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# DRAFT UC DAVIS CAMPUS BICYCLE AND TRANSIT NETWORK STUDY

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*Submitted to:*

**UC DAVIS**  
RESOURCE MANAGEMENT  
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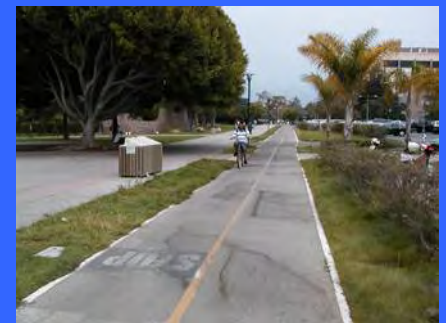
## I. EXECUTIVE SUMMARY

The purpose of the UC Davis Bicycle and Transit Network Study (BTNS) is to improve bicycle access for students, faculty, staff, and visitors by sizing the bikeway system to meet today's demand and positioning the network for future growth. To achieve these goals, the BTNS focuses on developing a flexible bikeway network that can accommodate incremental growth and that provides improved connections between the Central Campus and the planned West Village, as well as to transit services on campus.

Specific improvements are recommended to upgrade existing bikeway infrastructure and to provide new facilities throughout the campus. The most significant new concept is the conversion of the most heavily used Shared Use paths on campus to "Separated" Paths, where cyclists and pedestrians will have separate but parallel facilities.

The main objectives of the BTNS:

- Identify specific improvements to the campus bikeway network, including upgrades to existing infrastructure and providing new facilities to:
  - Increase the accessibility of the campus bikeway network to all users.
  - Improve campus connections with future development, both on and off campus.
  - Address the campus community's concerns about the current bikeway system.
- Identify ways to enhance the campus bicycle parking supply, including installation of new bicycle parking racks, replacing older/less-functional racks, and providing bicycle valet parking to address peak demand.
- Specify design guidelines for future improvements to bikeway infrastructure.
- Provide for a bicycle network that is integrated with the campus transit network.
- Provide a framework for prioritizing projects and implementing the BTNS.
- Adopt a set of goals and policies that support the ultimate objective of maintaining overall bicycling mode share on campus at 38 percent and that support:
  - Developing a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists.



- Increasing safety on the campus bikeway network through education and enforcement.
- Funding and implementing programs, policies, and infrastructure programs identified in the BTNS.



## II. INTRODUCTION

### SETTING

With generally mild temperatures and flat terrain, the UC Davis campus and City of Davis comprise one of the most bicycle-friendly communities in the country. The City of Davis has about 64,000 residents and was planned with the bicycle in mind. The City includes a comprehensive network of bicycle lanes and trails and other amenities, including grade-separated crossings for pedestrians and bicycles, abundant bicycle parking, and traffic signals featuring bicycle detectors and bicycle phasing.

The UC Davis campus, with its park-like atmosphere, also has an extensive network of bicycle facilities. Bicycle facilities on campus range from 40-foot wide roads that have been converted to bicycle-only avenues to on-street bicycle lanes and shared bicycle-pedestrian paths.

Unlike many other universities, the campus has very few bicycle usage restrictions. Efforts have been made to provide bikeways to virtually every campus destination and to match these destinations with ample and secure bicycle parking. An estimated 15,000 to 20,000 bicycles are in use on campus each day during the spring and fall quarters.<sup>1</sup>

Together, the City of Davis and the University were recognized as the country's first "Platinum-level Bicycle Friendly Community," awarded by the League of American Bicyclists in October of 2005. With the University as the focal point of the Davis community, and the large student base both on and off campus, UC Davis lends itself to a unique distribution of travel modes where the bicycle is a convenient and cost-effective alternative to driving.

In 2007, the Platinum-level designation was renewed through 2011, recognizing the steadfast efforts by the City and the University to encourage the use of bicycles for transportation and recreation.

### CAMPUS TRANSPORTATION NETWORK

The extensive bikeway network on the UC Davis campus is complemented by other important transportation infrastructure, including transit service, parking lots and structures for private vehicles, and a vast network of sidewalks. The campus transportation network serves a variety of users.



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<sup>1</sup> UC Davis Bicycle Plan (Transportation and Parking Services, 2007)

Table 1 shows the results of surveys conducted in 2003 and 2007, which asked students, faculty, and staff how they travel to campus. Bicycling, transit, and driving ranked as the most popular campus commute modes. Once on campus, this mix of modes translates into a large number of pedestrians, bicyclists, and in some cases transit vehicles that share the core campus transportation facilities.

This combination of modes (particularly with the large number of bicycles) gives the UC Davis campus a feel and vibrancy that it is unique among most other college campuses.



**TABLE 1: MODE CHOICE FOR STUDENTS, FACULTY/STAFF BY RESIDENCE**

Location	Students		Faculty/Staff		Overall
	2003 <sup>a</sup>	2007 <sup>b</sup>	2003 <sup>a</sup>	2007 <sup>b</sup>	
Walk	6%	5%	2%	2%	4%
Bike	44%	43%	22%	24%	38%
Auto Driver	29%	16%	66%	56%	27%
Auto Passenger	<1%	3%	4%	10%	5%
Transit	21%	26%	5%	3%	19%
Other	<1%	1%	1%	1%	1%
Multiple Modes	- <sup>c</sup>	6%	- <sup>c</sup>	4%	6%

Notes: <sup>a</sup> UC Davis Long Range Development Plan, Final Environmental Impact Report, October 2003  
<sup>b</sup> TAPS travel survey, Fall 2007  
<sup>c</sup> The 2003 survey did not include "multiple mode" category.

**STUDY PURPOSE**

The purpose of the BTNS is to improve bicycle access for students, faculty, staff, and visitors by sizing the bikeway system to meet today's demand and positioning the network for future growth. To achieve these goals, the study focuses on developing a flexible bikeway network that can accommodate incremental growth and provides improved connections between the Central Campus and the planned West Village, as well as to transit services on campus. Specific improvements are recommended to upgrade existing bikeway infrastructure and to provide new facilities throughout the campus.

## STUDY SCOPE

The BTNS focuses on the main campus and the future West Village development. This area is generally bounded by Interstate 80 (I-80) to the south, A Street to the east, Russell Boulevard to the north, and Airport Road to the west.

This study has had much to accomplish. While the BTNS may not address all campus bicycle and transit issues, every effort has been made to be as comprehensive as possible given the resources available. The BTNS tackles a bikeway network, bicycle parking, transit access, design guidelines, an implementation plan, and priorities. The BTNS provides a starting point for outlining programs to reinforce the bikeway system, but program issues should be more comprehensively addressed in future work.

It is anticipated that future work will expand the study's scope and further clarify the vision.

## IMPLEMENTATION

Two campus entities will take the lead role in implementing the bicycle plan outlined in the BTNS. As the land use planning authority on campus, the Office of Resource Management and Planning (ORMP) will ensure that future campus development includes adequate accommodation of bicycle facilities and that this plan remains up-to-date as campus infrastructure plans evolve.

The UC Davis Transportation and Parking Services (TAPS) group, which facilitates the access and mobility needs of the campus community through its management of campus-wide parking and transportation services, will take the lead role in developing and maintaining the campus' bicycle infrastructure, programs, and education services. TAPS, in collaboration with the Campus Police Department, will provide licensing and bike racks on campus transit, manage secure bicycle parking facilities, and enforce bicycle riding and parking rules.

The goal of the BTNS is to complete the highest priority projects and programs within the next 10 years. Implementation will improve bicycling access and help the campus maintain, and, wherever possible, reduce the share of campus trips made by single-occupant vehicles.





## BACKGROUND AND CONTEXT

In addition to field visits and collecting bicycle and pedestrian count data during the Spring of 2008, the study team used a variety of resources to develop the UC Davis BTNS:

### Campus Resources:

- Interviews with key staff at Unitrans, ORMP, and TAPS.
- Campus planning documents, including the 2003 Long Range Development Plan, the Centennial Plan, the West Village Neighborhood Master Plan, and the 2007 UC Davis Bicycle Plan.
- Geographic Information System (GIS) data layers (transit routes, campus building, roads, and pathways) provided by Unitrans and ORMP.

### City Resources:

- City planning documents, including the 2005 Short-Range Transit Plan and the Draft City of Davis Bicycle Master Plan.
- Discussions with Planning and Public Works staff regarding the interface between the City and campus transportation network.

### Stakeholder Input:

- Input received from community members at public workshops held in March 2008 and at the UC Davis Sustainability Fair in May 2008.
- Input received from Focus Group meetings held in June 2008, which included a cross-section of the campus community.
- Input from the BTNS Advisory Committee.



### III. GOALS AND POLICIES

#### GOALS

The following goals provide a foundation for the BTNS with a long-term vision for developing the University's bikeway and transit network and programs. Goals are broad statements of purpose, and policies provide more details defining the goals. The goals and policies for the BTNS were compiled based on a review of various sources, including those in bicycle and transit planning documents from UC Davis, other universities, and cities, both nationally and internationally.

The BTNS seeks to maintain overall bicycling mode share on campus at 38 percent through the development of an integrated bikeway network that serves the needs of all types of bicyclists. The BTNS also seeks to provide for a transit network that meets the needs of the campus community. The four goals supporting this vision include:

- Network and Facilities: Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle parking facilities to promote cycling
- Safety: Increase safety on the campus bikeway network through education and enforcement
- Transit: Develop an effective, efficient, and safe transit network that is integrated to provide regional mobility to the campus community
- Implementation: Fund and implement programs, policies, and infrastructure programs that advance the objectives of the BTNS.

#### POLICIES

The policies detailed below will be necessary to achieve the overall vision of developing an integrated bikeway and transit network that serves the needs of the campus community, and to provide guidance on how the University can respond to bikeway and transit infrastructure-, educational-, and enforcement-related needs.

Goal 1 – Network and Facilities: Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle parking facilities to promote cycling.

#### Policies

- 1-1A: Plan pedestrian, bicycle, transit, and automobile systems to avoid conflicts between different modes (LRDP 2003)



- 1-1B: Sustain and expand the system of off-street bike paths, on-street bike lanes, and bicycle parking areas throughout the campus (LRDP 2003)
- 1-1C: Replace all substandard bike parking by 2015 (e.g. cement bike pods), and monitor demand for bike lockers (LRDP 2003)
- 1-1D: Develop expanded storage capacity for abandoned bikes
- 1-1E: Coordinate with the City of Davis to improve bicycle facilities and access
- 1-1F: Update capital improvement projects to conform to the BTNS
- 1-1G: Design infrastructure in the campus core to give priority to bicycles, especially on mixed modal corridors
- 1-1H: Eliminate gaps in the bicycle network to improve connectivity between destinations
- 1-1I: Require Class II bike lanes on all new arterial and collector streets
- 1-1J: Implement a comprehensive signage system, coordinating with the City of Davis
- 1-1K: Track the success of the bikeway system through bikeway satisfaction and use surveys (i.e., measure increases in perceived safety and identify conflict locations annually)
- 1-1L: Increase collaboration with regional agencies to coordinate planning and development of County bikeways to support a regional bicycle network
- 1-1M: Create a central clearinghouse for bicycle issues including an on-line mechanism to report hazards, maintenance concerns, and facility improvements
- 1-1N: Identify and enhance pavement conditions and conflict locations
- 1-1O: Monitor campus transportation programs, policies, and practices and adjust as needed to maintain a 38 percent bicycling mode share on campus (i.e., parking supply and cost factors for all modes)
- 1-1P: Require all new development to be designed to promote bicycle circulation and operation
- 1-1Q: Identify key administrative and academic buildings for the provision of bicycle parking and showers, changing facilities and lockers in University buildings
- 1-1R: Provide additional bicycle parking at major events and event centers



- 1-1S: Ensure that repair and construction of transportation facilities minimize disruption to the bicycling environment
- 1-1T: Prepare a transportation management plan during construction to ensure that bicycle access is maintained
- 1-1U: Ensure efficient use of infrastructure through education and enforcement of bicycling, pedestrian, and vehicle responsibilities
- 1-1V: Regularly inspect and resurface bikeways when needed, and provide for regular cleaning

**Goal 2 – Safety:** Increase safety on the campus bikeway network through education and enforcement

**Policies**

- 1-2A: Make bicycle education and safety materials available to all faculty, staff, and students
- 1-2B: Establish bicycle skills training courses (i.e., the League of American Bicyclists’ Smart Cycling Program) to all faculty, staff, and students
- 1-2C: Create a consistent and accurate method for reporting collisions
- 1-2D: Work with the university police department to help provide crash reports to TAPS and/or the student health center for the purpose of identifying prevalent bicycle crash types and developing countermeasures
- 1-2E: Educate cyclists about the effective locking of bikes, where to get good bike locks, and other ways to help deter bike theft
- 1-2F: Increase presence of bicycle police on campus
- 1-2G: Provide sufficient lighting on all bikeways
- 1-2H: Monitor collision data annually to identify problem locations, and coordinate enforcement efforts at gateways with the City of Davis
- 1-2I: Implement bikeway satisfaction and use surveys to monitor changes in perceived safety, and bikeway network barriers/hazards (i.e., add questions to TAPS’ Travel Mode Share Survey regarding perceived safety, responding accordingly and monitoring results)
- 1-2J: Target locations for enforcement and infrastructure improvements where dangerous or unlawful cycling behavior occurs, and where high crash rates are located
- 1-2K: Develop and implement a maintenance program that adequately accommodates bicycles and includes a hazard and maintenance reporting system



- 1-2L: Ensure that roadways are designed to minimize crash rates for various types of cyclists
- 1-2M: Monitor and fund enforcement of vehicle and bicycle laws per the California Vehicle Code

**Goal 3 – Transit:** Develop an effective, efficient, and safe transit network that is integrated to provide regional mobility to the campus community.

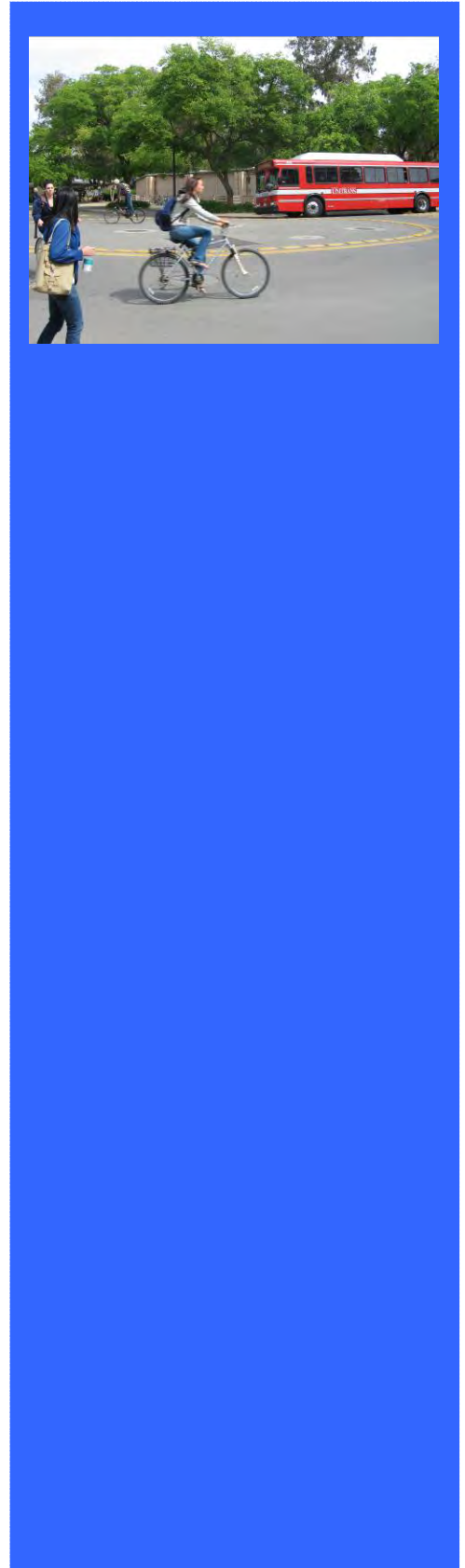
**Policies**

- 1-3A: Provide a transit system that is effective in meeting the needs of the community by provide transit service that is convenient, reliable, safe, and attractive
- 1-3B: Operate and manage the transit system efficiently by minimizing operating costs, maximizing service productivity, and effectively maintaining the vehicle fleet
- 1-3C: Improve local and regional mobility by coordinating and integrating all Yolo County transit services, including coordination of systems through a single timed transfer facility, coordination of Unitrans schedules with other system’s schedules, participation in regional paratransit service program, and integration of local transit plans into regional plans to develop area-wide planning consistency, visibility, an political support
- 1-3D: Provide accessible transit service by ensuring that all vehicles are equipped with working lifts, transit services are available in areas with elderly and disabled persons, that services provide adequate capacity, and new services are provided where needed
- 1-3E: Improve quality and maintain a safe service by ensuring an adequate level of spending on safety and security, preventing suspicious baggage from being left on buses, providing surveillances on buses, and providing a safe location for passengers to board and depart the bus

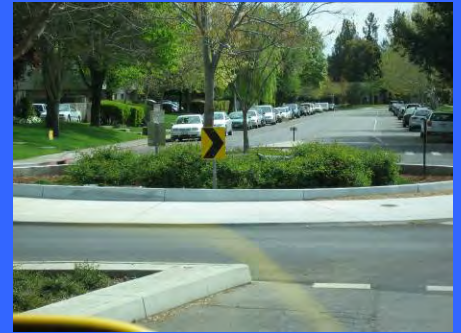
**Goal 4 – Implementation:** Fund and implement programs, policies, and infrastructure programs that advance the objective of the BTNS

**Policies**

- 1-4A: Fund bikeway projects and programs through existing and new sources of local, regional, state, and federal funding programs
- 1-4B: Secure ongoing funding to support bicycle education courses
- 1-4C: Secure ongoing funding to support regional bicycle outreach programs such as “May is Bike Month”



- 1-4D: Encourage joint funding applications with the City of Davis
- 1-4E: Coordinate the implementation of new programs, grants, and projects (i.e., TAPS, ORMP, A&E, Grounds, Cowell Student Health Center, and UC Davis Police Department) to ensure consistency with the BTNS
- 1-4F: Update the BTNS as required by Caltrans to reflect new policies and/or requirements for bicycle funding



## IV. BIKING

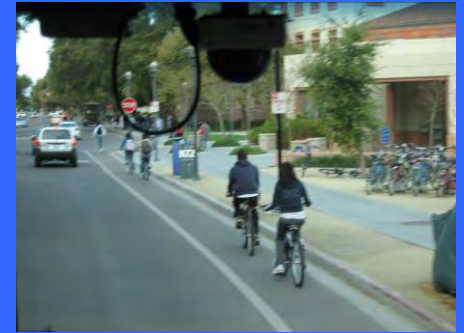
This chapter describes existing bicycle infrastructure on the UC Davis campus, including the use and community perceptions of these facilities. This chapter recommends improvements to the campus bikeway system and design guidelines for future infrastructure.

### CAMPUS BIKEWAY SYSTEM – EXISTING CONDITIONS

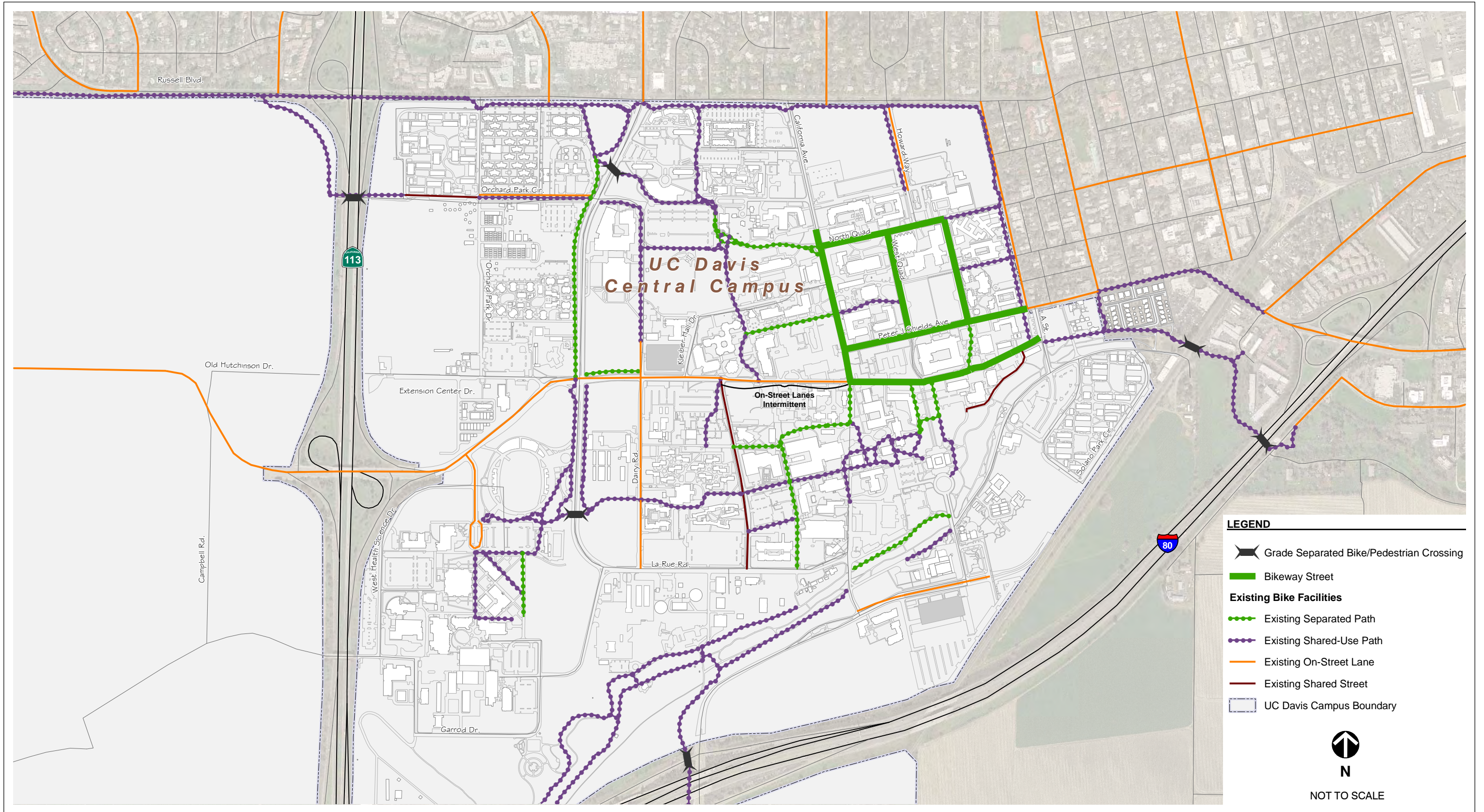
The UC Davis campus has a park-like setting and extensive network of bicycle facilities. Bicycle facilities on campus range from 40-foot wide roads that have been converted to bicycle-only avenues to on-street bicycle lanes and shared bicycle-pedestrian paths. Unlike many other universities, the campus very few bicycle usage restrictions. Efforts have been made to provide bikeways to virtually every campus destination and to match these destinations with ample and secure bicycle parking. An estimated 15,000 to 20,000 bicycles are in use on campus during the spring and fall quarters.<sup>2</sup> Figure 1 shows the major bikeway infrastructure on campus today:

- Bikeway streets – these are roadways that were originally designed for cars but have since been closed to provide access only to bicycles and select motor vehicles (buses, delivery trucks, and other permitted campus vehicles). As the widest bikeway facilities, bikeway streets can accommodate heavy bicycle volumes and relatively high speeds. Bikeway streets serve the majority of through-bike trips and trips entering/exiting campus, but also serve internal trips.
- Separated, bicycle-only paths – paths that provide exclusive access for bicycles and typically have parallel pedestrian facilities. The separation of bicycle and pedestrians allows for relatively high bicycle speeds. Separated paths tend to carry a major portion of trips entering/exiting campus and through trips, but also serve shorter internal trips.
- Class II bicycle lanes – on-street lanes provided on roadways serving primarily motorized vehicles. The lanes, which are located mostly on the periphery of campus, carry a major portion of entering/exiting trips.
- Shared Use paths – these paths serve both bicycles and pedestrians and tend not to include parallel pedestrian facilities. These pathways provide for shorter, low-speed internal campus trips.

The figure does not show many of the low-speed, shared bicycle-pedestrian paths that provide access to buildings on campus due to the sheer number of these facilities.



<sup>2</sup> UC Davis Bicycle Plan (Transportation and Parking Services, 2007)





### ***Use of Campus Bikeways***

In May 2008, bicycle and pedestrian counts were taken at several major bikeway facilities on campus. The count did not cover the bikeway streets on campus (where volumes are the highest), but instead focused on major bikeway facilities that may be undersized for the volumes they carry. These facilities included mostly shared-use paths that serve as major thoroughfares between the campus core and the dorms or off-campus destinations.

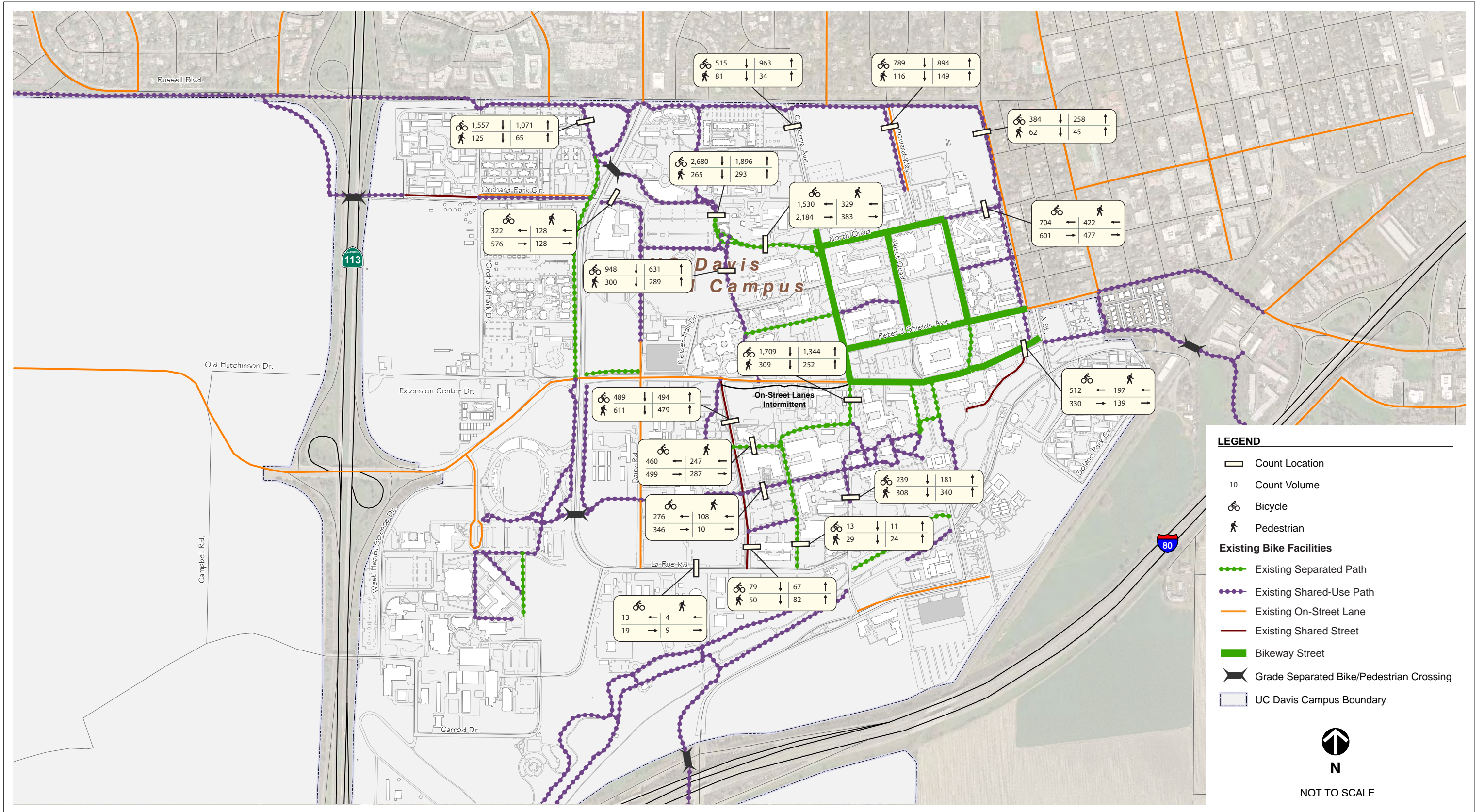
The counts were collected during the hours of the day when campus bikeway facilities are the busiest – from the late morning into the noon hour and during the evening commute. Figures 2 and 3 show the bicycle and pedestrian volumes by direction on each facility during the entire time observed and during the peak five-minutes observed at each location.

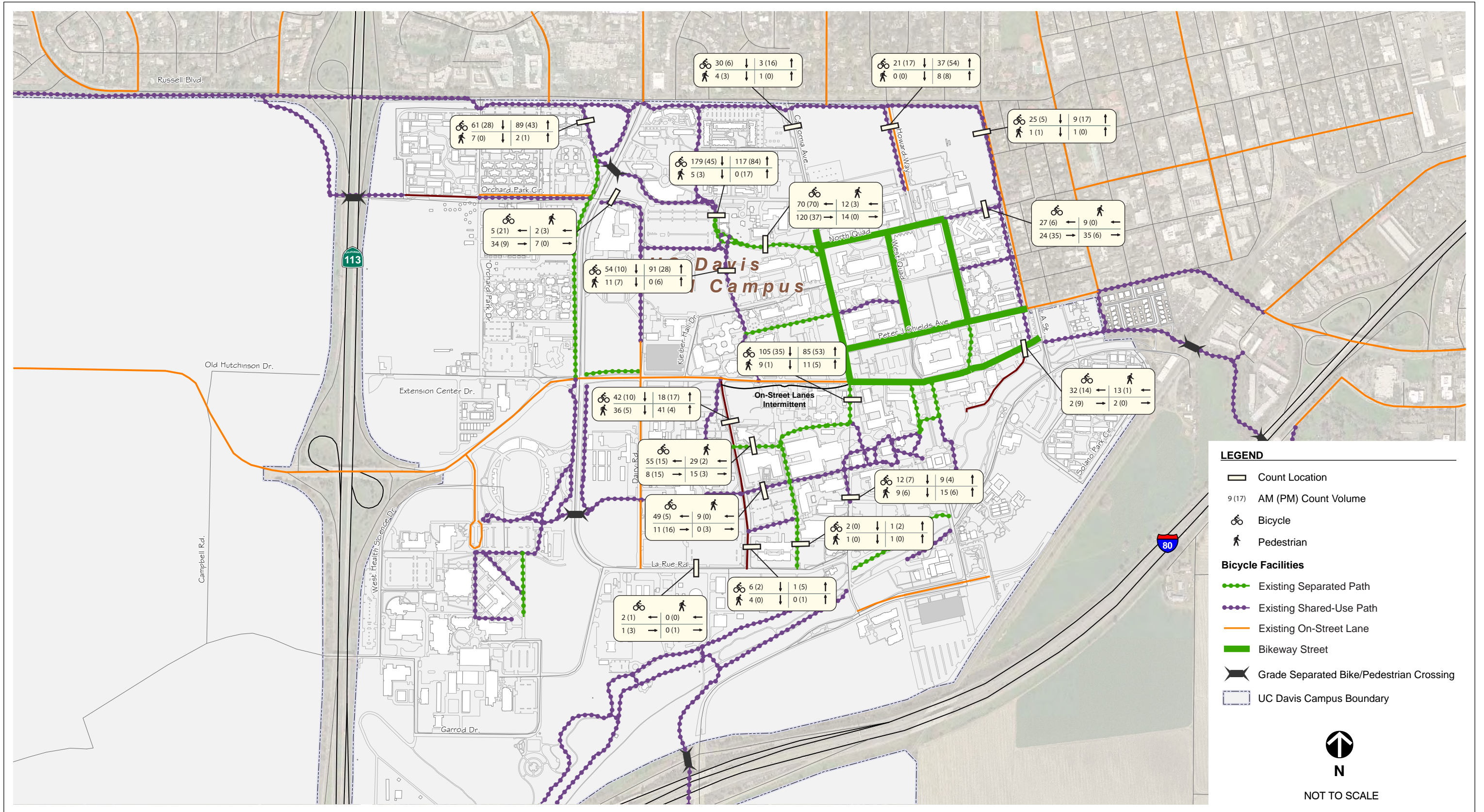
These figures reveal very high volumes on some of the campus shared-use paths:

- Shared-use path east of Visitor Parking Lot (VP) 25 – carries almost 4,600 bicycles and 550 pedestrians during the four and one-half hours measured. The path carries nearly 300 cyclists during the peak five minutes.
- Shared-use path between VP 25 and North Quad – carries 3,700 bicycles and 700 pedestrians during the total time measured. The path carries about 190 cyclists during the peak five minutes.
- Shared-use path (southern extension of California Avenue) south of Hutchinson Drive – carries 3,050 bicycles and 550 pedestrians during the entire time measured. The path carries approximately 190 cyclists during the peak five minutes.
- Shared-use path connecting Russell Boulevard to La Rue Road underpass – carries 2,600 bicycles and 190 pedestrians during the entire period measured. The path carries 150 cyclists during the peak five minutes.

On each of the above facilities, pedestrians and bicyclists share the pathway. These volumes and mixture of travel speeds create congestion and the potential for conflicts.







## COMMUNITY PARTICIPATION

This section describes the community outreach efforts undertaken while developing the BTNS and summarizes how community members perceive the campus transportation network.

### *User Perceptions of Campus Bikeways*

To get a sense of how campus bikeway system users (including students, faculty, staff, and campus visitors) perceive the system, outreach efforts were made to gather community input. These outreach efforts included:

- Two workshops (one in the afternoon and one in the evening) held in March 2008 to hear how community members perceived existing campus transportation facilities.
- A booth at the UC Davis Sustainability Fair in May 2008, where draft improvements to campus bikeway facilities were displayed to receive comments from community members.
- Two focus group meetings held in June 2008 where participants discussed four topics: personal reasons behind mode choice, the adequacy of existing transportation facilities on campus, the pros and cons of modal separation, and potential bicycle design standards and intersection treatments.

### *March 2008 Community Workshops*

On March 11, 2008, two workshops were held to hear how members of the community perceive the campus' existing transportation facilities. More than 60 community members participated, which included students, staff, faculty, and City residents. A 600 square foot aerial map of the campus was displayed in Freeborn Hall, and participants were asked to mark up the map with their perceptions of the campus system in three general topic areas:

- **Areas of Concern** – Participants were asked to identify locations where they had either observed a collision or felt were trouble locations for a variety of reasons, including speeding, modal conflicts, limited visibility, or other factors. In some cases, participants highlighted traffic signals and roadway crossings they felt did not adequately accommodate bicyclists and pedestrians.
- **Maintenance Issues** – Participants identified locations with maintenance issues, such as degraded pavement, poor lighting, landscaping obstructions, and drainage problems.
- **Recommended Improvements** – Participants recommended a number of infrastructure improvements they felt would improve the efficiency and safety of the campus bikeway system.



Figures 4, 5, and 6 summarize the responses put on the map by workshop participants.

Figure 4 summarizes “areas of concern” to workshop participants. All of the campus’ major corridors included at least one “area of concern.” Notable locations include:

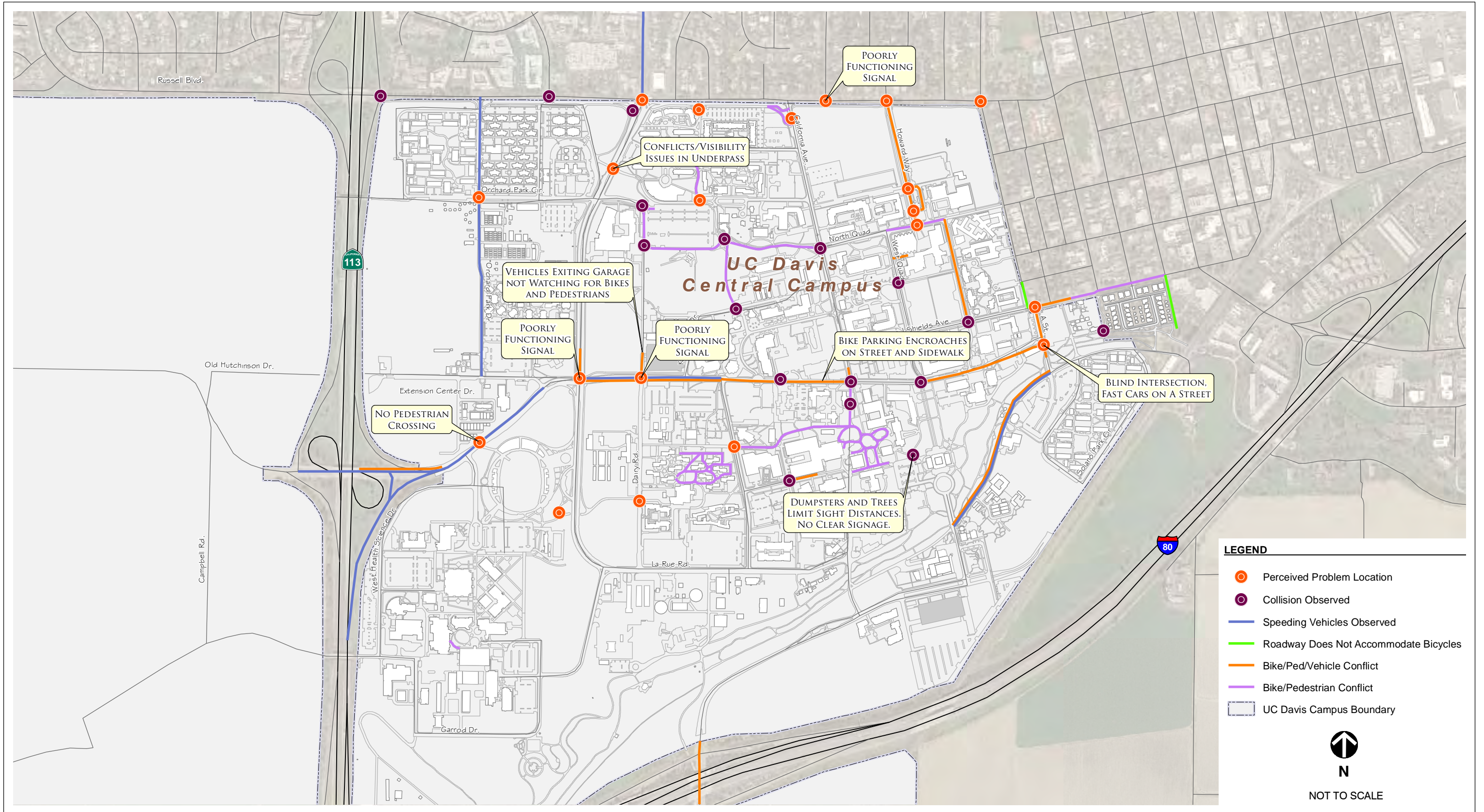
- Hutchinson Drive through campus – conflicts between bikes, buses, and pedestrians.
- Howard Way near the MU Bus Terminal – conflicts between bikes, buses, and pedestrians.
- Hutchinson Drive/SR-113 Interchange – speeding vehicles from slip-off ramps and low visibility for bicycles.
- Bicycle path between ARC and California Avenue – conflicts between bike and pedestrians.
- Parking Lot 10 – dumpsters and trees obstruct sight distance.
- Campus gateways – cyclist collisions at Russell Boulevard/Sycamore Drive intersection and at entrance to Parking Lot 10; modal conflicts at A Street/1<sup>st</sup> Street intersection.

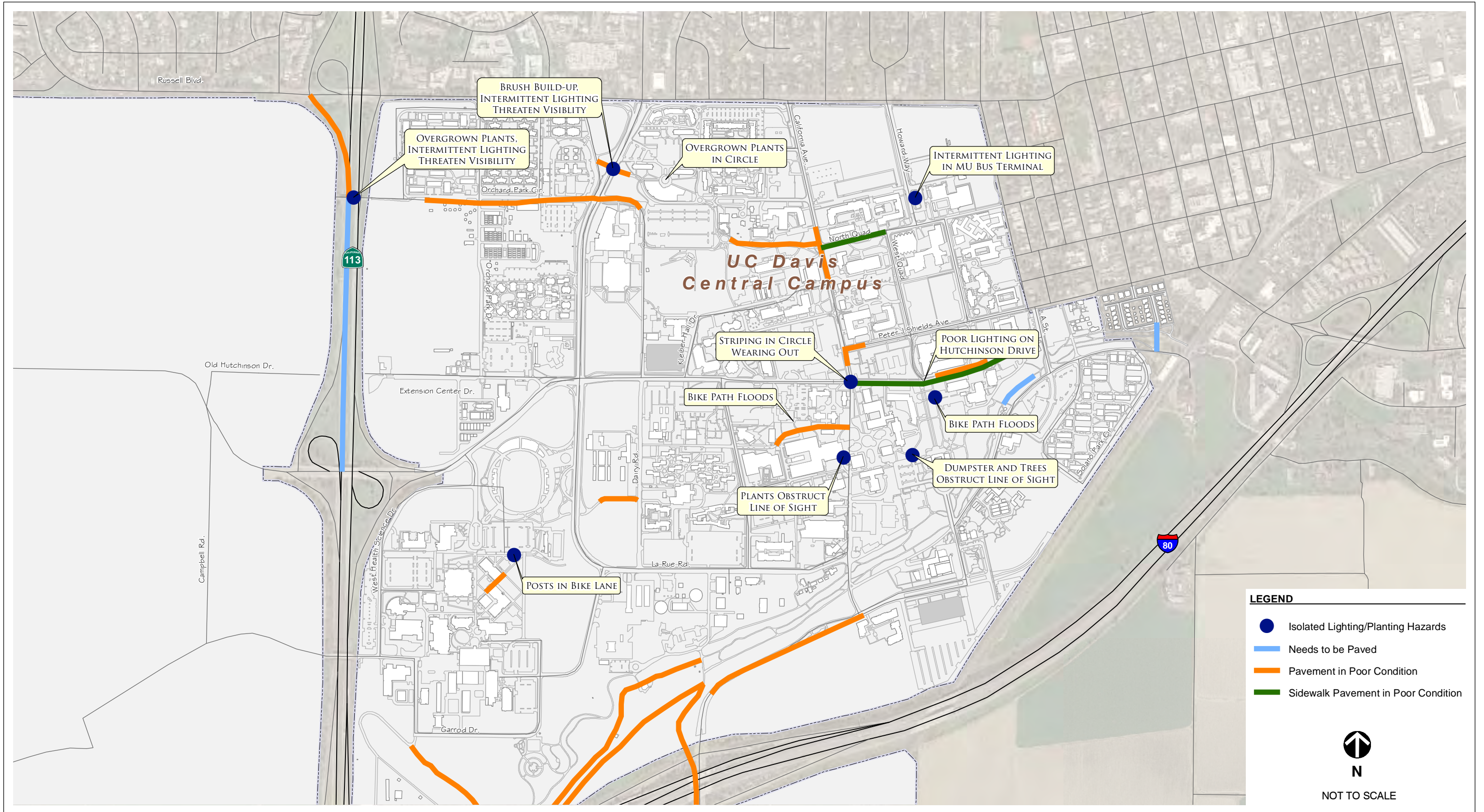
Figure 5 highlights the maintenance needs identified by community members. Degraded pavement was the most common complaint. Poor pavement conditions were reported on the Arboretum trail, Orchard Park Circle, on bike paths internal to campus and west of SR-113, and along Old Davis Road. Other maintenance concerns included poor lighting conditions, bike path obstructions by plants, and flooding. Participants also identified locations they thought should be paved, the longest stretch being east of SR-113 between the bicycle overpass and the Hutchinson interchange.

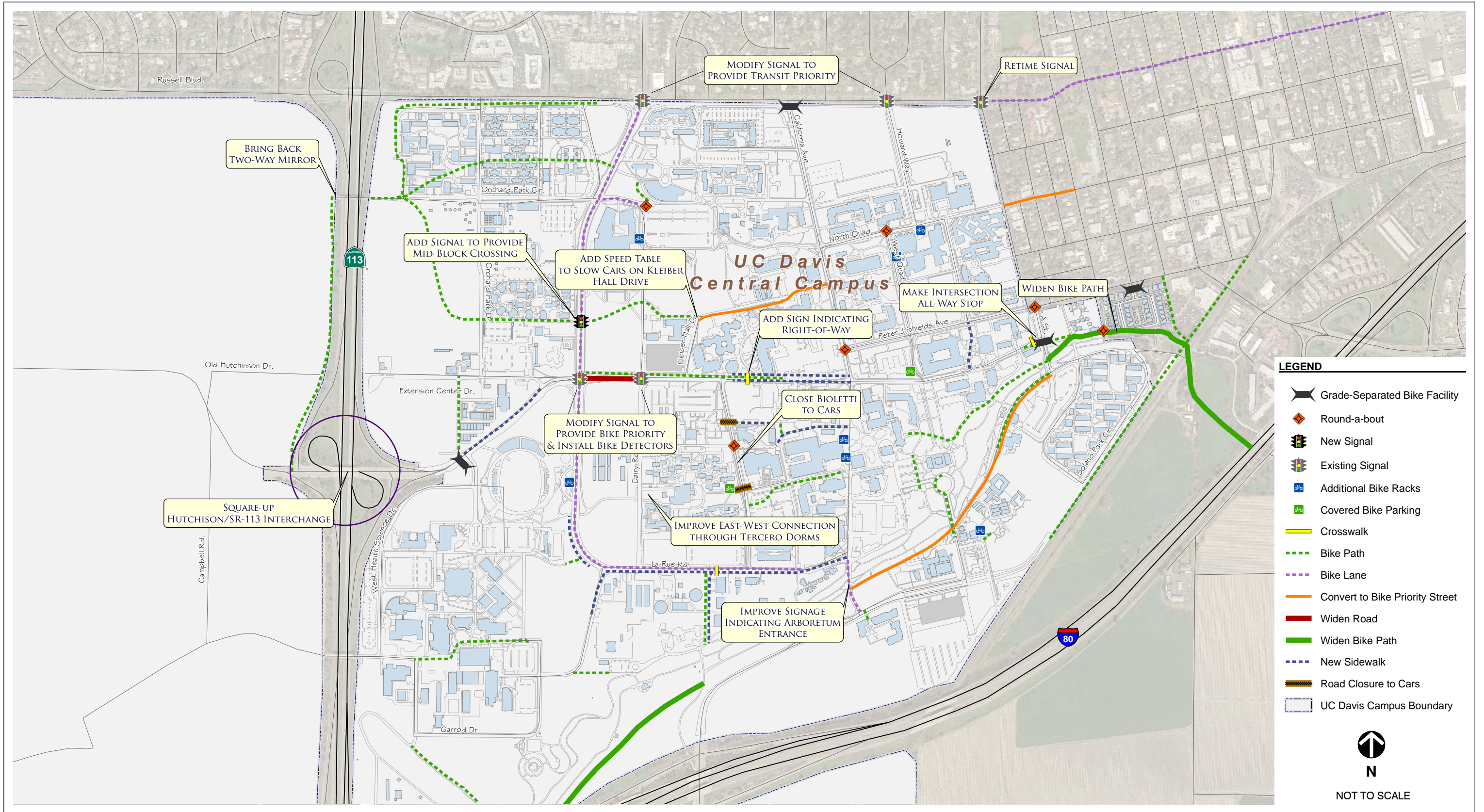
Figure 6 is a compilation of all of the improvements suggested by workshop participants to the campus’ transportation network. Highlights include:

- Squaring-up the Hutchinson Drive/SR-113 interchange to minimize bicycle/vehicle conflicts.
- Providing a new east-west route to serve bicycle trips between West Village and the main campus.
- Modifying signals on La Rue and Hutchinson Drive to better accommodate bicycles and buses.
- Grade-separating various bicycle and pedestrian street crossings to eliminate vehicle conflicts.











- Converting Klieber Hall Drive and Old Davis Road to “bike priority streets.”
- Closing Bioletti Way to cars.
- Providing additional bicycle lanes, bike paths, and bike parking at various locations.
- Widening the bike path to South Davis.
- Constructing additional bike circles at congested points on campus.

Virtually all of the “areas of concern” were identified for reasons stemming from modal conflicts. Similarly, many of the suggested improvements were aimed at mode separation or at least controlling the interaction between bicycles, pedestrians, and vehicles.

### **June 2008 Focus Group Meetings**

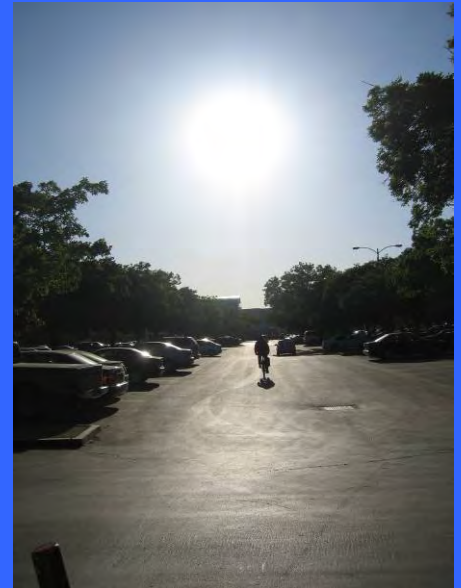
Two focus groups were held on June 3, 2008 at the UC Davis Memorial Union. These one-hour sessions focused on obtaining specific recommendations on bikeway and transit infrastructure improvements, feedback on various design treatments at intersections, and ways to better utilize the existing and proposed system through education and enforcement. Twenty-six UC Davis students, faculty, and staff attended these focused discussions, representing a cross-section of the campus in not only affiliation but in commute mode (i.e., bus, bicycle, walking, and automobile).

The guided discussion focused on four major topics of importance to the UC Davis Bike and Transit Network Study:

- 1) Factors that influence individual travel choices
- 2) Adequacy of existing bicycle/transit routes, bicycle parking, and transit stops
- 3) Separation of bicycles, pedestrians, transit, and vehicles
- 4) Bicycle design standards/treatments at intersections

In the first part of the focus groups, the discussion surrounded factors in travel choices. Participants highlighted the need for increased bicycle safety as the most important component of bicycle mode share. Both focus groups recommended improving the quality of the bicycle routes, providing bicycling education at all orientations, and increasing the presence of on-campus bicycle police to create an inviting and safe bicycle system for all. While infrastructure improvements are a necessity, infrastructure “efficiency” was recognized as equally important. Two aspects of bicycle safety were identified:

- *Infrastructure Improvements* – bike route quality was identified as being dependent upon good pavement conditions, clear and consistent striping and signage, and adequate width for both on- and off-street bicycle facilities



- *Education and Enforcement* – unpredictable and dangerous cycling behavior arose as a major deterrent to bicycling on campus; these identified behaviors included cell phone use, roundabout maneuvering, signaling, and not obeying traffic laws such as stopping at stop signs and riding in designated locations

The next portion of the discussions focused on the adequacy of the University's existing infrastructure. Expanding from the previous comments, participants noted several specific "good" and "bad" bicycle routes to and within the campus. Additionally, the group members noted that while the lack of bicycle parking in several locations does not prevent them from cycling, the amount of abandoned bikes and lack of updated "Stanford Racks" makes for an inadequate bicycle parking situation in certain areas.

Modal separation was the topic of the third section of the focus groups. A clear preference for modal separation, particularly between bicyclists and pedestrians, was highlighted in both groups. Similarly, both focus groups referenced UC Santa Barbara's system of effective bicycle/pedestrian separation, where quality infrastructure has been reinforced with consistent education and enforcement by the campus for both pedestrians and bicyclists. Recommendations included using different pavement color/texture for sidewalks, providing sustainable landscaped buffers between modes, and providing bicycle/pedestrian signs and legends on paths.

The last portion of the focus groups briefly introduced several design features that could be used at intersections or crossings. The participants in both sessions had two major concerns:

- Crossing Russell Boulevard – Participants had a strong preference for modal separation and highlighted the need for additional grade-separated crossings of Russell north of the future West Village site and north of Central Campus.
- Interfacing with the City of Davis at Gateways – Participants expressed the necessity of coordinating with the City on signal timing, implementing bicycle phases at Oak and Arthur along Russell Boulevard, and prioritizing bicycle detection over push buttons.

### ***Inclusion of Community Input Into the BTNS***

The guidance provided by community members at all of the public outreach events has helped shape the BTNS by highlighting problem areas in the campus bikeway network, emphasizing the need for certain types of projects, and by helping campus leaders better understand the community's values. This input was invaluable in developing the ultimate campus bikeway network described in the following section.

