of skills for specific project tasks. Alta will serve as the prime consultant for this project. Alta draws upon its depth of active transportation planning experience to craft successful campus bicycle and pedestrian master plans, including the California Polytechnic State University San Luis Obispo Bicycle Circulation and Safety Study, Google Bike Vision Plan, UCLA Health Bike Connection Plan, and Fresno State University Active Transportation Plan, among others.

Our team also includes **Walker Macy**, a landscape architecture, planning, and urban design firm that has a significant depth of campus planning and design experience. **Walker Macy has worked steadily at UC Riverside for over 15 years, and the firm has a detailed knowledge of the campus' history, community, topography, and design standards.** With values and a place-based design approach that aligns well with UC Riverside's culture, the firm has elegantly addressed the unique access, infrastructure, and natural resource protection considerations for campus development, including for redevelopment to improve accessibility and campus sense of place. Alta and Walker Macy have a proven teaming relationship, including our successful partnership on the Salmonberry Corridor Master Plan in Oregon.

Figure 4.5 PROPOSED RECREATION MALL CROSS-SECTION (PR-4)



Walker Macy has worked with UC Riverside for over 15 years on a variety of campus development projects, including on the University's 2016 Physical Master Plan Study.

UNIQUE QUALIFICATIONS

Campus Mobility Planning

Campuses require a specialized approach to bicyclists and pedestrians that reflects the internal circulation needs and aesthetic style of the institution. Issues such as safety and accessibility, separation of bicyclists and pedestrians, adequate bicycle storage, policies on bicycle riding, and programs to encourage walking and bicycling are part of Alta's campus bicycle and pedestrian master plans.

Campus Bicycle Programs

Alta assists universities and colleges in establishing a comprehensive bicycle program that raises the profile of bicycling and helps students, staff, and faculty use bikes more often to get to and around campus. Campus bicycle programs integrate a combination of the following strategies to make biking a better option:

- Communications and marketing tools
- Incentive programs
- Web tracking tools
- On-campus bike shops
- Bike sharing
- Bicycle skills training
- Bike buddy program
- Orientation materials
- Branding and logos



Alta has extensive experience designing and implementing campus bicycle programs.

Analysis and Modeling

Alta provides our clients with analysis tools customized to help understand bicycle and pedestrian travel demand and route choices. The Google Vision Network Stress test is built on over 15 years of experience developing analytic tools for bicycle and pedestrian movements, including leading national bicycle and pedestrian count programs, developing travel demand models that focus on unique bicycle and pedestrian issues, evaluating suitability of existing infrastructure for active transportation, and capturing the mobility, health, environmental, economic, and other benefits of active transportation investments.

Bicycle Parking Planning and Design

Alta's bicycle parking design experts understand how to create attractive, useful bike parking that saves money. We forecast short- and long-term bicycle parking demand for individual buildings, specific

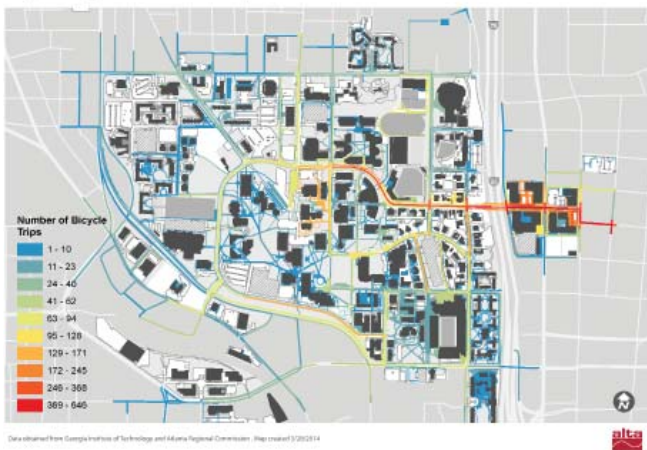
activity centers, or whole campuses. Then we design facilities that meet those needs and achieve institutional goals.

Wayfinding and Signage

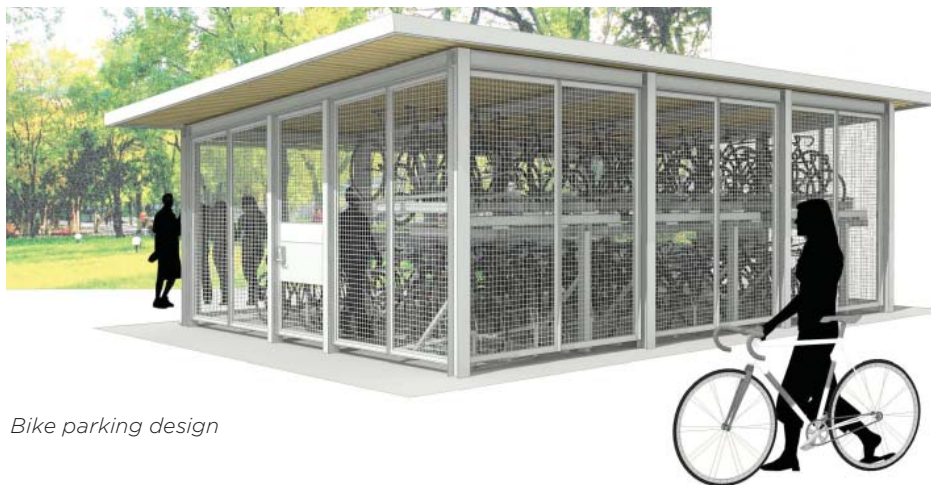
At Alta, we use our unique expertise in active transportation planning and design to create wayfinding signage systems that enhance the vibrancy and character of a campus.

Alta has designed over 50 signage and wayfinding systems. We understand the importance of creating wayfinding systems that address the needs of all users, whether traveling by foot, bicycle, car, or transit. Alta creates signage and wayfinding systems that reflect the natural and built environments, provide meaningful and attractive wayfinding tools, and minimize visual clutter.

Bicycle Trip Volumes on Campus



Analysis and modeling



Bike parking design



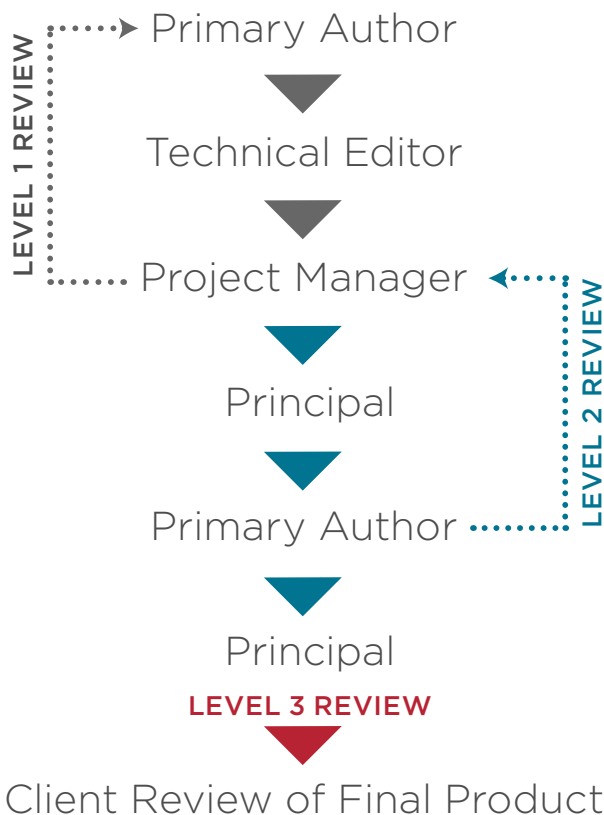
Wayfinding and signage

3. APPROACH

The extent of bicycling and walking in a community has been described as a barometer of how well that community is advancing its quality of life. Campuses busy with people bicycling and walking are considered to be environments that foster a heightened sense of community and civic pride. Not only does this benefit students, but faculty and staff as well. More trips by bicycle and on foot also means fewer trips by car, leading to reductions in roadway and parking lot congestion.

Alta recognizes that the University of California, Riverside is looking to gather information on where the campus is today and to develop design standards, projects and a prioritization plan to guide the campus towards a visionary future where there are:

- » More people on campus
- » More people biking and walking
- » Less conflict between travel modes



Our team employs a three-tier quality control system that includes (1) an in-house editor who reviews all materials, (2) independent review by principals, and (3) in-house scheduling and management tools.

Producing a high-quality project that meets the University’s needs, schedule, and budget requires an understanding of the concerns of the University, students, and other stakeholders. As a result, effective project management requires communication skills that facilitate a common expectation of project outcome. Alta applies quality management using a number of tools to ensure a successful project. Alta uses these tools to mitigate against schedule constraints and other challenges. For example, Alta successfully led a one-month effort to coordinate, develop, and finalize the City of Redlands Bicycle Master Plan. In less than four months, Alta also reviewed existing conditions and needs, prepared a community survey, held community workshops, and developed recommendations to deliver the Rancho Cucamonga Circulation Master Plan for Bicyclists and Pedestrians with broad-based community support.

Scope of Work

We have developed a comprehensive Scope of Work that reflects the University’s specific needs and includes dynamic, robust, and innovative public participation. These combined efforts will yield a community-supported Bicycle Master Plan Study that aims to increase safety for existing bicyclists, attract new bicyclists, and minimize conflicts between all transportation system users. Our team is flexible in our approach, and we look forward to working with the University to finalize the scope tasks and level of effort through contract negotiations.

TASK 1. MOBILIZATION AND DATA COLLECTION

Throughout the planning process, Alta’s Project Manager will be in regular contact with the University of California, Riverside’s (UCR) Project Manager. This will include frequent e-mails, telephone calls, written documents, and monthly meetings. Alta will write detailed meeting summaries covering the discussion items and will include a list of follow-up tasks and the responsible party for each task.

Project management services will be ongoing throughout the duration of the project. These services include providing general oversight and direction, coordination of monthly project update meetings, developing monthly progress reports, adhering to the schedule, and invoicing.

Task 1.1 Project Kick-off Meeting

The Alta team will meet with staff from UCR to review goals and strategies, refine the project scope and working objectives, identify available data, establish communication channels with other university departments and agencies, review and list required elements and standards, and discuss the public outreach plan and schedule. At the conclusion of the kick-off meeting, key action items will be identified and the project schedule and scope of work will be revised if necessary.

Before the kick-off meeting, Alta will prepare a Data Needs Request Memorandum listing major items needed to advance the project, including GIS data, existing bicycle counts and locations for future counts, and key policy and planning documents for review.

Task 1.2 Baseline Data

Alta will collect baseline data to understand the active transportation network opportunities and deficiencies on campus. Alta will review the following, among others, to gain a better understanding of the campus environment:

- » Relevant studies and reports such as the Physical Master Plan Study and the Long Range Development Plan
- » Active transportation efforts within the campus and adjacent jurisdictions
- » Statewide Integrated Traffic Records System (SWITRS) injury collision data (for the most recently available 5 years)
- » Speed surveys, as available
- » Traffic counts, as available
- » Campus health assessments
- » Student travel mode surveys, as available
- » Road and right-of-way data: curb and street markings, walkways, bikeways, bike parking, bike repair stations
- » Public transit centers, boarding/alighting information, and parking information, as available
- » Land use data

We recognize that as part of developing recommendations, further data collection efforts may be needed. Supplemental data collection such as surveys, charrettes, and bicycle and pedestrian counts are included in Task 2 and Task 3 respectively.

Task 1 Deliverables:

- Project kick-off meeting (up to two Alta staff in attendance)
- Ongoing project management and quality control

TASK 2. PUBLIC OUTREACH AND PARTICIPATION

At the beginning of the project Alta will develop a public outreach plan that outlines details for soliciting community input through a robust, transparent, and multi-layered process involving direct engagement with stakeholders, a campus-focused bicycling audit, and two campus-wide charrettes. The public outreach plan will include coordination with UCR Project Management Team, students, employees, faculty, visitors, and representatives of the City and County of Riverside to build on their ideas, resources, and media outlets.

Task 2.1 Community Survey

Alta will create and deliver a public survey to determine the community's needs and concerns regarding bicycling on campus and the surrounding area. The survey will be made available to all interested parties in an online format (through SurveyMonkey) and via a printable PDF which can be distributed by UCR throughout the University and surrounding community. We suggest that the online survey be promoted through the University's website and social media outlets. The survey will collect information regarding:

- » Current and desired travel patterns
- » Safety issues on campus and in surrounding areas
- » Bicycle mobility challenges
- » Support for and challenges with the Zagster BikeShare program

Additional questions related to connectivity, wayfinding, and transportation mode conflicts will be included. Survey results will be delivered to the UCR Management Team and incorporated into the Bicycle Master Plan Study (BMPS).

Task 2.2 Public Meetings, Stakeholder Meetings, and Bikeways Audit

Public Meetings

Alta will facilitate two public meetings and will design and produce promotional and meeting materials, such as flyers, press releases, and large-scale maps. Alta will facilitate the public meetings and take detailed notes and minutes, which will be shared with the client following the events.

The first public meeting will provide overview information on the project, information on innovative bicycle treatments and programs. Alta will solicit input on key campus access points, gaps, barriers, and conflict areas.

The second public meeting will be conducted after preparation of the Draft Bicycle Master Plan to present and discuss the process and preliminary results. Feedback at the second meeting will be oriented towards review of the draft recommendations and input on desired enhancements and alternatives.

We have organized and facilitated numerous inclusive meetings for our projects and will collaborate with UCR and identified stakeholder groups to ensure the public meetings are well attended and reflect a cross-section of the community. We meetings will actively engage members of the public in attendance and allow for public interaction through the use of markers, stickers, and posted notes to contribute ideas and input.

Stakeholder Meetings

Alta will organize a two-day series of stakeholder meetings. These will include representatives of various departments (planning, engineering, design,

maintenance, parking), employees, faculty, staff, visitors, students, user-types (bicyclists, pedestrians, scooters/skateboarders, service vehicles), and common interests (such as public safety and conflicts, the environment, or design). The stakeholder meetings will provide an opportunity to discuss issues related to existing conflicts, design, construction, maintenance and wayfinding needs. Stakeholder input will provide a framework for the bikeway network, design guide, bicycle parking and programmatic recommendations.

Bicycle Audit

Alta will conduct a field review by bicycle of the campus and campus connections, with a focus on gaps, barriers, conflict zones and proposed networks. Stakeholders, University groups, and UCR staff will be invited to attend the bicycle audit creating an authentic mechanism to provide input on specific issues. The field review will entail:

- » A short training session to review the process and objectives of the bicycle audit
- » Development and distribution of maps of the area
- » Discussion and observations during the ride
- » Discussion and observations after the ride to solicit input regarding concerns and infrastructure improvements'

Task 2 Deliverables:

- Public outreach plan
- Two public meetings
- Two days of stakeholder interviews
- One bicycle audit

TASK 3. CAMPUS ASSESSMENT


Alta will gather data from a number of sources as the basis of our analysis and recommendations. We will review campus and regional background documents and plans as they relate to the bicycling environment. We will evaluate the existing BikeShare system, Zagster. We will collect data as a predictor of demand, including bicycle and pedestrian counts, land use and demographic data, existing mode share, network connectivity and transit access as well as data on barriers to travel such as missing links and collision and crash data.

Task 3.1 Bicycle and Pedestrian Counts

Alta will conduct bicyclist and pedestrian counts in target areas utilizing the Southern California Association of Governments-developed methodology. Counts will be conducted for four hours during peak periods at up to eight (8) locations. Counts will provide

**CITY OF VERNON BICYCLE MASTER PLAN
COMMUNITY SURVEY**

The City of Vernon Bicycle Master Plan aims to improve the quality of life for employees and business owners by creating a safe and interconnected bicycle network that is easily accessible for people of all ages and abilities.



VERNON BICYCLE MASTER PLAN

1 Where do you live?

Street name where you live _____ Zip code _____

3 What is your age group?

Under 13 13-17 18-25 26-35 36-45
 46-55 56-65 66-75 76+

5 Please describe your connection to the City of Vernon. (Check all that apply)

I live in Vernon I live near Vernon
 I own a business in Vernon I work in Vernon
 I go to school in Vernon I bicycle in Vernon
 Other _____

7 If you bike, what are your reasons? (Check all that apply)

Only option, don't have a vehicle To avoid traffic
 Environmentally friendly Fitness
 Transit is not available at night
 Transit stops are too far
 Don't know how to drive
 Save money
 Fun
 Other _____

9 Rate whether you agree or disagree with the statement: "I would like to travel by bike more often for my daily commute, errands, or other activities."

Strongly agree Agree Neutral Disagree Strongly disagree

11 If you'd like to receive more information on the Vernon Bicycle Master Plan, please provide your name / email.

Name _____ Email _____

2 Where is your work/school?

Company / school name _____
Address _____

4 What gender do you identify with?

Male Female Other _____

6 How do you commute to work / school (if you commute at least 3 days per week)?

Carpool Motorcycle
 Public Transportation Uber / Lyft
 Bicycle Drive alone
 Other _____ Walk

8 What discourages you from biking in Vernon? (Check all that apply)

No off-street bike paths Need to carry things
 No designated on-street bike lanes Health conditions
 No secure bike parking Live too far away
 No connecting bike routes to transit Weather
 Aggressive driver behavior Traffic speeds / volumes
 Insufficient lighting at night Road maintenance (e.g. cracks, potholes, debris, etc.)
 I have children to transport
 Other (please specify) _____

10 When the Los Angeles River bikeway is extended through Vernon, how will you use it? (Check all that apply)

For Recreation Need to carry things
 To commute to work To get to Downtown LA/ Long Beach
 I do not plan to use the bikeway

Please submit hard copy surveys to:
Felix Velasco, Assistant Engineer
 Vernon City Hall, 4305 S. Santa Fe Avenue
 923-563-8811 x319
 felvasco@ci.vernon.ca.us

PLEASE TURN OVER TO COMPLETE THE SURVEY

Alta created a community survey in English and Spanish for the City of Vernon Bicycle Master Plan.

a gauge of the existing level of use of the bicycle and pedestrian network and, supplemented with the user survey, will help gauge future needs and priorities within the bicycle network.

Task 3.2 Collision Analysis

Alta will utilize the project survey, the bike audit, the City of Riverside Collision Records and California’s Statewide Integrated Traffic Records System (SWITRS) to gather information on bicyclist and pedestrian collisions (for the latest five-year period) to identify trends regarding:

- » Collision locations
- » Primary collision factors
- » Violation category
- » Movements before the collision
- » Time categories (e.g., peak periods, day/night)
- » Demographics of involved parties (e.g., age, gender)

The collision analysis will help locate areas in need of specific recommendations to enhance safety.

Task 3.3 Review of Bikeways Network

Alta will inventory and review existing and proposed pedestrian/bikeway networks on and adjacent to the University campus. The review will focus on:

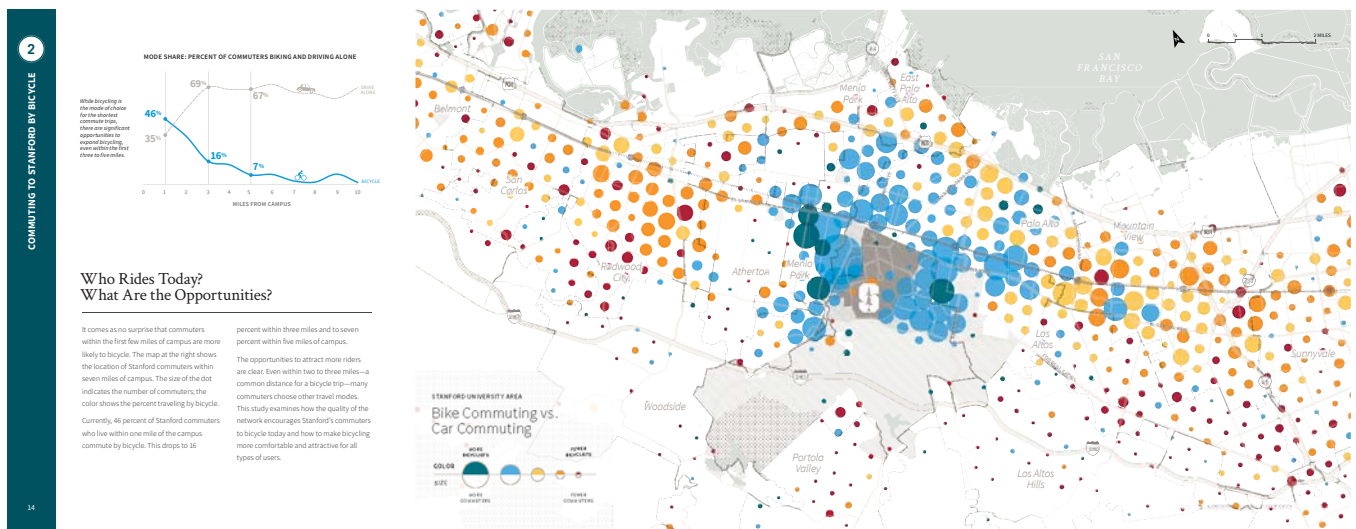
- » Facility type and width (and their suitability for the expected demand, specific roadway, etc.)

- » Network connectivity (to campus buildings, other routes, etc.)
- » Network gaps (discontinuity in the network, unsafe facilities, conflict areas)

The review will include the East Campus and connections to the West Campus and downtown Riverside. The review will begin with existing and proposed bikeways on campus and connections to the City of Riverside. Existing and planned improvements will consider the relative safety of the facilities (e.g. do they meet best practices related to vehicles speeds, volumes and separation?), connections (how do facilities connect to each other?) and modal conflicts (are their existing or potential conflicts between bicycles, pedestrians, vehicles and other modes?). Each bikeway will be reviewed regarding expected demand, width and intersection safety. A review of existing plans and a desk-top review of aerial imagery will be supplemented by site-reviews focused on areas highlighted during community and stakeholder meetings. The reviews will form the basis of the Bicycle Network and Design Guide.

Task 3.4 Review of Bicycle Parking

Alta will inventory the location, amount, type and use of bicycle parking on campus. Oftentimes bicycle parking is under-utilized suggesting a lack of demand. However, this often represents issues with location or rack-type. Alta is exceptionally experienced in the design of bicycle parking systems and will use the inventory to inform campus-wide recommendations.



Alta developed a bicycle commuter access study for Stanford University that uses compelling visuals to describe what types of infrastructure people want, how people currently get to campus, and the barriers around campus. The benefit of network improvements are described in terms of reduced user stress, and the number of new riders that are likely to bike to campus.

Task 3.5 Evaluation of BikeShare System (Zagster)

The Zagster BikeShare system will be evaluated to determine its programmatic and operational effectiveness at promoting bicycling on campus. Alta will look at station performance to determine if changes to system footprints/station locations could improve rebalancing and overall usage. The community survey will include a number of questions related to Zagster to better understand the campus community's relationship with the program; how well it is being received and used; and location-related recommendations. Depending on the level of information provided by Zagster, Alta could provide a comparison of trips/bike/day or monthly operating costs/bike with other systems of similar scale and in similar environments.

Task 3.6 Transportation Demand Analysis (5 and 10 year)

The Transportation Demand Analysis will describe the existing and future (5 and 10 year) bicycle demand within the campus. The analyses will consider and Alta will produce maps and/or statistical analyses for the following bicycle transportation topic areas:

- » Existing and planned land use (densities, uses, attractors and generators) including projected student expansion
- » Access to vehicles
- » Journey to work mode share
- » Existing transit network
- » Existing and planned bikeway network, including facility types
- » Existing and planned pedestrian network, including typical sidewalk widths and states of repair
- » Existing connections and gaps to neighboring communities
- » Existing bicycle parking locations

The Transportation Demand Analysis will provide a summary of predicted future trips on campus based on implementation of the bikeway recommendations five and ten years into the future.

Task 3.7 Bicycling Benefits Assessment

Using the available data, Alta will calculate environmental and transportation benefits of increased bicycling. The method will estimate the benefits associated with current levels of bicycling and will create a projected estimate of the increased benefits that could

result from the implementation of the BMP. Projected improvements will include reductions to vehicle-miles traveled (VMT), air quality improvements, and Greenhouse Gas (GHG) emissions reductions resulting from plan implementation.

Task 3 Deliverables:

- Campus Assessment Memorandum

TASK 4. BICYCLE PROJECTS, PROGRAMS, AND IMPLEMENTATION

Task 4.1 Recommended Policies and Programs

Education activities include workshops, classes, and communication strategies that help students and employees understand how to bicycle, how bicycling benefits them, and helps all travelway users share space. Encouragement and marketing activities include a variety of events, contests, and promotional activities intended to foster excitement about bicycling in a community.

Alta will begin this task with a detailed baseline conditions review and solicit feedback on recommendations. Alta will speak with UCR staff and other organizations or community leaders (with meetings scheduled over a 1-day period) who have an interest in education and encouragement issues on campus, discuss which programs currently exist and what programs they would expect to be most successful.



Alta has completed bike share work for over 40 communities in North America, and is thus able to make fully-informed, fact-based recommendations based on the unique characteristics of campus bike share programs.

Potential educational campaigns may address topics such as:

- » Media campaign aimed at travel behaviors
- » Bicycle repair and tune-up classes
- » Bicycle skills training courses
- » Safety education messages in campus-wide publications
- » Helmet and bicycle light giveaway programs
- » Education campaigns coordinated with bikeway implementation projects that teach all users how to navigate new facilities

Potential encouragement programs may include:

- » Open Streets (e.g. CicLAvia-type events)
- » Bike Buddy programs

MAY IS BIKE MONTH

BIKE

EVERYWHERE & win!

Join students, faculty, and staff by logging trips for a chance to win prizes.

Sign up in 3 EASY STEPS:

- 1 **VISIT PIERCETRIPS.COM** and click "New User" or log in if you have an account.
- 2 **SELECT "UNIVERSITY OF WASHINGTON-TACOMA"** as your employer or school.
- 3 **COMPETE AS AN INDIVIDUAL OR A TEAM.** In your account, you can select "Teams" to start or join a team.

Then log your May bike trips on the online trip calendar for a chance to win prizes like a **\$100 REI GIFT CARD, a \$50 SAFEWAY GIFT CARD, and MORE!**

Visit bike253.com to learn about upcoming events.

Have questions or need some support? Contact Caitlin at caltid@uw.edu. Brought to you by UW Tacoma Transportation Services.

PierceTrips.com keeping people on the move!

W TACOMA

Alta's Programs Team offers specialized experience in the planning, implementation, and evaluation of transportation behavior change programs. Alta has led successful TDM programs in over 25 communities and at college campuses such as UC Davis and the University of Washington, Tacoma.

- » Bicycle Benefits program
- » Bicycle Valet at major events

Recommended programs will include information about the program's purpose, likely lead and partner entities, relative cost and links to model programs. Recommendations will be based both on results of the previous tasks that identified problem areas plus experience gained in communities around the region and the United States. Alta is the only bicycle and pedestrian planning firm with a department dedicated to planning and implementing education and encouragement components of non-motorized programs.

Task 4.2 Bicycle-Friendly University Strategy

Alta will organize recommendations to facilitate the acquisition of a League of American Bicyclist Bicycle-Friendly Community designation. Recommendations and the implementation strategy will focus on the development bikeway standards and design trainings, safety, education and encouragement events, enforcement trainings, and, as an optional task, an evaluation program.

Task 4.3 Wayfinding Sign Design Standards and Recommendations

Alta will work within the UCR Campus Sign Program to develop recommendations for bicycle-oriented signage such as directing bicyclist to primary pathways and bicycle parking.

Task 4.4 Bikeway Design Guide and Bicycle Parking Standards

Alta will develop a Bikeway Design Guide and Bicycle Parking Standards as guidance for the development of future bikeways. Recommended bicycle facilities will be based on the classification system contained in the Caltrans Highway Design Manual (to facilitate state-based funding) and will be accompanied by accompanied by a graphic/cross-section and text description including details such as widths, striping, materials and clearances, and appropriate context. As most facilities will be on-campus and not shared with roadways, pathway facilities will be further refined.

- Off-Street Shared Use Paths (Class I): bicycle and pedestrian separated or multi-use trails, including:
 - » Primary Paths: cross-campus routes with predicted high bicycle use
 - » Secondary Paths: cross-campus routes with predicted medium to low bicycle use
 - » Connecting Paths: short routes between buildings or connecting primary or secondary path to building frontages

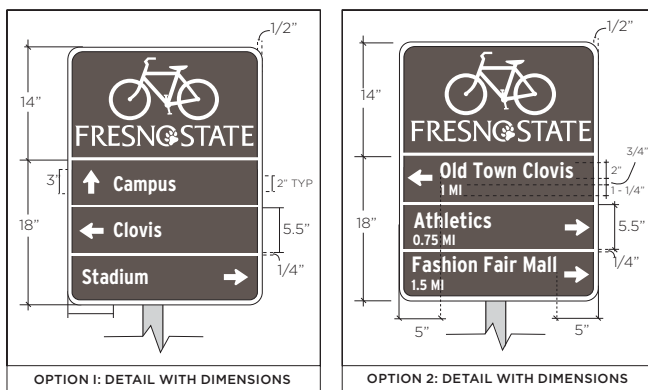
- On-Street Bike Lanes (Class II): striped bicycle lanes that can include additional painted buffers between the bicycle lane and automobiles
- On-Street Bike Routes (Class III): routes that are comfortable for bicyclists and can include measures to reduce vehicle speeds and/or volumes
- On-Street Separated Bike Lanes (Class IV): bicycle lanes with added physical, vertical barriers between bicycle riders and moving automobile traffic

The design guide will provide detailed guidance on designing for safety and accessibility and will include detailed information on designing for conflict zones involving bicyclists, pedestrians, skateboards, scooters, automobiles, busses, and service vehicles, among others.

Bicycle Parking Standards will also be developed in conjunction with UCR. These standards will include recommended rack types, preferred locations, and spacing. The standards will be provided in an easy to follow graphic format.

Task 4.5 Recommended Bikeway Network and Bicycle Parking

Based on the review of existing and planned projects, public and stakeholder input, bikeways review, and projected demand, Alta will work with UCR Staff to identify a network of recommended bikeways based on facility types in the design manual with the goal of creating a network of bikeways that connects to destinations on and off-campus such as the future Mobility Hub and Recreation Mall Extension as well as the Botanic Gardens and Picnic Hall. Recommendations will include both segments and spot improvements. The recommended network will be presented as a map



Wayfinding signs are a cost-effective treatment to improve connections and enhance the experience for people who ride a bicycle on campus. Alta led a campuswide bicycle wayfinding plan for California State University, Fresno and provided guidelines for sign design, placement, and content.

overlay of the campus (developed in GIS) with call-outs highlighting spot improvements. Recommendations will focus on safety, accessibility and connectivity.

Bicycle network recommendations will also include support facilities such as short- and long-term bicycle parking and bicycle repair stations. Bicycle parking recommendations will include the specific location and number of racks.

Task 4.6 Project Prioritization and Phasing Plan

Alta will work with the UCR to identify an appropriate system to prioritize the list of recommended projects for implementation. Alta typically does this through a prioritization matrix which attaches weights to agreed-upon criteria, such as:

- » High-collision location(s)
- » Connectivity (completes the active transportation network)
- » Community and political input
- » Cost effectiveness

A phasing plan will be developed based on the ranking outcome combined with funding availability and requirements, other programmed improvements, eliminating an immediate bottleneck or safety hazard, and seeing that the system grows rationally rather than as a series of disconnected pieces over time. The phasing plan will recommend a ranking (short-, intermediate-, and long-term) to implement bikeway and pedestrian improvements over the next 10 years (short-term projects will reflect the top priorities).

Task 4.7 Cost Estimates

Alta will prepare a project database in Microsoft Excel listing each proposed facility. Planning-level costs for construction based on similar facilities in California will be provided.

Task 4.8 Funding Source Matrix

Alta has successfully helped communities around the country apply for and receive over \$200 million in grant funding. Our in-house grant-writing experts excel at identifying funding opportunities and matching projects with the right grant. Our team is familiar with state, federal, private and innovative sources of funding for bikeways, including the California Active Transportation Program. Alta will identify potential applicable funding sources, associated criteria, and requirements. The list of available funding sources will be presented in a matrix table.

Optional Task 4.9 Performance Measures

Alta will create a set of quantitative and qualitative Performance Measures that are designed to evaluate progress towards creating bikeways and bicycle programs that result in more people bicycling, increased visibility of cycling, greater safety for those who bicycle, and institutional adoption of the recommendations from the BMPS.

One specific portion of the performance measures will relate to bicycle system usage, which is best gauged through manual and automated bicycle counts. Another portion of the performance measures will relate to buildout of bikeways recommended in the BMPS. Alta will work with UCR to understand how data is currently tracked regarding facility location, type, and condition and information about crashes is tracked and recorded. Recommendations will be made about ways to improve these processes, if needed.

Once the performance measures have been finalized, the Alta team will create benchmarking recommendations that cover how, and how often, the performance measures will be evaluated. For each recommended measure, our team will indicate whether the data for such a measure on campus: 1) is readily available; 2) requires collection and organization of existing information; or 3) requires a new data collection program. The results can be published in a regular report card that tracks BMPS progress for the benefit of the UCR and wider community.

Task 4 Deliverables:

- Education, encouragement, and evaluation recommendations
- Wayfinding signs standards and recommendations
- Bikeway design guide and bike parking standards
- Recommended network, spot improvements and bike parking
- Project prioritization
- Cost estimates
- Funding source matrix
- *Optional: performance measures*

It is assumed that Alta will be provided with one set of summary comments which will inform the development of the Draft Bicycle Master Plan Study.

TASK 5. FINDINGS AND CONCLUSIONS

The findings and conclusions will be made available as the Draft and Final Bicycle Master Plan Study via hard copy and PDF for reference in guiding future planning for bicycle access. The Alta team will supplement the

report by being available to present and answer questions about the study, the development process and the recommendations.

Task 5.1 Presentation of Study Information

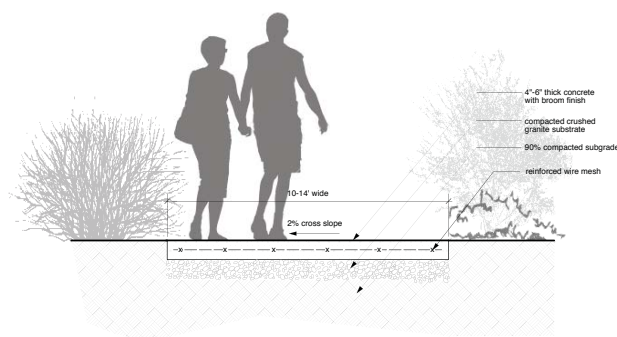
Alta will be available to present the Draft and Final Bicycle Master Plan Study at sponsor and stakeholder meetings. Presentations will highlight the development process including survey results, stakeholder outreach, data gathered, information analysis and the decisions for specific recommendations. Meetings will provide an opportunity for community partners and supporters to ask questions, make recommendations and learn about the process of and the decisions involved in developing a Bicycle Master Plan.

Task 5.2 Draft Bicycle Master Plan Study

Alta will prepare the Draft Bicycle Master Plan Study which will provide a clear framework, based on stakeholder collaboration, to make bicycling safe, convenient and appealing on the UCR campus.

The Draft Bicycle Master Plan Study will contain the following elements:

- » Purpose of the Bicycle Master Plan Study
- » Summary of outreach process
- » Bicycle and pedestrian counts
- » Five-year bicycle and pedestrian collision analysis
- » Estimated current and future demand for bicycle travel (e.g. five-year and ten-year ridership projection)
- » Existing and proposed bicycle networking plan including maps and tables of recommended bikeways within the campus boundary.



CONCRETE MULTI-USE TRAIL

Alta will develop a design guide that will provide detailed guidance on designing for safety and accessibility. Recommended bicycle facilities will be based on the classification system contained in the Caltrans Highway Design Manual to facilitate state-based funding.

- » Bikeway design guidelines.
- » Recommended end-of-trip/bicycle parking facilities and policies
- » Projected improvements to vehicle-miles traveled (VMT), air quality, and Greenhouse Gas (GHG) emissions resulting from plan implementation
- » Recommended policies and programs relating to education/encouragement, wayfinding, and facility maintenance
- » Implementation strategy, including prioritization criteria and ranking, and potential funding sources/grants
- » Planning-level construction cost estimates in current dollars for each proposed facility
- » Guidelines for bicycle and pedestrian-oriented wayfinding signage
- » Optional Service: Recommended framework to monitor and evaluate future bicycle ridership success on campus.

The Draft Report will be provided to UCR for review. Alta recommends that the public be afforded an opportunity to review and comment and suggests the document be publicized on UCR's website. It is assumed that Alta will be provided with one set of summary comments which will inform the development of the Final Bicycle Master Plan Study.

Task 5.3 Final Bicycle Master Plan Study

Based on the consolidated comments on the Draft Bicycle Master Plan Study, Alta will edit the document to produce the Final Bicycle Master Plan which will continue to include the items listed in Task 5.2.

Task 5 Deliverables:

- Draft Report: University of California Riverside Bicycle Master Plan (5 bound hard copies and PDF)
- Final Report: University of California Riverside Bicycle Master Plan (5 bound hard copies and PDF)



Alta has dynamic graphic presentation capabilities. We will prepare a graphically-compelling active transportation plan document that will provide momentum for project implementation and funding.



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University of California at Riverside Bicycle Master Plan Study - Additional Scope

Pop Up Event

On Campus Pathway Pop Up

The Alta Team will prepare one Pop Up event within the pathway network of the UC Riverside campus to explicate a design feature and receive community feedback. An example would be to separate pedestrian and bicycle modes in a conflict location such as near the Union Building Plaza. The Pop Up would be installed in coordination with the Recommendations phase of the Bicycle Master Plan. The goal of the Pop Up would be to showcase what a new facility, such as a separated facility for bicycles, would look like and how it might function to the campus community and to receive their feedback to determine if such a facility would be supported. The facility would be based on campus design recommendations and would be designed to function within the existing space. Based on the design, a temporary version of the facility would be installed. For example, a separated facility might be designed using duct tape, decals, and potted plants. The facility would be installed and staffed by Alta with two (2) staff members for four (4) hours and would include signage to explain the Pop Up and an opportunity for users to provide feedback. The temporary facility could be left in place for a longer period per the University's discretion but would be unstaffed. It is assumed that UC Riverside would provide additional staff/volunteers and assist with site materials such as potted plants, etc.